Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A01R-01-BAC** **Piney Run**

Cause Location: Begins at the mouth of an unnamed pond on Piney Run and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterions (8 of 34 samples - 23.5%) at station 1aPIA001.80 at Route 671. The Piney Run bacteria TMDL (POL0023) was approved by the EPA on 07/06/2004 (Fed ID 24398). The SWCB approved the TMDL on 12/02/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A01R_PIA01A00 / Piney Run / Segment begins at the mouth of an unnamed pond on Piney Run and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2006	L	3.94

Piney Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.94**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A01R-01-BEN** **Dutchman Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Dutchman Creek at rivermile 2.9 and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of four biological monitoring events in 2015 and 2016 at station 1ADUT000.62 at Route 674 and a total of three biological monitoring events in 2015 and 2016 at station 1ADUT002.72 at Route 673 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A01R_DUT01A06 / Dutchman Creek / Segment begins at the confluence with an unnamed tributary to Dutchman Creek (streamcode XCO) and continues downstream until the confluence with the Potomac River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.25
VAN-A01R_DUT02A06 / Dutchman Creek / Segment begins at the confluence with an unnamed tributary to Dutchman Creek, at rivermile 2.9, and continues downstream until the confluence with another unnamed tributary (XCO).	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.68

Dutchman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.93**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-01-BAC** **Catoctin Creek**

Cause Location: Begins at the confluence with Milltown Creek, approximately 1.3 rivermiles downstream of Route 673, and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (17 of 54 samples - 31.5%) at station 1aCAX004.57 at Route 663. The Catoctin Creek bacteria TMDL (POL0169) was approved by the EPA on 05/31/2002 (Fed ID 24399). The SWCB approved the TMDL on 06/17/2004. A bacteria TMDL Implementation Plan for the Catoctin Creek watershed (ID 96) was approved by the EPA on 01/10/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_CAX01A00 / Catoctin Creek / Segment begins at the confluence with Milltown Creek, approximately 1.3 rivermiles downstream of Route 673, and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2006	L	7.49

Catoctin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.49**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-02-BAC** **North Fork Catoctin Creek**

Cause Location: Begins at the confluence of an unnamed tributary to North Fork Catoctin Creek, approximately 0.75 rivermile upstream from Route 719 near Hillsboro, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (9 of 12 samples - 75.0%) at station 1aNOC000.42 at Route 681; excursions (5 of 11 samples - 45.5%) at station 1aNOC004.38 at Route 287; and 2010 Assessment: E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) at station 1aNOC009.37 at Route 812. The Catoctin Creek bacteria TMDL for the North Fork Catoctin Creek watershed (POL0166) was approved by the EPA on 05/31/2002. The SWCB approved the TMDL on 06/17/2004. Federal ID 24402. The Catoctin Creek bacteria TMDL Implementation Plan for the North Fork Catoctin Creek watershed (ID 94) was approved by the EPA on 01/10/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_NOC01A00 / North Fork Catoctin Creek / Segment begins at the confluence with an unnamed tributary to North Fork Catoctin Creek, approximately 0.15 rivermile downstream from the Route 287 bridge, and continues downstream until the confluence with Catoctin Creek.	4A	Escherichia coli	2010	L	4.42
VAN-A02R_NOC02A02 / North Fork Catoctin Creek / Segment begins at the outlet from an unnamed impoundment, approximately 0.4 rivermile upstream from the Route 611 bridge, and continues downstream until the confluence with an unnamed tributary 0.15 rivermile downstream from the Route 287 bridge.	4A	Escherichia coli	2008	L	3.43
VAN-A02R_NOC03A02 / North Fork Catoctin Creek / Segment begins at the confluence of an unnamed tributary to North Fork Catoctin Creek, approximately 0.75 rivermile upstream from Route 719 near Hillsboro, and continues downstream 2.45 rivermiles to an unnamed impoundment.	4A	Escherichia coli	2004	L	2.54

North Fork Catoctin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.39**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-02-BEN** **North Fork Catoctin Creek**

Cause Location: Begins at the confluence with an unnamed tributary to North Fork Catoctin Creek, approximately 0.15 rivermile downstream from the Route 287 bridge, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2011 and 2014 at station 1aNOC000.42 at Route 681 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_NOC01A00 / North Fork Catoctin Creek / Segment begins at the confluence with an unnamed tributary to North Fork Catoctin Creek, approximately 0.15 rivermile downstream from the Route 287 bridge, and continues downstream until the confluence with Catoctin Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	H, 2yr	4.42

North Fork Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-03-BAC** **South Fork Catoctin Creek**

Cause Location: Begins at the headwaters of South Fork Catoctin Creek and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 17 samples - 47.1%) at station 1aSOC001.66 at Route 698; 2016 assessment: excursions (4 of 13 samples - 30.8%) at station 1aSOC007.06 at Route 738; 2016 assessment: excursions (3 of 18 samples - 16.7%) at station 1aSOC011.82 at Route 611; and 2016 assessment: excursions (3 of 12 samples - 25.0%) at station 1aSOC013.05, at Route 7 Bypass.

The Catoctin Creek bacteria TMDL for the Upper (POL0168) and Lower (POL0167) South Fork Catoctin Creek watersheds was approved by the EPA on 05/31/2002. The SWCB approved the TMDL on 06/17/2004. Federal ID 24401. The Catoctin Creek bacteria TMDL Implementation Plan for the South Fork Catoctin Creek watershed (IDs 95 and 97) was approved by the EPA on 01/10/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_SOC01A00 / South Fork Catoctin Creek / Segment begins at the confluence with an unnamed tributary to South Fork Catoctin Creek, approximately 0.7 rivermile upstream from Route 9, and continues downstream until the confluence with Catoctin Creek.	4A	Escherichia coli	1996	L	6.33
VAN-A02R_SOC02A02 / South Fork Catoctin Creek / Segment begins at confluence with an unnamed tributary, 0.75 rivermile upstream from the Route 287 bridge, and continues downstream until the confluence with another unnamed tributary, approximately 0.7 rivermile upstream from the Route 9 bridge.	4A	Escherichia coli	2002	L	3.23
VAN-A02R_SOC03A04 / South Fork Catoctin Creek / Segment begins at the northwest corner of the town of Purcellville, 0.48 rivermiles upstream from the Route 690 bridge, and continues downstream until the confluence with an unnamed tributary to SOC, 0.75 rivermile upstream from the Route 287 bridge.	4A	Escherichia coli	2004	L	3.59
VAN-A02R_SOC04A04 / South Fork Catoctin Creek / Segment begins at the headwaters of South Fork Catoctin Creek and continues downstream until the Purcellville town limits, 0.48 rivermiles upstream from the Route 690 bridge.	4A	Escherichia coli	1996	L	5.34

South Fork Catoctin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.49**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-03-BEN** **South Fork Catoctin Creek**

Cause Location: Begins at the confluence with an unnamed tributary to South Fork Catoctin Creek, approximately 0.7 rivermile upstream from Route 9, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 1ASOC002.93 (Next to Charles Henry Pl) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_SOC01A00 / South Fork Catoctin Creek / Segment begins at the confluence with an unnamed tributary to South Fork Catoctin Creek, approximately 0.7 rivermile upstream from Route 9, and continues downstream until the confluence with Catoctin Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	6.33

South Fork Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.33**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-04-BEN** **North Fork Catoctin Creek**

Cause Location: Begins at the confluence of an unnamed tributary to North Fork Catoctin Creek, approximately 0.75 rivermile upstream from Route 719 near Hillsboro, and continues downstream 2.45 rivermiles to an unnamed impoundment.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

A total of two biological monitoring events in 2011 and 2014 at station 1aNOC009.37 at Route 812 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. A new TMDL is not required for this impaired segment of North Fork Catoctin Creek because the Benthic TMDL Development Stressor Analysis Report for North Fork Catoctin Creek (09/15/2015) determined that this impairment is primarily due to low-flow conditions, and recommended that this segment be re-classified as Category 4C because the impairment is not caused by a pollutant.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_NOC03A02 / North Fork Catoctin Creek / Segment begins at the confluence of an unnamed tributary to North Fork Catoctin Creek, approximately 0.75 rivermile upstream from Route 719 near Hillsboro, and continues downstream 2.45 rivermiles to an unnamed impoundment.	4C	Benthic-Macroinvertebrate Bioassessments			2.54

North Fork Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.54**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-05-BAC** **Milltown Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Milltown Creek, approximately 1.1 rivermile upstream from Route 681 near Milltown, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) at station 1aMIH001.98 at Route 673. A new TMDL is not required for this impaired segment of Milltown Creek because the downstream Catoctin Creek bacteria TMDL (24399, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (POL0169). A bacteria TMDL Implementation Plan for the Catoctin Creek watershed (ID 96) was approved by the EPA on 01/10/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_MIH01A06 / Milltown Creek / Segment begins at the confluence with an unnamed tributary to Milltown Creek, approximately 1.1 rivermile upstream from Route 681 near Milltown, and continues downstream until the confluence with Catoctin Creek.	4A	Escherichia coli	2006	L	3.90

Milltown Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.90**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A02R-06-BAC** **Unnamed tributary to Catoctin Creek**

Cause Location: Begins at the confluence with an unnamed tributary, approximately 1.2 miles upstream from the Route 693 crossing, and continues downstream until the confluence with Catoctin Creek, at rivermile 9.81.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) at station 1aXJT002.22 at Cottage Grove Lane. A new TMDL is not required for this impaired segment of an unnamed tributary to Catoctin Creek because the downstream Catoctin Creek bacteria TMDL (Fed ID 24399, 05/31/2002) included modeling, source identification, and reductions that covered the entire Catoctin Creek watershed (POL0169). The SWCB approved the TMDL on 06/17/2004. A bacteria TMDL Implementation Plan for the Catoctin Creek watershed (ID 96) was approved by the EPA on 01/10/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A02R_XJT01A06 / Unnamed tributary to Catoctin Creek / Segment begins at the confluence with an unnamed tributary, approximately 1.2 miles upstream from the Route 693 crossing, and continues downstream until the confluence with Catoctin Creek, at rivermile 9.81.	4A	Escherichia coli	2006	L	4.35

Unnamed tributary to Catoctin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.35**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A03R-01-BAC** **Limestone Branch**

Cause Location: Begins at the headwaters of Limestone Branch and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (13 of 34 samples - 38.2%) at station 1aLIM001.16 at Route 15 and E. coli bacteria criterion excursions (5 of 10 samples - 50.0%) at station 1aLIM001.80 at Selma Lane. The Limestone Branch bacteria TMDL (POL0026) was approved by the EPA on 07/06/2004. The SWCB approved the TMDL on 12/02/2004. Federal ID 24403.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A03R_LIM01A00 / Limestone Branch / Segment begins at the edge of the 8b PWS supply designation, approximately 0.05 rivermile upstream from the Route 15 bridge, and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2002	L	1.26
VAN-A03R_LIM01B06 / Limestone Branch / Segment begins at the headwaters of Limestone Branch and continues downstream until the edge of the 8b PWS supply designation, approximately 0.05 rivermile upstream from the Route 15 bridge.	4A	Escherichia coli	2002	L	3.66

Limestone Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.92**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A03R-02-BAC** **Clarks Run**

Cause Location: Begins at the confluence with an unnamed tributary to Clarks Run, at rivermile 5.4, and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (7 of 11 samples - 63.6%) at station 1aCLK002.40 at Route 658.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A03R_CLK01A08 / Clarks Run / Segment begins at the confluence with an unnamed tributary to Clarks Run, at rivermile 5.4, and continues downstream until the confluence with the Potomac River.	5A	Escherichia coli	2008	L	5.46

Clarks Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.46**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A03R-03-BAC** **Unnamed tributary to Limestone Branch**

Cause Location: Begins at the confluence with an unnamed tributary and continues downstream until the confluence with Limestone Branch.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (7 of 12 samples - 58.3%) at station 1aXAQ000.85 at Route 661. A new TMDL is not required for this impaired segment of the unnamed tributary to Limestone Branch because the downstream Limestone Branch bacteria TMDL (24403, 07/06/2004) included modeling, source identification, and reductions that covered the entire watershed (POL0026).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A03R_XAQ01A04 / Unnamed tributary to Limestone Branch / Segment begins at the boundary of the 8b PWS area designation, just upstream of the Route 661 bridge, and continues downstream until the confluence with Limestone Branch.	4A	Escherichia coli	2006	L	0.91
VAN-A03R_XAQ01B06 / Unnamed tributary to Limestone Branch / Segment begins at the confluence with an unnamed tributary and continues downstream until the boundary of the 8b PWS area designation, just upstream of the Route 661 bridge.	4A	Escherichia coli	2006	L	1.02

Unnamed tributary to Limestone Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.93**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A03R-03-BEN** **Big Spring Creek**

Cause Location: Begins at the headwaters of Big Spring Creek and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of three biological monitoring events in 2015 and 2016 at station 1ABSC000.45 at Twin Maple Lane resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A03R_BSC01A06 / Big Spring Creek / Segment begins at the headwaters of Big Spring Creek and continues downstream until the confluence with the Potomac River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	4.49

Big Spring Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A03R-04-BAC** **Unnamed tributary to Limestone Branch**

Cause Location: Segment begins at the headwaters of the unnamed tributary and continues downstream to the confluence with Limestone Branch.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at station 1aXGJ000.42 at Selma Lane. A new TMDL is not required for this impaired segment of the unnamed tributary to Limestone Branch because the downstream Limestone Branch bacteria TMDL (24403, 07/06/2004) included modeling, source identification, and reductions that covered the entire watershed (POL0026).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A03R_XGJ01A04 / Unnamed tributary to Limestone Branch / Segment begins at the boundary of the Section 8 PWS area designation and continues downstream to the confluence with Limestone Branch.	4A	Escherichia coli	2014	L	3.81
VAN-A03R_XGJ01B10 / Unnamed tributary to Limestone Branch / Segment begins at the headwaters of the unnamed tributary and continues downstream to the Section 8 PWS designation.	4A	Escherichia coli	2014	L	1.33

Unnamed tributary to Limestone Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.14**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A04R-01-BAC** **Goose Creek**

Cause Location: Begins at the confluence with Kettle Run and continues downstream until the confluence with Bolling Branch.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 33 samples - 12.1%) at station 1aGOO044.36 at Route 17. A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A04R_GOO01B00 / Goose Creek / Segment begins at the confluence with Kettle Run and continues downstream until the confluence with Bolling Branch.	4A	Escherichia coli	2004	L	4.31

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.31**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A04R-02-BAC** **Gap Run**

Cause Location: Begins at the confluence with an unnamed tributary to Gap Run, just downstream from Route 712, and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 9 samples - 44.4%) at station 1aGAR002.24 at Route 623. A new TMDL is not required for this impaired segment of Gap Run because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A04R_GAR01A04 / Gap Run / Segment begins at the confluence with an unnamed tributary to Gap Run, just downstream from Route 712, and continues downstream until the confluence with Goose Creek.	4A	Escherichia coli	2004	L	3.21

Gap Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.21**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A04R-03-BAC** **Crooked Run**

Cause Location: Begins at the confluence with an unnamed tributary to Crooked Run, just downstream from Route 724, and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) at station 1aCRA000.42 at Route 623. A new TMDL is not required for this impaired segment of Crooked Run because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A04R_CRA01A04 / Crooked Run / Segment begins at the confluence with an unnamed tributary to Crooked Run, just downstream from Route 724, and continues downstream until the confluence with Goose Creek.	4A	Escherichia coli	2010	L	1.85

Crooked Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.85**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A04R-04-BAC** **Bolling Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Bolling Branch, just upstream from Route 723, and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) at station 1aBOL000.05 at Route 713. A new TMDL is not required for this impaired segment of Bolling Branch because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A04R_BOL01A04 / Bolling Branch / Segment begins at the confluence with an unnamed tributary to Bolling Branch, just upstream from Route 723, and continues downstream until the confluence with Goose Creek.	4A	Escherichia coli	2006	L	3.64

Bolling Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.64**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A04R-05-BAC** **Unnamed tributary to Goose Creek**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream to the confluence with Goose Creek, at rivermile 45.10.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at station 1aXLW000.75 at Route 55. A new TMDL is not required for this impaired segment of Crooked Run because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A04R_XLW01A14 / Unnamed tributary to Goose Creek / Segment begins at the headwaters of the unnamed tributary and continues downstream to the confluence with Goose Creek, at rivermile 45.10.	4A	Escherichia coli	2014	L	5.91

Unnamed tributary to Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.91**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-01-BAC** **Cromwells Run**

Cause Location: Begins at the headwaters of Cromwells Run and continues downstream until the confluence with Rocky Creek, approximately 0.4 rivermile downstream from Route 50.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at station 1aCRM005.39 at Route 715, and E. coli bacteria criterion excursions (6 of 24 samples - 25.0%) at station 1aCRM001.20 at Route 50. The Goose Creek bacteria TMDL for the Cromwells Run watershed (POL0064) was approved by the EPA on 05/01/2003. The SWCB approved the TMDL on 06/17/2004. Federal ID 24404. The Goose Creek bacteria TMDL Implementation Plan for the Cromwells Run watershed (ID 133) was approved by the EPA on 04/02/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_CRM01A00 / Cromwells Run / Segment begins at the confluence with an unnamed tributary to Cromwells Run, approximately 0.78 rivermile downstream from Route 715, and continues downstream until the confluence with Rocky Creek, approximately 0.4 rivermile downstream from Route 50.	4A	Escherichia coli	2016	L	3.81
VAN-A05R_CRM02A06 / Cromwells Run / Segment begins at the headwaters of Cromwells Run and continues downstream until the confluence with an unnamed tributary (XMI), at rivermile 4.61.	4A	Escherichia coli	2012	L	6.76

Cromwells Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.57**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-01-BEN** **Wancopin Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Wancopin Creek, just upstream from Route 50, and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2002 at station 1aWAC003.31 at Route 50 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_WAC01A04 / Wancopin Creek / Segment begins at the confluence with an unnamed tributary to Wancopin Creek, just upstream from Route 50, and continues downstream until the confluence with Goose Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.44

Wancopin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.44**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-02-BEN** **Jeffries Branch**

Cause Location: Begins at the confluence with unnamed tributary XCD and continues downstream until the confluence with Panther Skin Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Five biological monitoring events in 2013, 2014, and 2015 at station 1aJEE000.23 at Rt. 719 and 8 biological monitoring events in 2011, 2013, 2014, and 2015 at station 1aJEE002.22 at Route 743 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_JEE01A16 / Jeffries Branch / Segment begins at the confluence with unnamed tributary XCD and continues downstream until the confluence with Panther Skin Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.41

Jeffries Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.41**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-03-BAC** **Goose Creek**

Cause Location: Begins at the confluence with Panther Skin Creek and continues downstream until the confluence with Rocky Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 33 samples - 15.2%) at station 1aGOO030.75 at Route 611. A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_GOO02A06 / Goose Creek / Segment begins at the confluence with Panther Skin Creek and continues downstream until the confluence with Rocky Creek.	4A	Escherichia coli	2006	L	2.74

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.74**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-03-BEN** **Goose Creek**

Cause Location: Begins at the headwaters of Cromwells Run and continues downstream until the confluence with Rocky Creek, approximately 0.4 rivermile downstream from Route 50.

City / County: Fauquier Co. Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 1ACRM004.09 at the end of Hatchers Mill Road resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_CRM01A00 / Cromwells Run / Segment begins at the confluence with an unnamed tributary to Cromwells Run, approximately 0.78 rivermile downstream from Route 715, and continues downstream until the confluence with Rocky Creek, approximately 0.4 rivermile downstream from Route 50.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.81
VAN-A05R_CRM02A06 / Cromwells Run / Segment begins at the headwaters of Cromwells Run and continues downstream until the confluence with an unnamed tributary (XMI), at rivermile 4.61.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	6.76

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.57**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-04-BAC** **Panther Skin Creek**

Cause Location: Begins at the headwaters of Panther Skin Creek and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 1aPAE004.21 at Route 719. 2016 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aPAE002.54 at Route 623. A new TMDL is not required for this impaired segment of Panther Skin Creek because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_PAE01A02 / Panther Skin Creek / Segment begins at the confluence with Jeffries Branch and continues downstream until the confluence with Goose Creek.	4A	Escherichia coli	2012	L	3.91
VAN-A05R_PAE02A06 / Panther Skin Creek / Segment begins at the headwaters of Panther Skin Creek and continues downstream until the confluence with Jeffries Branch.	4A	Escherichia coli	2006	L	5.27

Panther Skin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.18**

Sources:

Grazing in Riparian or Shoreline Zones

Livestock (Grazing or Feeding Operations)

Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-05-BAC** **Jeffries Branch**

Cause Location: Begins at the confluence with unnamed tributary XCD and continues downstream until the confluence with Panther Skin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (18 of 33 samples - 54.5%) at station 1aJEE000.23 at Route 719 and E. coli bacteria criterion excursions (14 of 33 samples - 42.4%) at station 1aJEE002.22 at Route 743. A new TMDL is not required for this impaired segment of Jeffries Branch because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_JEE01A16 / Jeffries Branch / Segment begins at the confluence with unnamed tributary XCD and continues downstream until the confluence with Panther Skin Creek.	4A	Escherichia coli	2016	L	4.41

Jeffries Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.41**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-06-BAC** **Goose Creek**

Cause Location: Begins at the confluence with Gap Run and continues downstream until the confluence with Panther Skin Creek.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2010 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 1aGOO034.20 at Route 624. E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aGOO036.61 at Route 710. A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and tributaries watershed (POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_GOO02B06 / Goose Creek / Segment begins at the confluence with an unnamed tributary to Goose Creek, at rivermile 35.28, and continues downstream until the confluence with Panther Skin Creek.	4A	Escherichia coli	2006	L	2.68
VAN-A05R_GOO02C04 / Goose Creek / Segment begins at the confluence with Gap Run and continues downstream until the confluence with an unnamed tributary to Goose Creek, at rivermile 35.28.	4A	Escherichia coli	2016	L	3.27

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.95**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A05R-07-BAC** **Unnamed tributary to Jeffries Branch**

Cause Location: Begins at the confluence with an unnamed tributary at rivermile 0.32 and continues downstream to the confluence with Jeffries Branch.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 11 samples 36.4%) at station 1aXCD000.07 at Route 619. A new TMDL is not required for this impaired segment of an unnamed tributary to Jeffries Branch because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A05R_XCD01A16 / Unnamed tributary to Jeffries Branch / Segment begins at the confluence with an unnamed tributary at rivermile 0.32 and continues downstream to the confluence with Jeffries Branch.	4A	Escherichia coli	2018	L	0.31

Unnamed tributary to Jeffries Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.31**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A06R-01-BAC** **North Fork Goose Creek**

Cause Location: Begins at the outlet from Sleeter Lake and continues downstream until the confluence with Crooked Run.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (17 of 32 samples - 53.1%) at station 1aNOG005.69 at Route 722. 2012 Assessment: E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) at station 1aNOG011.60. The Goose Creek bacteria TMDL for the North Fork Goose Creek watershed (POL0065) was approved by the EPA on 05/01/2003. The SWCB approved the TMDL on 06/17/2004. Federal ID 24405

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A06R_NOG02A00 / North Fork Goose Creek / Segment begins at the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.23 rivermiles upstream from Route 725, and continues downstream until the confluence with Crooked Run.	4A	Escherichia coli	1998	L	4.69
VAN-A06R_NOG03A02 / North Fork Goose Creek / Segment begins at the outlet from Sleeter Lake and continues downstream until the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.23 rivermiles upstream of Route 725.	4A	Escherichia coli	2008	L	2.96

North Fork Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.65**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A06R-01-BEN** **North Fork Goose Creek**

Cause Location: Begins at the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.23 rivermile upstream from Route 725, and continues downstream until the confluence with Crooked Run.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: One biological monitoring event in 2008 at station 1aNOG005.69 at Route 722 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A06R_NOG02A00 / North Fork Goose Creek / Segment begins at the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.23 rivermiles upstream from Route 725, and continues downstream until the confluence with Crooked Run.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	4.69

North Fork Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A06R-02-BAC** **Crooked Run**

Cause Location: Begins at the confluence with an unnamed tributary to Crooked Run, at the Route 725 bridge, and continues downstream until the confluence with North Fork Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 9 samples - 44.4%) at station 1aCRF001.18 at Route 727. A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A06R_CRF01A02 / Crooked Run / Segment begins at the confluence with an unnamed tributary to Crooked Run, at the Route 725 bridge, and continues downstream until the confluence with North Fork Goose Creek.	4A	Escherichia coli	2014	L	2.16

Crooked Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.16**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A06R-02-BEN** **Jacks Run**

Cause Location: Begins at the headwaters of Jacks Run and continues downstream until the confluence with North Fork Goose Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 1AJAC000.74 at 0.4 miles downstream from Route 690 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A06R_JAC01A04 / Jacks Run / Segment begins at the headwaters of Jacks Run and continues downstream until the confluence with North Fork Goose Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.18

Jacks Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.18**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A06R-03-BAC** **Jacks Run**

Cause Location: Begins at the headwaters of Jacks Run and continues downstream until the confluence with North Fork Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 12 samples 66.7%) at station 1aJAC001.06 at Route 690. A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (24405, 05/01/2003) included modeling, source identification, and reductions that covered the entire North Fork Goose Creek watershed (POL0065).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A06R_JAC01A04 / Jacks Run / Segment begins at the headwaters of Jacks Run and continues downstream until the confluence with North Fork Goose Creek.	4A	Escherichia coli	2018	L	3.18

Jacks Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.18**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A07R-01-BAC** **Beaverdam Creek**

Cause Location: Begins at the confluence with North Fork Beaverdam Creek, approximately 0.27 rivermile upstream of Route 746, and continues downstream until the confluence with North Fork Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (10 of 31 samples - 31.3%) at station 1aBEC004.76 at Route 734. The Goose Creek bacteria TMDL for the Beaverdam Creek watershed (POL0066) was approved by the EPA on 05/01/2003. The SWCB approved the TMDL on 06/17/2004. Federal ID 23318.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A07R_BEC01A00 / Beaverdam Creek / Segment begins at the confluence with North Fork Beaverdam Creek, approximately 0.27 rivermile upstream of Route 746, and continues downstream until the confluence with North Fork Goose Creek.	4A	Escherichia coli	2006	L	6.50

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.50**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A07R-02-BAC** **North Fork Beaverdam Creek**

Cause Location: Begins at the confluence with Butchers Branch and continues downstream until the confluence with the main stem of Beaverdam Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 1aNOB000.75 at Route 630. 2010 Assessment: E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) at station 1aNOB005.49 at Route 719. A new TMDL is not required for this impaired segment of North Fork Beaverdam Creek because the downstream Goose Creek bacteria TMDL (23318, 05/01/2003) included modeling, source identification, and reductions that covered the entire Beaverdam Creek watershed (POL0066).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A07R_NOB01A02 / North Fork Beaverdam Creek / Segment begins at the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12, and continues downstream until the confluence with the main stem of Beaverdam Creek.	4A	Escherichia coli	2012	L	3.15
VAN-A07R_NOB02A04 / North Fork Beaverdam Creek / Segment begins at the confluence with Butchers Branch and continues downstream until the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12.	4A	Escherichia coli	2006	L	2.60

North Fork Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.75**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A07R-02-BEN** **North Fork Beaverdam Creek**

Cause Location: Begins at the headwaters of North Fork Beaverdam Creek and continues downstream until the confluence with the main stem of Beaverdam Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of six biological monitoring events in 2013, 2014, and 2016 at station 1aNOB000.75 at Route 630 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. 2008 Assessment: A total of two biological monitoring events in 2001 at station 1aNOB007.97 at Route 831 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A07R_NOB01A02 / North Fork Beaverdam Creek / Segment begins at the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12, and continues downstream until the confluence with the main stem of Beaverdam Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.15
VAN-A07R_NOB02A04 / North Fork Beaverdam Creek / Segment begins at the confluence with Butchers Branch and continues downstream until the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.60
VAN-A07R_NOB03A04 / North Fork Beaverdam Creek / Segment begins at the headwaters of North Fork Beaverdam Creek and continues downstream until the confluence with Butchers Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.81

North Fork Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.56**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A07R-03-BAC** **Beaverdam Creek**

Cause Location: Begins at the confluence with an unnamed tributary, at rivermile 13.2, and continues downstream until the confluence of with Dog Branch.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2010 Assessment: E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) at station 1aBEC009.01 at Route 626. 2016 Assessment: E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 1aBEC011.76 at Route 630. A new TMDL is not required for this impaired segment of Beaverdam Creek because the downstream Goose Creek bacteria TMDL (23318, 05/01/2003) included modeling, source identification, and reductions that covered the entire Beaverdam Creek watershed (POL0066).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A07R_BEC02A04 / Beaverdam Creek / Segment begins at the confluence with an unnamed tributary to Beaverdam Creek, just upstream from Route 626, and continues downstream until the confluence of with Dog Branch.	4A	Escherichia coli	2006	L	1.26
VAN-A07R_BEC03A12 / Beaverdam Creek / Segment begins at the confluence with an unnamed tributary, at rivermile 13.2, and continues downstream to the confluence with an unnamed tributary to Beaverdam Creek, just upstream from Route 626.	4A	Escherichia coli	2012	L	4.37

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.63**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08L-01-BAC** **Beaverdam Reservoir**

Cause Location: Includes all of Beaverdam Reservoir

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 16 samples - 12.5%) at stations 1ABEE000.40 (1 of 11 samples) and 1ABEE000.40 (1 of 5 samples).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08L_BEE01A08 / Beaverdam Reservoir / Beaverdam Reservoir	5A	Escherichia coli	2018	L	301.08

Beaverdam Reservoir **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**301.08**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08L-02-BAC** **Goose Creek Reservoir**

Cause Location: Includes all of Goose Creek Reservoir.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 23 samples - 34.8%) at stations 1AGOO004.93 (4 of 12 samples) and 1AGOO005.57 (4 of 11 samples).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08L_GOO02A02 / Goose Creek Reservoir / Segment includes the impounded waters downstream of the Dulles Greenway Road bridge.	5A	Escherichia coli	2018	L	39.63
VAN-A08L_GOO02B06 / Goose Creek Reservoir / Segment includes the impounded waters upstream of the Dulles Greenway Road bridge.	5A	Escherichia coli	2018	L	58.12

Goose Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		**97.75**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-01-BAC** **Goose Creek**

Cause Location: Begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 35 samples - 14.3%) at station 1aGOO002.38 at Route 7. The Goose Creek bacteria TMDL for the Goose Creek and Tributaries watershed (POL0063) was approved by the EPA on 05/01/2003. The SWCB approved the TMDL on 06/17/2004. Federal ID 23319.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_GOO01A00 / Goose Creek / Segment begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2006	L	4.81

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.81**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-01-BEN** **Goose Creek**

Cause Location: Begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

2016 Assessment: Two biological monitoring events in 2009 at station 1aGOO002.38 at Route 7 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The Goose Creek and Little River sediment TMDL for the Goose Creek watershed (POL0072) was approved by the EPA on 04/26/2004. The SWCB approved the TMDL on 08/31/2004. Federal ID 23320.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_GOO01A00 / Goose Creek / Segment begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.81

Goose Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.81**

Sources:

- Channel Erosion/Incision from Upstream Hydromodifications
- Crop Production (Crop Land or Dry Land)
- Post-development Erosion and Sedimentation
- Rangeland Grazing
- Site Clearance (Land Development or Redevelopment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-01-PCB** **Broad Run, Difficult Run, Goose Creek**

Cause Location: Includes the following tributaries between the Virginia/Maryland state line near the Route 340 bridge (Loudoun County) to the I-395 bridge in Arlington County (above the Woodrow Wilson Bridge): Goose Creek up to the Dulles Greenway Road Bridge, Broad Run up to the Route 625 bridge, and Difficult Run up to the Route 7 bridge.

City / County: Fairfax Co. Loudoun Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month.

Additionally, there were two excursions greater than the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for total PCBs in fish tissue recorded at station 1aBRB002.15 at Route 7 in 2015 in two species of fish (American eel and channel catfish)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08L_GOO02A02 / Goose Creek Reservoir / Segment includes the impounded waters downstream of the Dulles Greenway Road bridge.	5A	PCB in Fish Tissue	2006	L	39.63
VAN-A08R_GOO01A00 / Goose Creek / Segment begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River.	5A	PCB in Fish Tissue	2006	L	4.81
VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River.	5A	PCB in Fish Tissue	2006	L	2.93
VAN-A09R_BRB02A06 / Broad Run / Segment begins at the confluence with Cabin Branch and continues downstream until the confluence with Beaverdam Run.	5A	PCB in Fish Tissue	2006	L	2.27
VAN-A09R_BRB03A06 / Broad Run / Segment begins at the Route 625 crossing and continues downstream until the confluence with Cabin Branch.	5A	PCB in Fish Tissue	2006	L	1.11
VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River.	5A	PCB in Fish Tissue	2006	L	3.17
VAN-A11R_DIF01B06 / Difficult Run / Segment begins at the Route 7 bridge crossing and continues downstream until the confluence with Captain Hickory Run.	5A	PCB in Fish Tissue	2006	L	1.05

Broad Run, Difficult Run, Goose Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**39.63**	**15.34**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-02-BAC** **Little River**

Cause Location: Begins the confluence with Bartons Creek and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) at stations 1aLIV004.78 and 1aLIV004.79 at Route 50; E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) at station 1aLIV006.92 at Route 629 (2012 Assessment); and E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 1aLIV012.12 at Route 776. The Goose Creek bacteria TMDL for the Little River watershed (POL0067) was approved by the EPA on 05/01/2003. The SWCB approved the TMDL on 06/17/2004. Federal ID 24406.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_LIV01A00 / Little River / Segment begins at the confluence with Hungry Run, approximately 1.5 rivermiles upstream from Route 50 near Aldie, and continues downstream until the confluence with Goose Creek.	4A	Escherichia coli	2016	L	6.41
VAN-A08R_LIV02A06 / Little River / Segment begins at the confluence with an unnamed tributary and continues downstream until the confluence with Hungry Run, approximately 1.5 rivermiles upstream from Route 50 near Aldie.	4A	Escherichia coli	2006	L	2.48
VAN-A08R_LIV02B10 / Little River / Segment begins at the confluence with Bartons Creek and continues downstream until the confluence with an unnamed tributary.	4A	Escherichia coli	2016	L	4.36

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.25**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-03-BAC** **Sycolin Creek**

Cause Location: Begins at the headwaters of Sycolin Creek and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

E. coli bacteria criterion excursions (5 of 11 samples - 45.5%) at station 1aSYC002.03 at Route 652. 2004 Assessment: fecal coliform bacteria criterion excursions (3 of 5 samples - 60.0%) at station 1aSYC004.93 at Route 621. 2006 Assessment: fecal coliform bacteria criterion excursions (3 of 7 samples - 42.8%) at station 1aSYC007.43 at Route 797. The Goose Creek bacteria TMDL for the Sycolin Creek watershed (POL0069) was approved by the EPA on 05/01/2003. The SWCB approved the TMDL on 06/17/2004. Federal ID 24408.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_SYC01A00 / Sycolin Creek / Segment begins at rivermile 1.20, the boundary of the PWS designation, and continues downstream until the confluence with Goose Creek.	4A	Escherichia coli	1998	L	1.19
VAN-A08R_SYC01B06 / Sycolin Creek / Segment begins at the confluence with an unnamed tributary to Sycolin Creek, approximately 0.23 rivermile upstream from Route 643, and continues downstream until rivermile 1.20, the boundary of the PWS designation.	4A	Escherichia coli	1998	L	1.90

Sycolin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.09**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_SYC02A02 / Sycolin Creek / Segment begins at the confluence with South Fork Sycolin Creek and continues downstream until the confluence with an unnamed tributary to Sycolin Creek, approximately 0.23 rivermile upstream from Route 643.	4A	Fecal Coliform	1998	L	4.00
VAN-A08R_SYC03A02 / Sycolin Creek / Segment begins at the headwaters of Sycolin Creek and continues downstream until the confluence with South Fork Sycolin Creek.	4A	Fecal Coliform	1998	L	3.98

Sycolin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**7.98**

Sources:

Grazing in Riparian or Shoreline Zones

Livestock (Grazing or Feeding Operations)

Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-04-BAC** **South Fork Sycolin Creek**

Cause Location: Begins at the headwaters of South Fork Sycolin Creek and continues downstream until the confluence with Sycolin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 2 samples - 100%) at station 1aSFS000.28 at Route 15. The Goose Creek bacteria TMDL for the Sycolin Creek watershed (POL0069) was approved by the EPA on 05/01/2003. The SWCB approved the TMDL on 06/17/2004. Federal ID 33840.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_SFS01A02 / South Fork Sycolin Creek / Segment begins at the headwaters of South Fork Sycolin Creek and continues downstream until the confluence with Sycolin Creek.	4A	Escherichia coli	2002	L	3.76

South Fork Sycolin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.76**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-04-BEN** **Tuscarora Creek**

Cause Location: Begins at the confluence with Town Branch and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2012 at station 1aTUS003.19 at Route 643 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_TUS01A00 / Tuscarora Creek / Segment begins at the boundary for the PWS designation area, approximately 0.1 rivermile downstream from the Route 15 crossing. and continues downstream until the confluence with Goose Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.80
VAN-A08R_TUS01B06 / Tuscarora Creek / Segment begins at the confluence with Town Branch and continues downstream until the boundary for the PWS designation area, approximately 0.1 rivermile downstream from the Route 15 crossing.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.09

Tuscarora Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.89**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-05-BAC** **Tuscarora Creek**

Cause Location: Begins at the confluence with Town Branch and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 3 samples - 66.7%) at station 1aTUS000.04 at the golf cart bridge. A new TMDL is not required for this impaired segment of Tuscarora Creek because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_TUS01A00 / Tuscarora Creek / Segment begins at the boundary for the PWS designation area, approximately 0.1 rivermile downstream from the Route 15 crossing. and continues downstream until the confluence with Goose Creek.	4A	Escherichia coli	2004	L	2.80
VAN-A08R_TUS01B06 / Tuscarora Creek / Segment begins at the confluence with Town Branch and continues downstream until the boundary for the PWS designation area, approximately 0.1 rivermile downstream from the Route 15 crossing.	4A	Escherichia coli	2004	L	1.09

Tuscarora Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.89**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-05-BEN** **Dry Mill Branch**

Cause Location: Segment begins at the confluence with an unnamed tributary at rivermile 2.97 and continues downstream to the confluence with Tuscarora Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of six biological monitoring events in 2013, 2014, and 2016 at station 1aDRL001.00, upstream of Route 699, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_DRL01A16 / Dry Mill Branch / Segment begins at the confluence with an unnamed tributary at rivermile 2.97 and continues downstream to the confluence with Tuscarora Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.97

Dry Mill Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-06-BAC** **Goose Creek**

Cause Location: Begins at the confluence with the Little River and extends downstream until the backwaters of the Goose Creek Reservoir, at approximately rivermile 10.2.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 33 samples - 12.1%) at station 1aGOO011.23 at Route 621. A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_GOO03A02 / Goose Creek / Segment begins at the confluence with the Little River and extends downstream until the backwaters of the Goose Creek Reservoir, at approximately rivermile 10.2.	4A	Escherichia coli	2006	L	2.54

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.54**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-06-BEN** **Goose Creek**

Cause Location: Begins at the confluence with the Little River and extends downstream until the backwaters of the Goose Creek Reservoir, at approximately rivermile 10.2.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of six biological monitoring events in 2013, 2014 and 2016 at station 1aGOO011.23 at Route 621 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_GOO03A02 / Goose Creek / Segment begins at the confluence with the Little River and extends downstream until the backwaters of the Goose Creek Reservoir, at approximately rivermile 10.2.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.54

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-07-BAC** **Howsers Branch**

Cause Location: Begins at the headwaters of Howsers Branch and continues downstream until the confluence with Little River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (4 of 4 samples - 100%) at station 1aHOW003.68 at Route 50. A new TMDL is not required for this impaired segment of Howsers Branch because the downstream Goose Creek bacteria TMDL (24406, 05/01/2003) included modeling, source identification, and reductions that covered the entire Little River watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_HOW01A08 / Howsers Branch / Segment begins at the headwaters of Howsers Branch and continues downstream until the confluence with Little River.	4A	Escherichia coli	2008	L	5.10

Howsers Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.10**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-07-BEN** **Cattail Branch**

Cause Location: Begins downstream from Lake Sherred near Route 15 and continues downstream to the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of four biological monitoring events in 2015 and 2016 at station 1aCAC000.16 at Riverlook Court resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_CAC01A18 / Cattail Branch / Segment begins downstream from Lake Sherred near Route 15 and continues downstream to the confluence with Goose Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.41

Cattail Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.41**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-08-BAC** **Big Branch**

Cause Location: Begins at the headwaters of Big Branch and continues downstream to the confluence with Goose Creek

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) at station 1aBIB000.69 at Route 650. A new TMDL is not required for this impaired segment of Big Branch because the downstream Goose Creek bacteria TMDL (23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (POL0063).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_BIB01A14 / Big Branch / Segment begins at the headwaters of Big Branch and continues downstream to the confluence with Goose Creek	4A	Escherichia coli	2014	L	2.61

Big Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.61**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A08R-08-BEN** **Sycolin Creek**

Cause Location: Begins at the headwaters of Sycolin Creek and continues downstream until the confluence with South Fork Sycolin Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of six biological monitoring events in 2013, 2014, and 2016 at station 1aSYC007.43 at Route 797 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A08R_SYC03A02 / Sycolin Creek / Segment begins at the headwaters of Sycolin Creek and continues downstream until the confluence with South Fork Sycolin Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.98

Sycolin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.98**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-01-BAC** **Unnamed tributary to the Potomac River**

Cause Location: Begins at an unnamed tributary at rivermile 1.82, and continues downstream to the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 1aXLE001.62 at Algonkian Parkway.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_XLE01A10 / Unnamed tributary to Potomac River / Segment begins at an unnamed tributary at rivermile 1.82, and continues downstream to the confluence with the Potomac River.	5A	Escherichia coli	2010	M	1.74

Unnamed tributary to the Potomac River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.74**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-01-BEN** **Broad Run**

Cause Location: Begins at the confluence with Horsepen Run and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2012 at station 1aBRB002.15 at Route 7 and two biological monitoring events in 2012 at station 1aBRB006.97 (upstream from Route 625 (Waxpool Road)) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River.	5A	Benthic-Macroinvertebrate Bioassessments	2006	M	2.93
VAN-A09R_BRB02A06 / Broad Run / Segment begins at the confluence with Cabin Branch and continues downstream until the confluence with Beaverdam Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	2.27
VAN-A09R_BRB03A06 / Broad Run / Segment begins at the Route 625 crossing and continues downstream until the confluence with Cabin Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	1.11
VAN-A09R_BRB03B08 / Broad Run / Segment begins at the confluence with Horsepen Run and continues downstream until the Route 625 crossing.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	2.11

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-01-HG** **Broad Run**

Cause Location: Begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2010 Assessment: Excursions greater than the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded at station 1aBRB002.15 at Route 7 in 2004 in two species of fish (smallmouth bass and yellow bullheaded catfish).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River.	5A	Mercury in Fish Tissue	2010	L	2.93

Broad Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**2.93**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-02-BAC** **Broad Run**

Cause Location: Begins at the confluence with Horsepen Run, and continues downstream until the confluence with Cabin Branch, at rivermile 5.35. Also, begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aBRB006.33 at Route 625 (Waxpool Rd). E. coli bacteria criterion excursions (7 of 40 samples - 17.5%) at station 1aBRB002.15 at Route 7.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River.	5A	Escherichia coli	2014	M	2.93
VAN-A09R_BRB03A06 / Broad Run / Segment begins at the Route 625 crossing and continues downstream until the confluence with Cabin Branch.	5A	Escherichia coli	2010	M	1.11
VAN-A09R_BRB03B08 / Broad Run / Segment begins at the confluence with Horsepen Run and continues downstream until the Route 625 crossing.	5A	Escherichia coli	2010	M	2.11

Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-02-BEN** **Broad Run**

Cause Location: Begins at the perennial headwaters and continues downstream until the confluence with Horsepen Run.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2012 at station 1aBRB015.43, upstream of Route 621, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_BRB03C10 / Broad Run / Segment begins at the confluence of Broad Run with South Fork Broad Run, and continues downstream until the confluence with Horsepen Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	M	5.76
VAN-A09R_BRB04A08 / Broad Run / Segment begins at the perennial headwaters and continues downstream until the confluence with South Fork Broad Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	3.69

Broad Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.45**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-03-BAC** **Broad Run**

Cause Location: Begins at the perennial headwaters and continues downstream until the confluence with South Fork Broad Run.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aBRB015.38 at Route 621.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_BRB04A08 / Broad Run / Segment begins at the perennial headwaters and continues downstream until the confluence with South Fork Broad Run.	5A	Escherichia coli	2012	M	3.69

Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-03-BEN** **Horsepen Run**

Cause Location: Segment begins at the headwaters of Horsepen Run and continues until the confluence with an unnamed tributary to Horsepen Run, approx. 1.0 rivermile downstream from Route 28.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of four biological monitoring events in 2013 and 2014 at station 1aHPR003.93 (upstream of the confluence with Merrybrook Run) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_HPR01A00 / Horsepen Run / Segment begins at the headwaters of Horsepen Run and continues downstream until the confluence with Stallion Branch, 0.83 rivermile upstream from Route 606.	5A	Benthic-Macroinvertebrate Bioassessments	2016	M	8.17

Horsepen Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.17**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-04-BAC** **South Fork Broad Run**

Cause Location: Begins at the headwaters of South Fork Broad Run and continues downstream until the confluence with Broad Run.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aSOR000.59 at Route 621.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_SOR01A04 / South Fork Broad Run / Segment begins at the headwaters of South Fork Broad Run and continues downstream until the confluence with Broad Run.	5A	Escherichia coli	2014	M	5.28

South Fork Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-04-BEN** **South Fork Broad Run**

Cause Location: Begins at the headwaters of South Fork Broad Run and continues downstream until the confluence with Broad Run.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of four biological monitoring events in 2011 and 2012 at station 1aSOR000.59 at Route 621 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_SOR01A04 / South Fork Broad Run / Segment begins at the headwaters of South Fork Broad Run and continues downstream until the confluence with Broad Run.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	5.28

South Fork Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-05-BAC** **Beaverdam Run**

Cause Location: Begins at the confluence with of an unnamed tributary to Beaverdam Run, in Ashburn Park, and continues downstream until the confluence with Broad Run.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 12 samples - 26.0%) at station 1aBEM000.60 at Route 607.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_BEM01A04 / Beaverdam Run / Segment begins at the confluence with of an unnamed tributary to Beaverdam Run, and continues downstream until the confluence with Broad Run.	5A	Escherichia coli	2014	M	2.31
VAN-A09R_BEM02B10 / Beaverdam Run / Segment begins at the confluence with of an unnamed tributary to Beaverdam Run, in Ashburn Park, and continues downstream until the confluence with an unnamed tributary to Beaverdam Run.	5A	Escherichia coli	2014	M	1.54

Beaverdam Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-05-BEN** **Beaverdam Run**

Cause Location: Begins at the confluence with of an unnamed tributary to Beaverdam Run, in Ashburn Park, and continues downstream until the confluence with Broad Run.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of four biological monitoring events in 2013 and 2014 at station 1aBEM000.60 at Route 607 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_BEM01A04 / Beaverdam Run / Segment begins at the confluence with of an unnamed tributary to Beaverdam Run, and continues downstream until the confluence with Broad Run.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.31
VAN-A09R_BEM02B10 / Beaverdam Run / Segment begins at the confluence with of an unnamed tributary to Beaverdam Run, in Ashburn Park, and continues downstream until the confluence with an unnamed tributary to Beaverdam Run.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	1.54

Beaverdam Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-06-BAC** **Indian Creek**

Cause Location: Begins at the headwaters of Indian Run and continues downstream to the confluence with Horsepen Run.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 15 samples - 33.3%) at station 1aINI000.80 at Route 606 (Old Ox Road).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_INI01A14 / Indian Creek / Segment begins at the headwaters of Indian Creek and continues downstream to the confluence with Horsepen Run.	5A	Escherichia coli	2014	M	3.48

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-06-BEN** **Frying Pan Branch**

Cause Location: Begins at the perennial headwaters and continues downstream to the confluence with Horsepen Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 1aFRY000.85 at 0.25 mile upstream of Route 608 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_FRY01A18 / Frying Pan Branch / Segment begins at the perennial headwaters and continues downstream to the confluence with Horsepen Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	1.42

Frying Pan Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-07-BAC** **Horsepen Run**

Cause Location: Segment begins at the headwaters of Horsepen Run and continues until the confluence with an unnamed tributary to Horsepen Run, approx. 1.0 rivermile downstream from Route 28.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 17 samples - 11.8%) at station 1aHPR003.87 at Dulles Airport Access Road.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_HPR01A00 / Horsepen Run / Segment begins at the headwaters of Horsepen Run and continues downstream until the confluence with Stallion Branch, 0.83 rivermile upstream from Route 606.	5A	Escherichia coli	2016	L	8.17

Horsepen Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.17**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A09R-08-BAC** **Frying Pan Branch**

Cause Location: Begins at the perennial headwaters and continues downstream to the confluence with Horsepen Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 12 samples 50.0%) at station 1aFRY000.60 at Route 657.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A09R_FRY01A18 / Frying Pan Branch / Segment begins at the perennial headwaters and continues downstream to the confluence with Horsepen Run.	5A	Escherichia coli	2018	L	1.42

Frying Pan Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A10R-01-BAC** **Sugarland Run**

Cause Location: Begins at the confluence with Folly Lick Branch and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co. Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (10 of 34 samples - 29.4%) at station 1aSUG004.42 at Route 7. The Tributaries to the Potomac River bacteria TMDL for the Sugarland Run watershed (782) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53779.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A10R_SUG01A00 / Sugarland Run / Segment begins at the boundary of the PWS designation area, at rivermile 4.82, and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2002	L	4.88
VAN-A10R_SUG01B06 / Sugarland Run / Segment begins at the confluence with Folly Lick Branch and continues downstream until the boundary of the PWS designation area, at rivermile 4.82.	4A	Escherichia coli	2006	L	1.06

Sugarland Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.94**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Runoff from Forest/Grassland/Parkland
- Sanitary Sewer Overflows (Collection System Failures)
- Sewage Discharges in Unsewered Areas
- Urban Runoff/Storm Sewers
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A10R-01-BEN** **Sugarland Run**

Cause Location: Begins at the confluence with Smilax Branch and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co. Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: A total of four biological events in 2009 and in 2010 at station 1aSUG006.28 at Wiehle Avenue and two biological monitoring events in 2010 at station 1aSUG003.52 (adjacent to Brasswood Place) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A10R_SUG01A00 / Sugarland Run / Segment begins at the boundary of the PWS designation area, at rivermile 4.82, and continues downstream until the confluence with the Potomac River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.88
VAN-A10R_SUG01B06 / Sugarland Run / Segment begins at the confluence with Folly Lick Branch and continues downstream until the boundary of the PWS designation area, at rivermile 4.82.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	1.06
VAN-A10R_SUG02A02 / Sugarland Run / Segment begins at the confluence with Smilax Branch and continues downstream until the confluence with Folly Lick Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	3.77

Sugarland Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.71**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-01-BAC** **Difficult Run**

Cause Location: begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (18 of 55 samples - 32.7%) at station 1aDIF000.86 at Route 193. The Difficult Run bacteria TMDL (POL0557) was approved by the EPA on 11/07/2008. The SWCB approved the TMDL on 04/28/2009. Federal ID 38239.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2004	L	3.17

Difficult Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.17**

Sources:

- Grazing in Riparian or Shoreline Zones
- Impacts from Land Application of Wastes
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-01-BEN** **Difficult Run**

Cause Location: Begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

2014 Assessment: Two biological monitoring events in 2007 at station 1aDIF000.86 (Route 193) as well as two biological monitoring events in 2007 at station 1aDIF000.80 (downstream of Route 193) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The Difficult Run sediment TMDL (POL0558) was approved by the EPA on 11/07/2008. The SWCB approved the TMDL on 04/27/2009. Federal ID 37087.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	3.17

Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.17**

Sources:

Post-development Erosion and Sedimentation	Streambank Modifications/destabilization	Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-01-HEPOXID Difficult Run**

Cause Location: Begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Heptachlor epoxide / 5A

2008 Assessment: Two exceedances of the water quality criterion based tissue screening value (TV) of 12 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in one species of fish (American eel) collected in 2001 and 2004 at monitoring station 1aDIF000.86.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River.	5A	Heptachlor epoxide	2006	L	3.17

Difficult Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Heptachlor epoxide - Total Impaired Size by Water Type:			**3.17**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-02-BAC** **Mine Run**

Cause Location: Begins at the confluence with an unnamed tributary to Mine Run, approximately 0.5 rivermile upstream from River Bend Road, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) at station 1aMNR000.72 at Route 603. The bacteria TMDL for the Mine Run watershed (783) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53778.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_MNR01A04 / Mine Run / Segment begins at the confluence with an unnamed tributary to Mine Run, approximately 0.5 rivermile upstream from River Bend Road, and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2006	L	1.02

Mine Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.02**

Sources:

Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-02-BEN** **Captain Hickory Run**

Cause Location: Begins at the headwaters of Captain Hickory Run and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2001 at station 1aCAH001.82 (upstream from Route 681) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_CAH01A04 / Captain Hickory Run / Segment begins at the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run, and continues downstream until the confluence with Difficult Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.19
VAN-A11R_CAH01B06 / Captain Hickory Run / Segment begins at the headwaters of Captain Hickory Run and continues downstream until the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.08

Captain Hickory Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.27**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-03-BAC** **Difficult Run**

Cause Location: Begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Wolftrap Creek.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (4 of 18 samples - 22.2%) at station 1aDIF005.06 at Route 675 and E. coli bacteria criterion excursions (3 of 18 samples - 16.7%) at station 1aDIF010.48 at Route 672. A new TMDL is not required for this impaired segment of Difficult Run because the downstream bacteria TMDL (38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire watershed (POL0557).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_DIF02A02 / Difficult Run / Segment begins at the boundary of the PWS designation area, approximately 0.05 rivermile upstream from the Route 675 crossing, and continues downstream until the confluence with Wolftrap Creek.	4A	Escherichia coli	2010	L	0.85
VAN-A11R_DIF02B06 / Difficult Run / Segment begins at the confluence with Piney Branch and continues downstream until the boundary of the PWS designation area, approximately 0.05 rivermile upstream from the Route 675 crossing.	4A	Escherichia coli	2010	L	1.97
VAN-A11R_DIF03A02 / Difficult Run / Segment begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Piney Branch.	4A	Escherichia coli	2006	L	3.55

Difficult Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.37**

Sources:

- Grazing in Riparian or Shoreline Zones
- Impacts from Land Application of Wastes
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-03-BEN** **Difficult Run**

Cause Location: Begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Wolftrap Creek.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aDIF005.06 at Route 675 and two biological monitoring events in 2007 at station 1aDIF010.48 at Route 672 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_DIF02A02 / Difficult Run / Segment begins at the boundary of the PWS designation area, approximately 0.05 rivermile upstream from the Route 675 crossing, and continues downstream until the confluence with Wolftrap Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	0.85
VAN-A11R_DIF02B06 / Difficult Run / Segment begins at the confluence with Piney Branch and continues downstream until the boundary of the PWS designation area, approximately 0.05 rivermile upstream from the Route 675 crossing.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.97
VAN-A11R_DIF03A02 / Difficult Run / Segment begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Piney Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.55

Difficult Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.37**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-04-BAC** **Snakeden Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Snakeden Branch, approximately 0.4 rivermile downstream from the Twin Branches Road bridge, and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) at station 1aSNA000.21 at Route 677. A new TMDL is not required for this impaired segment of Snakeden Branch because the downstream bacteria TMDL (38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire Difficult Run watershed (POL0557).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_SNA01A02 / Snakeden Branch / Segment begins at the confluence with an unnamed tributary to Snakeden Branch, approximately 0.4 rivermile downstream from the Twin Branches Road bridge, and continues downstream until the confluence with Difficult Run.	4A	Escherichia coli	2006	L	0.97

Snakeden Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.97**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-04-BEN** **Colvin Run**

Cause Location: Begins at the headwaters of Colvin Run and continues downstream until the confluence with an unnamed tributary (streamcode XJJ) flowing from Lake Anne.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aCOV003.32 (Wiehle Ave) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_COV02A02 / Colvin Run / Segment begins at the headwaters of Colvin Run and continues downstream until the confluence with an unnamed tributary (streamcode XJJ) flowing from Lake Anne.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.09

Colvin Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.09**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-05-BAC** **Little Difficult Run**

Cause Location: Begins at the confluence with South Fork Little Difficult Run and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (3 of 13 samples - 23.1%) at station 1aLID000.64 at Route 669 (Stuart Mill Road). A new TMDL is not required for this impaired segment of Little Difficult Run because the downstream bacteria TMDL (38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire Difficult Run watershed (POL0557).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_LID01A02 / Little Difficult Run / Segment begins at the confluence with South Fork Little Difficult Run and continues downstream until the confluence with Difficult Run.	4A	Escherichia coli	2008	L	1.75

Little Difficult Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.75**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-05-BEN** **Snakeden Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Snakeden Branch, approximately 0.4 rivermile downstream from the Twin Branches Road bridge, and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aSNA000.21 at Route 677 (Hunter Station Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_SNA01A02 / Snakeden Branch / Segment begins at the confluence with an unnamed tributary to Snakeden Branch, approximately 0.4 rivermile downstream from the Twin Branches Road bridge, and continues downstream until the confluence with Difficult Run.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.97

Snakeden Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-06-BAC** **Wolftrap Creek**

Cause Location: Begins at the confluence with Old Courthouse Spring Branch and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aWOT000.92 at Route 702. A new TMDL is not required for this impaired segment of Wolftrap Creek because the downstream bacteria TMDL (38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire Difficult Run watershed (POL0557).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_WOT01A02 / Wolftrap Creek / Segment begins at the boundary of the PWS designation area, approximately 0.73 rivermile upstream from the confluence with Difficult Run, and continues downstream until the confluence with Difficult Run.	4A	Escherichia coli	2008	L	0.76
VAN-A11R_WOT01B06 / Wolftrap Creek / Segment begins at the confluence with Old Courthouse Spring Branch and continues downstream until the boundary of the PWS designation area, approximately 0.73 rivermile upstream from the confluence with Difficult Run.	4A	Escherichia coli	2008	L	1.96

Wolftrap Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.72**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-06-BEN** **Little Difficult Run**

Cause Location: Segment begins at the confluence with South Fork Little Difficult Run and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aLID000.64 at Route 669 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_LID01A02 / Little Difficult Run / Segment begins at the confluence with South Fork Little Difficult Run and continues downstream until the confluence with Difficult Run.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.75

Little Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.75**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-07-BAC** **Captain Hickory Run**

Cause Location: Begins at the headwaters of Captain Hickory Run and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 9 samples - 22.2%) at station 1aCAH000.96 at Fringe Tree Road. A new TMDL is not required for this impaired segment of Captain Hickory Run because the downstream Difficult Run bacteria TMDL (38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire watershed (POL0557).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_CAH01A04 / Captain Hickory Run / Segment begins at the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run, and continues downstream until the confluence with Difficult Run.	4A	Escherichia coli	2010	L	2.19
VAN-A11R_CAH01B06 / Captain Hickory Run / Segment begins at the headwaters of Captain Hickory Run and continues downstream until the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run.	4A	Escherichia coli	2010	L	1.08

Captain Hickory Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.27**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-07-BEN** **Old Courthouse Spring Branch**

Cause Location: Begins at the headwaters of Old Courthouse Spring Branch and continues downstream until the confluence with Wolftrap Creek.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aOCS000.43 at Laurel Hill Road resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_OCS01A04 / Old Courthouse Spring Branch / Segment begins at the headwaters of Old Courthouse Spring Branch and continues downstream until the confluence with Wolftrap Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.11

Old Courthouse Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.11**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-08-BAC** **Nichols Run**

Cause Location: Begins at the headwaters of Nichols Run and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

2016 Assessment: E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at station 1aNIC002.10 at Route 603.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_NIC01A02 / Nichols Run / Segment begins at the headwaters of Nichols Run and continues downstream until the confluence with the Potomac River.	5A	Escherichia coli	2012	L	4.56

Nichols Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.56**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-08-BEN** **Turkey Run**

Cause Location: Begins at the headwaters of Turkey Run, near Langley High School, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2009 at station 1aTUY000.26, upstream of the G.W. Parkway, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_TUY01A06 / Turkey Run / Segment begins at the headwaters of Turkey Run, near Langley High School, and continues downstream until the confluence with the Potomac River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	1.34

Turkey Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.34**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-09-BEN** **Dead Run**

Cause Location: Begins at the headwaters of Dead Run and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: Two biological monitoring events in 2009 at station 1aDED000.29, upstream of G.W. Parkway, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_DEA01A04 / Dead Run / Segment begins at the headwaters of Dead Run and continues downstream until the confluence with the Potomac River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.82

Dead Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.82**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A11R-10-BEN** **Wolftrap Creek**

Cause Location: Begins at the boundary of the PWS designation area, approximately 0.73 rivermile upstream from the confluence with Difficult Run, and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 1aWOT000.92 at Route 702 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A11R_WOT01A02 / Wolftrap Creek / Segment begins at the boundary of the PWS designation area, approximately 0.73 rivermile upstream from the confluence with Difficult Run, and continues downstream until the confluence with Difficult Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.76
VAN-A11R_WOT01B06 / Wolftrap Creek / Segment begins at the confluence with Old Courthouse Spring Branch and continues downstream until the boundary of the PWS designation area, approximately 0.73 rivermile upstream from the confluence with Difficult Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	1.96

Wolftrap Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12E-01-BAC** **Four Mile Run**

Cause Location: Includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line.

City / County: Alexandria City Arlington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (10 of 31 samples - 32.3%) at station 1aFOU000.19 at George Washington Parkway. The Tidal Four Mile Run bacteria TMDL (POL0737) was approved by the EPA on 06/14/2010. The SWCB approved the TMDL on 09/30/2010. Federal ID 38716.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF.	4A	Escherichia coli	1996	L	0.050

Four Mile Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.050**		

Sources:

- Illicit Connections/Hook-ups to Storm Sewers
- Sanitary Sewer Overflows (Collection System Failures)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12E-01-CDANE Four Mile Run**

Cause Location: Includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line.

City / County: Alexandria City Arlington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Chlordane / 5A

2014 Assessment: three exceedances of the water quality criterion based fish tissue value (TV) of 110 parts per billion (ppb) for total chlordane in fish tissue were recorded in two species of fish (carp and channel catfish) in three total samples collected in 2008 at monitoring station 1aFOU000.45.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF.	5A	Chlordane	2010	L	0.050

Four Mile Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:	**0.050**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12E-01-PCB** **Potomac River Embayments (FOU downstream until POM)**

Cause Location: Includes the tidal portions of the following tributaries and embayments from the I-395 bridge (above the Woodrow Wilson Bridge) to the Potomac River Bridge at Route 301: Fourmile Run, Hunting Creek, Little Hunting Creek, Pohick Creek, Accotink Creek, Occoquan River, Neabsco Creek, Powells Creek, Quantico Creek, Chopawamsic Creek, Aquia Creek, and Potomac Creek.

City / County: Alexandria City Arlington Co. Fairfax Co. King George Co. Prince William Co. Stafford Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 4A PCB in Water Column / 4A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 4/19/99 and modified 12/13/04 and 10/7/09, limits consumption of bullhead catfish, channel catfish less than 18 inches long, largemouth bass, anadromous (coastal) striped bass, sunfish species, smallmouth bass, white catfish, white perch, gizzard shad, and yellow perch to no more than two meals per month. The advisory also bans the consumption of American eel, carp and channel catfish greater than 18 inches long.

The following exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for PCBs in fish tissue were recorded: 8 exceedances in five species of fish (largemouth bass, carp, channel catfish, gizzard shad, and blue catfish) sampled in 2015 at station 1aFOU000.45; Six exceedances in six species of fish (largemouth bass, carp, channel catfish, gizzard shad, white catfish, and blue catfish) sampled in 2015 at station 1aHUT000.01; Two exceedances in one species of fish (northern snakehead) collected in 2014 at station 1aDOU001.02; Four exceedances in three species of fish (carp, channel catfish, and blue catfish) sampled in 2015 at station 1aLIF000.01; 10 exceedances in 7 species of fish (largemouth bass, carp, channel catfish, bluegill sunfish, brown bullhead catfish, northern snakehead, and gizzard shad) sampled in 2015 at station 1aNEA000.57; Five exceedances in four species of fish (American eel, carp, brown bullhead catfish, and bluegill sunfish) sampled in 2008 (2014 Assessment) and one exceedance in one species of fish (northern snakehead) sampled in 2014 at station 1aPOH002.27; 18 exceedances in 9 species of fish (largemouth bass, yellow perch, channel catfish, carp, brown bullhead catfish, American eel, white perch, gizzard shad, and bluegill sunfish) sampled in 2008 at station 1aCHO000.90 (2014 Assessment); 9 exceedances in five species of fish (largemouth bass, channel catfish, blue catfish, brown bullhead catfish, and carp) sampled in 2015 at station 1aPOW001.11; 9 exceedances in six species of fish (bluegill sunfish, channel catfish, blue catfish, white catfish, gizzard shad, and northern snakehead) sampled in 2015 at station 1aAUA003.71; 10 exceedances in five species of fish (blue catfish, channel catfish, carp, gizzard shad, and northern snakehead) sampled in 2015 at station 1aPOM001.04; 7 exceedances in 7 species of fish (brown bullhead catfish, carp, channel catfish, gizzard shad, largemouth bass, pumpkinseed sunfish and yellow perch) sampled in 2005 at station 1aACO001.78; Five exceedances in one species of fish (American shad) sampled in 2006 at station 1aACO001.78; Three exceedances in three species of fish (largemouth bass, gizzard shad, and bluegill sunfish) sampled in 2008 at station 1aACO001.78; Two exceedances in two species of fish (largemouth bass and bullhead catfish) sampled in 1996 at station 1aQUA002.76 (2002 Assessment); 7 exceedances in four species of fish (largemouth bass, carp, channel catfish, and gizzard shad) sampled in 2008 at station 1aQUA001.00 (2014 Assessment).

Two exceedances of the human health criteria for PCBs were recorded in water samples collected in 2006 at monitoring station 1aHUT001.72 and one exceedance was recorded in SPMD data collected in 2005 at monitoring station 1aHUT001.54 (2012 Assessment).

The Tidal Potomac River PCB TMDL was approved by the EPA on 10/31/2007. The SWCB approved the TMDL on 04/11/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.050
VAN-A12E_POT01A16 / Potomac River / Segment includes all tidal Virginia water adjacent to Alexandria, from Second Street to King Street.	4A	PCB in Fish Tissue	2016	L	0.047

Potomac and Shenandoah River Basins

Portion of CBP segment POTTF.					
VAN-A13E_HFF01A06 / Hooff Run / Segment contains the tidal portion of Hooff Run; begins at the Alexandria National Cemetery and continues downstream until the confluence with Hunting Creek. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2006	L	0.003
VAN-A13E_HUT01A02 / Hunting Creek / Segment includes all tidal waters of Hunting Creek; beginning at the Route 241 (Telegraph Road) bridge crossing and continuing downstream until the mouth of the embayment, at Jones Point and Belle View. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2004	L	0.529
VAN-A14E_DOU01A00 / Dogue Creek / Segment includes all tidal waters of Dogue Creek, extending from approximately rivermile 2.1 until the confluence with the Potomac River. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.736
VAN-A14E_LIF01A00 / Little Hunting Creek / Segment includes all tidal waters of Little Hunting Creek, extending from approximately rivermile 1.7 downstream until the confluence with the Potomac River. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.250
VAN-A14E_POT01A08 / Potomac River / Segment includes all tidal waters downstream of the mouth of the Hunting Creek embayment, at Jones Point and Belle View. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2004	L	0.848
VAN-A14E_POT02A16 / Potomac River / Segment includes all tidal Virginia water adjacent to Alexandria, from King Street to the DC/MD boundary. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2016	L	0.029
VAN-A15E_ACO01A06 / Accotink Bay / Segment includes tidal waters of Accotink Creek until the confluence with the tidal waters of Pohick Bay/Gunston Cove. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.395
VAN-A15E_POH01A00 / Gunston Cove / Segment extends from rivermile 1.31 in Gunston Cove until the confluence with the Potomac River. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	1.504
VAN-A15E_POH02A00 / Pohick Bay / Segment includes tidal waters of Pohick Creek, from the boundary of watershed A15, and extends until rivermile 1.31 in Gunston Cove. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.450
VAN-A16E_POH01A06 / Pohick Bay / Segment includes tidal waters of Pohick Creek upstream from the boundary of watershed A16. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.461
VAN-A25E_MAE01A16 / Massey Creek / Segment extends from 0.29 rivermile upstream of monitoring station 1aMAE000.21 until the confluence with the tidal waters of Occoquan River within Occoquan Bay. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.065
VAN-A25E_MAU01A12 / Marumsco Creek / Segment includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.025
VAN-A25E_NEA01A00 / Neabsco Bay / Segment includes the tidal waters of Neabsco Bay, beginning at rivermile 1.37, downstream until the confluence with Occoquan Bay.	4A	PCB in Fish Tissue	2002	L	0.545

Portion of CBP segment POTTF.					
VAN-A25E_NEA20A02 / Neabsco Creek / Segment begins at the upstream limit of the tidal waters on Neabsco Creek and continues downstream until the start of the open waters of Neabsco Bay, approximately 0.8 rivermile upstream from monitoring station 1aNEA000.57. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.182
VAN-A25E_OCC01A04 / Occoquan Bay / Segment extends 0.5 mile around the Coastal 2000 monitoring station 1aOCC000.77, just west of the Potomac Shoreline of Mason Neck State Park. The downstream limit is the state line at the Potomac River. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.720
VAN-A25E_OCC01A10 / Occoquan Bay / Segment includes waters of Occoquan Bay within a 0.5 mile radius of station 1aOCC001.29. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.598
VAN-A25E_OCC01A12 / Occoquan Bay/Belmont Bay / Segment includes waters of Occoquan Bay in a 0.5 mile radius around station 1aOCC000.01 down to the Virginia state line. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.412
VAN-A25E_OCC01B12 / Occoquan Bay / Segment includes waters of Occoquan Bay located approximately 0.5 mile radius around station 1aOCC001.69. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.709
VAN-A25E_OCC01C16 / Occoquan Bay/Belmont Bay / Segment includes waters of Occoquan Bay located approximately 0.5 mile radius around station 1aOCC001.04. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.438
VAN-A25E_OCC02A00 / Occoquan Bay / Segment extends 0.5 mile around the around monitoring station 1aOCC002.47. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.633
VAN-A25E_OCC03A04 / Belmont Bay (Occoquan River) / Segment extends 0.5 mile around Coastal 2000 monitoring station 1aOCC002.62 (coordinates 38.6382, -77.208). Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.286
VAN-A25E_OCC04A02 / Belmont Bay / Segment extends 0.5 mile around the monitoring station 1AOCC-766-ALL (coordinates 38.647, -77.195). Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.412
VAN-A25E_OCC04B08 / Occoquan River / Segment extends from 0.5 rivermile upstream of monitoring station 1aOCC004.52 until 0.5 rivermile downstream of monitoring station 1aOCC003.82. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.561
VAN-A25E_OCC04C18 / Occoquan River / Segment extends from 0.5 rivermile upstream of monitoring station 1aOCC005.16 until 0.5 rivermile downstream of monitoring station 1aOCC005.16. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.104
VAN-A25E_OCC05A02 / Occoquan River / Segment extends from the end of the free-flowing waters to 0.5 rivermile upstream of monitoring station 1aOCC005.16. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.086
VAN-A25E_OCC20A02 / Occoquan Bay/Belmont Bay / Segment includes all waters of the Occoquan and Belmont Bays not included in other delineated segments. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	2.623
VAN-A25E_OCC30A02 / Occoquan Bay/Belmont Bay / Segment	4A	PCB in Fish Tissue	2002	L	0.126

includes all tidal waters in the Occoquan watershed not included in other delineated stream segments. Portion of CBP segment POTTF.					
VAN-A25E_POT01A10 / Potomac River / Segment includes the Potomac River embayment located between Hallowing Point and Sycamore Point. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2010	L	0.633
VAN-A26E_CHO01A04 / Chopawamsic Creek / Segment includes the lower most portion of Chopawamsic Creek embayment downstream until the state line at the confluence with the Potomac River. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2002	L	0.595
VAN-A26E_CHO01B06 / Chopawamsic Creek / Segment includes all Chopawamsic Creek tidal waters not included in other delineated segments. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2002	L	0.103
VAN-A26E_POT01A08 / Potomac River / Segment includes the tidal waters of the Potomac River embayment surrounding Chopawamsic Island. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2008	L	0.265
VAN-A26E_POW01A02 / Powells Creek / Segment extends to a 0.5 mile radius around the ACB station 1aPOW-865-ALL (38.5862, -77.253). Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.229
VAN-A26E_POW02A02 / Powells Creek / Segment extends to a 0.5 mile radius around the ACB station 1aPOW-765-ALL (38.5842, -77.2647). Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.402
VAN-A26E_POW20A10 / Powells Creek / Segment includes all tidal waters in Powells Creek watershed not included in other delineated stream segments. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.663
VAN-A26E_QUA01A10 / Quantico Creek / Segment includes Quantico Creek approximately 0.2 miles upstream of station 1aQUA000.43 to the downstream limit of Quantico Creek at the state line at the Potomac River. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.187
VAN-A26E_QUA01B04 / Quantico Creek / Segment extends to a 0.5-mile radius around station 1aQUA001.09. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.419
VAN-A26E_QUA01C18 / Quantico Creek / Segment includes all tidal waters in Quantico Creek watershed not Segment extends from 0.5 mile downstream of station 1aQUA002.38 to 0.5 mile upstream of station 1aQUA001.09. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.268
VAN-A26E_QUA02A06 / Quantico Creek / Segment extends to an approximate 0.5 mile radius around station 1aQUA002.38. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.209
VAN-A26E_QUA20A10 / Quantico Creek / Segment includes all tidal waters in Quantico Creek watershed not included in other delineated segments. Portion of CBP segment POTTF.	4A	PCB in Fish Tissue	2002	L	0.023
VAN-A28E_AUA01A14 / Aquia Creek / Segment includes the tidal	4A	PCB in Fish Tissue	2006	L	0.741

waters of Aquia Creek from the Thorney Point - Simms Point transect to the downstream limit of Aquia Creek at the state line at the Potomac River. Portion of CBP segment POTOH.					
VAN-A28E_AUA01B06 / Aquia Creek / Segment extends to a 0.5 mile upstream of station 1aAUA-SCSHORE-ALL and 0.5 mile downstream of station 1aAUA001.39 (Thorney Point - Simms Point transect). Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	1.206
VAN-A28E_AUA01C00 / Aquia Creek / Segment extends from rivermile 4.28 to rivermile 3.28 in Aquia Creek encompassing a 0.5-mile radius around station 1aAUA003.71. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.364
VAN-A28E_AUA01D06 / Aquia Creek / Segment extends from approximately rivermile 6.70 and continues downstream until approximately rivermile 4.19. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.578
VAN-A28E_AUA02A04 / Aquia Creek / Segment begins at the upstream limit of the tidal waters of Aquia Creek and continues downstream until the confluence with Austin Run. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.235
VAN-A28E_AUA20A02 / Aquia Creek / Segment includes all tidal waters of Aquia Creek not included in another segment. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.603
VAN-A29E_CHN01A10 / Chotank Creek / Segment includes the tidal portion of Chotank Creek, from the fire road crossing inside Caledon State Park until its confluence with the Potomac River. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.123
VAN-A29E_CHN02A10 / Chotank Creek / Segment includes the tidal portion of Chotank Creek, from its headwaters until the fire road crossing inside of Caledon State Park. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.054
VAN-A29E_POM01A04 / Potomac Creek / Segment extends to a half-mile radius around station 1aPOM000.59. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2004	L	0.433
VAN-A29E_POM01B06 / Potomac Creek / Segment extends from rivermile 1.91 until rivermile 1.09 along Potomac Creek. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2002	L	0.587
VAN-A29E_POM02A02 / Potomac Creek / Segment extends a half-mile radius around monitoring station 1aPOM002.41. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2002	L	0.600
VAN-A29E_POM02B16 / Potomac Creek / Segment extends from rivermile 3.72 until rivermile 2.92 along Potomac Creek Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2002	L	0.184
VAN-A29E_POM03A08 / Potomac Creek / Segment extends to a half-mile radius around station 1aPOM-SCSPILL-ALL (38.345, -77.3515). Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2002	L	0.321
VAN-A29E_POM20A04 / Potomac Creek / Segment includes all tidal waters of Potomac Creek not included in other segments; beginning at the upstream limit of the tidal waters and continuing downstream until the confluence with the Potomac River at the state line.	4A	PCB in Fish Tissue	2002	L	0.329

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Potomac and Shenandoah River Basins

Portion of CBP segment POTOH.

VAN-A29E_POT01A06 / Fairview Beach/Potomac River / Segment includes all of Fairview Beach on the Potomac River. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.005
VAN-A29E_POT20A06 / Potomac River / Segment includes all tidal embayments of the Potomac River located in Virginia, but not included in other segments. Portion of CBP segment POTOH.	4A	PCB in Fish Tissue	2006	L	0.007

Potomac River Embayments (FOU downstream until POM)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:	**24.192**		

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13E_HUT01A02 / Hunting Creek / Segment includes all tidal waters of Hunting Creek; beginning at the Route 241 (Telegraph Road) bridge crossing and continuing downstream until the mouth of the embayment, at Jones Point and Belle View. Portion of CBP segment POTTF.	4A	PCB in Water Column	2010	L	0.529

Potomac River Embayments (FOU downstream until POM)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:	**0.529**		

Sources:

Atmospheric Deposition - Toxics	Clean Sediments	Combined Sewer Overflows	Contaminated Sediments
Upstream Source			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-01-BAC** **Four Mile Run**

Cause Location: Begins at the headwaters of Four Mile Run and continues downstream until rivermile 1.46, approximately 0.27 rivermile upstream from the Arlington Ridge Road bridge. Segment includes non-tidal waters of Four Mile Run.

City / County: Alexandria City Arlington Co. Fairfax Co. Falls Church City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (17 of 31 samples 54.8%) at station 1aFOU001.92 at Route 120 (West Glebe Road). The Four Mile Run bacteria TMDL (POL0071) was approved by the EPA on 05/31/2002. The SWCB approved the TMDL on 06/17/2004. Federal ID 26433. The Four Mile Run bacteria TMDL Implementation Plan (ID 38) was completed on 03/31/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_FOU01A00 / Four Mile Run / Segment begins at the headwaters of Four Mile Run and continues downstream until approximately 0.27 rivermile upstream from the Arlington Ridge Road bridge. Segment includes non-tidal waters of Four Mile Run.	4A	Escherichia coli	1994	L	7.96

Four Mile Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.96**

Sources:

Illicit Connections/Hook-ups to Storm Sewers
Wastes from Pets
Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-01-BEN** **Pimmit Run**

Cause Location: Begins at the Route 309 bridge crossing and continues downstream until the confluence with Little Pimmit Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2011 at station 1aPIM001.89 at Ranleigh Road resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_PIM02A00 / Pimmit Run / Segment begins at the Route 309 bridge crossing and continues downstream until the confluence with Little Pimmit Run.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.76

Pimmit Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.76**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-01-PCB** **Pimmit Run**

Cause Location: Includes the following tributaries between the Virginia/Maryland state line near the Route 340 bridge (Loudoun County) to the I-395 bridge in Arlington County (above the Woodrow Wilson Bridge): Pimmit Run up to the Route 309 bridge.

City / County: Arlington Co. Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 4A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month. The Tidal Potomac River PCB TMDL was approved by the EPA on 10/31/2007. The SWCB approved the TMDL on 04/11/2008. Federal ID 35018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River.	4A	PCB in Fish Tissue	2006	L	1.64
VAN-A12R_PIM02A00 / Pimmit Run / Segment begins at the Route 309 bridge crossing and continues downstream until the confluence with Little Pimmit Run.	4A	PCB in Fish Tissue	2006	L	2.76

Pimmit Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**4.40**

Sources:

Atmospheric Deposition - Toxics

Combined Sewer Overflows

Contaminated Sediments

Upstream Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-02-BAC** **Pimmit Run**

Cause Location: Begins at the headwaters of Pimmit Run, upstream from Route 7, and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co. Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 30 samples - 23.3%) at station 1aPIM000.15 at Route 120 (Glebe Road). 2014 Assessment: E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) at station 1aPIM001.89 at Ranleigh Road. 2016 Assessment: E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) at station 1aPIM004.16 at Route 309. The Tributaries to the Potomac River bacteria TMDL for the Pimmit Run watershed (784) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53776.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River.	4A	Escherichia coli	2010	L	1.64
VAN-A12R_PIM02A00 / Pimmit Run / Segment begins at the Route 309 bridge crossing and continues downstream until the confluence with Little Pimmit Run.	4A	Escherichia coli	2010	L	2.76
VAN-A12R_PIM02B06 / Pimmit Run / Segment begins at the headwaters of Pimmit Run, upstream from Route 7, and continues downstream until the Route 309 bridge crossing.	4A	Escherichia coli	2010	L	3.33

Pimmit Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.73**

Sources:

Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-02-BEN** **Four Mile Run**

Cause Location: Begins at the headwaters of Four Mile Run and continues downstream until rivermile 1.46, approximately 0.27 rivermile upstream from the Arlington Ridge Road bridge. Segment includes non-tidal waters of Four Mile Run.

City / County: Alexandria City Arlington Co. Fairfax Co. Falls Church City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2015 at station 1aFOU002.06 between West Glebe Rd. and I-395 and a total of two biological monitoring events in 2015 at station 1aFOU005.16 above bike trail bridge in Glencarlyn Park resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_FOU01A00 / Four Mile Run / Segment begins at the headwaters of Four Mile Run and continues downstream until approximately 0.27 rivermile upstream from the Arlington Ridge Road bridge. Segment includes non-tidal waters of Four Mile Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	7.96

Four Mile Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.96**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-03-BAC** **Long Branch**

Cause Location: Begins at the headwaters of Long Branch and continues downstream until the confluence with Four Mile Run.

City / County: Arlington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (2 of 5 samples - 40.0%) at station 1aLBR000.04 at Route 120 (Glebe Road). A new TMDL is not required for this impaired segment of Long Branch because the downstream bacteria TMDL (26433, 05/31/2002) included modeling, source identification, and reductions that covered the entire Four Mile Run watershed (POL0071). The Four Mile Run bacteria TMDL Implementation Plan (ID 38) was completed on 03/31/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_LBR01A08 / Long Branch / Segment begins at the headwaters of Long Branch and continues downstream until the confluence with Four Mile Run.	4A	Escherichia coli	2012	L	1.97

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.97**

Sources:

Illicit Connections/Hook-ups to Storm Sewers	Wastes from Pets	Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-03-CDANE** **Pimmit Run**

Cause Location: Begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co. Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Chlordane / 5A

2008 Assessment: Excursions greater than the water quality criterion based tissue value (TV) of 310 ppb for chlordane in fish tissue were recorded in tissue from one species of fish (American eel) sampled in 2001 and 2004 at station 1aPIM000.15.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River.	5A	Chlordane	2006	L	1.64

Pimmit Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			**1.64**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Cause Group Code: A12R-03-HEPOXID **Pimmit Run**

Cause Location: Begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co. Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Heptachlor epoxide / 5A

2010 Assessment: Excursions greater than the water quality criterion based tissue value (TV) of 4.4 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in three total samples of two species of fish (American eel (2004) and white sucker (2004)) at station 1aPIM000.15.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River.	5A	Heptachlor epoxide	2006	L	1.64

Pimmit Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Heptachlor epoxide - Total Impaired Size by Water Type:			**1.64**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A12R-04-BAC** **Little Pimmit Run**

Cause Location: Begins at the headwaters of Little Pimmit Run and continues downstream until its confluence with Pimmit Run.

City / County: Arlington Co. Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 1aLIO001.50 at Route 691 (Franklin Park Road). A new TMDL is not required for this impaired segment of Little Pimmit Run because the downstream Tributaries to the Potomac River bacteria TMDL (53776, 09/26/2013) included modeling, source identification, and reductions that covered the entire Pimmit Run watershed (784).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12R_LIO01A10 / Little Pimmit Run / Segment begins at the headwaters of Little Pimmit Run and continues downstream until its confluence with Pimmit Run.	4A	Escherichia coli	2012	L	2.35

Little Pimmit Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.35**

Sources:

Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-01-PCB** **Indian Run**

Cause Location: Includes the entire portion of Indian Run, from the headwaters until the confluence with Backlick Run.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 7/27/05, limits consumption of creek chub to no more than two meals per month.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13R_INA01A06 / Indian Run / Segment begins at the headwaters of Indian Run and continues downstream until the confluence with Backlick Run.	5A	PCB in Fish Tissue	2006	L	3.18

Indian Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**3.18**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-02-BAC** **Holmes Run**

Cause Location: Begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft. Begins again at the mouth of Lake Barcroft and continues downstream until the confluence with Backlick Run.

City / County: Alexandria City Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aHOR001.04 at Pickett Street. E. coli bacteria criterion excursions (15 of 22 samples - 64.7%) at station 1aHOR005.48 at Route 613. The Holmes Run watershed (POL0760) bacteria TMDL was approved by the EPA on 11/10/2010. The SWCB approved the TMDL on 08/04/2011. Federal ID 39464.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13R_HOR01A00 / Holmes Run / Segment begins at the mouth of Lake Barcroft and continues downstream until the confluence with Backlick Run.	4A	Escherichia coli	2004	L	3.58

Holmes Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.58**

Sources:

Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-03-BAC** **Cameron Run/Hunting Creek**

Cause Location: Begins at the confluence with Backlick Run and continues downstream until the mouth of the embayment, at Jones Point and Belle View.

City / County: Alexandria City Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (16 of 31 samples - 51.6%) at station 1aHUT000.01 at George Washington Parkway. E. coli bacteria criterion excursions (5 of 31 samples - 16.1%) at station 1aCAM002.92 at Eisenhower Avenue. A bacteria TMDL for the Hunting Creek (POL0758) and Cameron Run (POL0759) watersheds was approved by the EPA on 11/10/2010. The SWCB approved the TMDL on 08/04/2011. Federal ID 39464.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13E_HUT01A02 / Hunting Creek / Segment includes all tidal waters of Hunting Creek; beginning at the Route 241 (Telegraph Road) bridge crossing and continuing downstream until the mouth of the embayment, at Jones Point and Belle View. Portion of CBP segment POTTF.	4A	Escherichia coli	1998	L	0.529
VAN-A13R_CAM01A04 / Cameron Run/Hunting Creek / Segment begins at the confluence with Backlick Run and continues downstream until the Route 241 (Telegraph Road) bridge crossing.	4A	Escherichia coli	2006	L	1.91

Cameron Run/Hunting Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.529**		**1.91**

Sources:

Combined Sewer Overflows	Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-03-BEN** **Holmes Run**

Cause Location: Begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: Two biological monitoring events in 2010 at station 1aHOR005.48, upstream of Route 613, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13R_HOR01B00 / Holmes Run / Segment begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.	5A	Benthic-Macroinvertebrate Bioassessments	2004	M	6.09

Holmes Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.09**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-04-BAC** **Holmes Run**

Cause Location: Begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (15 of 22 samples - 64.7%) at station 1aHOR005.48 at Route 613. A new TMDL is not required for this impaired segment of Holmes Run because the downstream bacteria TMDL (39464, 11/10/2010) included modeling, source identification, and reductions that covered the entire Holmes Run watershed (POL0760).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13R_HOR01B00 / Holmes Run / Segment begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.	4A	Escherichia coli	2012	L	6.09

Holmes Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.09**

Sources:

Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-04-BEN** **Tripps Run**

Cause Location: Begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: Two biological monitoring events in 2010 at station 1aTRI001.50, upstream of Route 613, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13R_TRI01A00 / Tripps Run / Segment begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft.	5A	Benthic-Macroinvertebrate Bioassessments	2004	M	3.70

Tripps Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.70**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-05-BAC** **Backlick Run**

Cause Location: Begins at the headwaters of Backlick Run, upstream from Route 620, and continues downstream until the confluence with Holmes Run.

City / County: Alexandria City Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at station 1aBAL001.40 at Route 401 (Van Dorn Street). A new TMDL is not required for this impaired segment of Backlick Run because the downstream bacteria TMDL (39463, 11/10/2010) included modeling, source identification, and reductions that covered the entire Cameron Run watershed (POL0759).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13R_BAL01A00 / Backlick Run / Segment begins at the headwaters of Backlick Run, upstream from Route 620, and continues downstream until the confluence with Holmes Run.	4A	Escherichia coli	2012	L	6.68

Backlick Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.68**

Sources:

Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A13R-06-BAC** **Tripps Run**

Cause Location: Begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Sufficient excursions from the maximum E. coli bacteria criterion were recorded to assess this stream segment as not supporting the recreation use for the 2018 water quality assessment: 21 of 24 (87.5%) at station 1aTRI001.50 at Route 613; 10 of 14 (71.4%) at station 1aTRI002.25 at Route 649; 11 of 14 (78.6%) at station 1aTRI002.25 at Chestnut Avenue; and 10 of 12 (83.3%) at station 1aTRI003.66 at South Oak Street. A new TMDL is not required for this impaired segment of Tripps Run because the downstream bacteria TMDL (39464, 11/10/2010) included modeling, source identification, and reductions that covered the entire Holmes Run watershed (POL0760).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A13R_TRI01A00 / Tripps Run / Segment begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft.	4A	Escherichia coli	2012	L	3.70

Tripps Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.70**

Sources:

Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A14R-01-BAC** **Paul Springs Branch**

Cause Location: Begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

2014 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 1aPAU001.17 at Route 626.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A14R_PAU01A04 / Paul Springs Branch / Segment begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.	5A	Escherichia coli	2010	L	3.38

Paul Springs Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A14R-01-BEN** **Paul Springs Branch**

Cause Location: Begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aPAU001.17 at Route 626 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A14R_PAU01A04 / Paul Springs Branch / Segment begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	3.38

Paul Springs Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A14R-01-DO** **Paul Springs Branch**

Cause Location: Begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Excursions less than the minimum dissolved oxygen criterion (6 of 42 samples - 14.3%%) were recorded at USGS station 01653717, downstream of Sherwood Hall Lane.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A14R_PAU01A04 / Paul Springs Branch / Segment begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.	5A	Oxygen, Dissolved	2014	L	3.38

Paul Springs Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A14R-01-PCB** **Little Hunting Creek**

Cause Location: Begins at the confluence with an unnamed tributary, approximately 0.82 rivermile upstream from the Route 1 bridge, and continues downstream until tidal waters.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 4A

2012 Assessment: Two exceedances of the human health criteria for total polychlorinated biphenyls (PCBs) in the water column were recorded in 2006 at DEQ station 1aLIF002.48 at Route 1. The Tidal Potomac River PCB TMDL for the Little Hunting Creek watershed (POL0474) was approved by the EPA on 10/31/2007. The SWCB approved the TMDL on 04/11/2008. Federal ID 33955.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A14R_LIF01A08 / Little Hunting Creek / Segment begins at the confluence with an unnamed tributary, approximately 0.82 rivermile upstream from the Route 1 bridge, and continues downstream until tidal waters.	4A	PCB in Water Column	2010	L	1.09

Little Hunting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:			**1.09**

Sources:

Atmospheric Deposition - Toxics

Combined Sewer Overflows

Contaminated Sediments

Upstream Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A14R-02-BAC** **Dogue Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Dogue Creek, approximately 0.3 rivermiles upstream from Rt. 622, and continues downstream until the end of the free-flowing waters of Dogue Creek.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 1aDOU003.17 at Route 622.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A14R_DOU01A04 / Dogue Creek / Segment begins at the confluence with an unnamed tributary to Dogue Creek, approximately 0.3 rivermiles upstream from Rt. 622, and continues downstream until the end of the free-flowing waters of Dogue Creek.	5A	Escherichia coli	2014	L	1.41

Dogue Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.41**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15E-01-PH** **Pohick Bay**

Cause Location: Segment includes tidal waters of Pohick Creek, from the boundary of watershed A15, and extends until rivermile 1.31 in Gunston Cove.
Portion of CBP segment POTTF.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

2016 Assessment: Sufficient excursions greater than the upper limit of the pH criterion range (36 of 210 observations - 17.1%) at continuous monitoring station 1aPOH002.10 at the end of the dock at Pohick Regional Park.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15E_POH02A00 / Pohick Bay / Segment includes tidal waters of Pohick Creek, from the boundary of watershed A15, and extends until rivermile 1.31 in Gunston Cove. Portion of CBP segment POTTF.	5A	pH	2012	L	0.450

Pohick Bay	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**0.450**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15L-01-HG** **Lake Accotink**

Cause Location: Includes all of Lake Accotink.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2014 Assessment: Three exceedances of the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded in two species of fish (largemouth bass and bluegill sunfish) collected in 2007 at monitoring station 1aACO012.78.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15L_ACO01A10 / Lake Accotink / Segment includes all of Lake Accotink.	5A	Mercury in Fish Tissue	2010	L	73.93

Lake Accotink **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**73.93**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15L-01-PCB** **Lake Accotink**

Cause Location: Includes all of Lake Accotink.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

2014 Assessment: Three exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in two species of fish (carp and gizzard shad) collected in 2007 at monitoring station 1aACO012.78.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15L_ACO01A10 / Lake Accotink / Segment includes all of Lake Accotink.	5A	PCB in Fish Tissue	2010	L	73.93

Lake Accotink **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**73.93**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-01-BAC** **Accotink Creek**

Cause Location: Begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 20 samples - 35.0%) at station 1aACO004.84 at Route 611 (Telegraph Road). The Lower Accotink Creek bacteria TMDL (POL0556) was approved by the EPA on 12/18/2008. The SWCB approved the TMDL on 04/28/2009. Federal ID 35782.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.	4A	Escherichia coli	2004	L	7.47

Accotink Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.47**

Sources:

- Sewage Discharges in Unsewered Areas
- Urban Runoff/Storm Sewers
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-01-BEN** **Accotink Creek**

Cause Location: Begins at the outlet of Lake Accotink and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Two biological monitoring events in 2007 at station 1aACO002.50 at Route 1; two biological monitoring events in 2007 and two biological monitoring events in 2008 at station 1aACO006.10 at Route 790; and two biological monitoring events in 2008 at station 1aACO009.14 at Routes 636 and 286 (2014 Assessment), as well as one biological monitoring event in 2016 at station 1aACO011.27 (one mile upstream of Route 644 (Old Keene Mill Road)) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The Accotink Creek Chloride (watershed 2120) and Sediment (watershed 2161) TMDLs for the Lower Accotink Creek watershed were approved by the EPA on 05/23/2018. The SWCB approved the TMDLs on 04/16/2018. No Federal TMDL IDs were assigned.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	7.47
VAN-A15R_ACO01B10 / Accotink Creek / Segment begins at the outlet of Lake Accotink and continues downstream until the confluence of Calamo Branch.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.62

Accotink Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.09**

Sources:

- Construction Stormwater Discharge (Permitted)
- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Streambank Modifications/destabilization
- Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-01-CHLR** **Accotink Creek**

Cause Location: Begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.

City / County: Fairfax Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Chloride / 4A

Three exceedances of the acute water quality criterion were recorded within a three-year period at USGS station 1aACO-1654000-MD; three exceedances of the acute water quality criterion recorded were recorded within a three-year period at DEQ station 1aACO014.57 at Route 620; and two exceedances of the chronic water quality criterion recorded within a three-year period at DEQ station 1aACO014.57 at Route 620. The Accotink Creek Chloride TMDL for the Upper Accotink Creek watershed (2139) was approved by the EPA on 05/23/2018. The SWCB approved the TMDL on 04/16/2018. No federal TMDL ID was assigned.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO02A00 / Accotink Creek / Segment begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.	4A	Chloride	2016	L	5.22

Accotink Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chloride - Total Impaired Size by Water Type:			**5.22**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-01-PCB** **Accotink Creek**

Cause Location: Segment begins at the outlet of Lake Accotink and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in three species of fish (3 total samples): American eel (2004), redbreast sunfish (2004), and rainbow trout (2004) collected at monitoring station 1aACO004.86 (2010 Assessment). 2014 Assessment: Excursions for PCBs in fish tissue recorded in one species (American eel) of fish sampled (1 total excursion) at station 1aACO011.62 in 2008 and in one species (yellow bullhead catfish) of fish sampled (1 total excursion) at station 1aACO012.58 in 2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.	5A	PCB in Fish Tissue	2010	L	7.47
VAN-A15R_ACO01B10 / Accotink Creek / Segment begins at the outlet of Lake Accotink and continues downstream until the confluence of Calamo Branch.	5A	PCB in Fish Tissue	2010	L	2.62

Accotink Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**10.09**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-02-BAC** **Accotink Creek**

Cause Location: Begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (28 of 72 samples - 38.9%) at station 1aACO014.57 at Route 620 and E. coli bacteria criterion excursions (1 of 4 samples - 25.0%) at USGS station 01654000. The Accotink Creek watershed (POL0062) bacteria TMDL was approved by the EPA on 05/31/2002. The SWCB approved the TMDL on 06/17/2004. Federal ID 24410.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO02A00 / Accotink Creek / Segment begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.	4A	Escherichia coli	1998	L	5.22

Accotink Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.22**

Sources:

Illicit Connections/Hook-ups to Storm Sewers

Impervious Surface/Parking Lot Runoff

Sewage Discharges in Unsewered Areas

Wastes from Pets

Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-02-CHLR** **Accotink Creek**

Cause Location: Begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Chloride / 4A

Two exceedances of the chronic water quality criterion were recorded at station 1AACO004.84 at Route 611 (Telegraph Rd) within a three-year period. The Accotink Creek Chloride TMDL for the Lower Accotink Creek watershed (2120) was approved by the EPA on 05/23/2018. The SWCB approved the TMDL on 04/16/2018. No federal TMDL ID was assigned.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.	4A	Chloride	2018	L	7.47

Accotink Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chloride - Total Impaired Size by Water Type:			**7.47**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-03-BAC** **Accotink Creek**

Cause Location: Begins at the confluence with Daniels Run, in the City of Fairfax, and continues downstream until the confluence with Long Branch, at Eakin Park.

City / County: Fairfax City Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2006 Assessment: E. coli bacteria criterion excursions (13 of 13 samples - 100%) at USGS station 01653900 at Pickett Street. A new TMDL is not required for this impaired segment of Accotink Creek because the downstream Accotink Creek bacteria TMDL (24410, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (POL0062).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO04A02 / Accotink Creek / Segment begins at the confluence with Daniels Run, in the City of Fairfax, and continues downstream until the confluence with Long Branch, at Eakin Park.	4A	Escherichia coli	2002	L	2.05

Accotink Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.05**

Sources:

- Illicit Connections/Hook-ups to Storm Sewers
- Impervious Surface/Parking Lot Runoff
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-03-CHLR** **Long Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.

City / County: Fairfax Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Chloride / 4A

Two exceedances of the chronic water quality criterion recorded within a three-year period at DEQ station 1aLOE000.26 at Route 620. The Accotink Creek Chloride TMDL for the Long Branch watershed (2119) was approved by the EPA on 05/23/2018. The SWCB approved the TMDL on 04/16/2018. No federal TMDL ID was assigned.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_LOE01A02 / Long Branch / Segment begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.	4A	Chloride	2018	L	2.37

Long Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chloride - Total Impaired Size by Water Type:			**2.37**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-04-BEN** **Accotink Creek**

Cause Location: Begins at the headwaters of Accotink Creek and continues downstream until the start of Lake Accotink.

City / County: Fairfax City Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

One biological monitoring event in 2016 at station 1aACO014.57 at Route 620 and EPA biological monitoring events in 2005 and 2006 at stations 1aACO-A-EPA, 1aACO-B-EPA, 1aACO-C-EPA, and 1aACO-D-EPA (2012 Assessment) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The Accotink Creek Chloride (watershed 2139) and Sediment (watershed 2162) TMDLs for the Upper Accotink Creek watershed were approved by the EPA on 05/23/2018. The SWCB approved the TMDLs on 04/16/2018. No Federal TMDL IDs were assigned.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_ACO02A00 / Accotink Creek / Segment begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	5.22
VAN-A15R_ACO03A02 / Accotink Creek / Segment begins at the confluence with Long Branch, at Eakin Park, and continues downstream until the confluence with Crook Branch, upstream from Route 846.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.98
VAN-A15R_ACO04A02 / Accotink Creek / Segment begins at the confluence with Daniels Run, in the City of Fairfax, and continues downstream until the confluence with Long Branch, at Eakin Park.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.05
VAN-A15R_ACO05A04 / Accotink Creek / Segment begins at the headwaters of Accotink Creek, and continues downstream until the confluence with Daniels Run.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.34

Accotink Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.59**

Sources:

- Construction Stormwater Discharge (Permitted)
- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Streambank Modifications/destabilization
- Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-05-BEN** **Long Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

2012 Assessment: Two biological monitoring events in 2006 at station 1aLOE001.99 (downstream from Route 651/Guinea Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The Accotink Creek Chloride (watershed 2119) and Sediment (watershed 2160) TMDLs for the Upper Accotink Creek watershed were approved by the EPA on 05/23/2018. The SWCB approved the TMDLs on 04/16/2018. No Federal TMDL IDs were assigned.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_LOE01A02 / Long Branch / Segment begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.37

Long Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.37**

Sources:

- Construction Stormwater Discharge (Permitted)
- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Streambank Modifications/destabilization
- Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-06-BAC** **Long Branch**

Cause Location: Begins at the headwaters of Long Branch and continues downstream until the confluence with Accotink Creek, at rivermile 4.41.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at station 1aLOA000.17 at Route 611. A new TMDL is not required for this impaired segment of Long Branch because the downstream bacteria TMDL (35782, 12/18/2008) included modeling, source identification, and reductions that covered the entire Lower Accotink Creek watershed (POL0556).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_LOA01A08 / Long Branch / Segment begins at the headwaters of Long Branch and continues downstream until the confluence with Accotink Creek, at rivermile 4.41.	4A	Escherichia coli	2008	L	4.47

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.47**

Sources:

- Sewage Discharges in Unsewered Areas
- Urban Runoff/Storm Sewers
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A15R-07-BAC** **Long Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 5 samples 40.0%) at station 1aLOE000.26 at Route 620. A new TMDL is not required for this impaired segment of Long Branch because the downstream Accotink Creek bacteria TMDL (24410, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (POL0062).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A15R_LOE01A02 / Long Branch / Segment begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.	4A	Escherichia coli	2018	L	2.37

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.37**

Sources:

- Illicit Connections/Hook-ups to Storm Sewers
- Impervious Surface/Parking Lot Runoff
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A16E-01-BZOKFL Pohick Creek**

Cause Location: Includes tidal waters of Pohick Creek upstream from the boundary of watershed A16.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Benzo[k]fluoranthene / 5A

2002 Assessment: Exceedances of the water quality criterion based tissue value (TV) of 5.5 ppb for benzo(k) fluoranthene in fish tissue (bullhead catfish, white perch, and sunfish) at station 1aPOH003.56 in 1996.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A16E_POH01A06 / Pohick Bay / Segment includes tidal waters of Pohick Creek upstream from the boundary of watershed A16. Portion of CBP segment POTTF.	5A	Benzo[k]fluoranthene	2002	L	0.461

Pohick Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Benzo[k]fluoranthene - Total Impaired Size by Water Type:	**0.461**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A16R-01-BAC** **Pohick Creek**

Cause Location: Begins at the confluence with South Run, approximately 0.25 rivermile upstream from I-95, and continues downstream until the end of the free-flowing portion of Pohick Creek.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (16 of 39 samples - 41.0%) at station 1aPOH005.36 at Route 1.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A16R_POH01A00 / Pohick Creek / Segment begins at the confluence with South Run, approximately 0.25 rivermile upstream from I-95, and continues downstream until the end of the free-flowing portion of Pohick Creek.	5A	Escherichia coli	2006	M	3.78

Pohick Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.78**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A16R-01-BEN** **Pohick Creek**

Cause Location: Begins at the confluence with Middle Run and continues downstream to the confluence with South Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2011 at station 1aPOH008.54, upstream of Route 641, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A16R_POH01B14 / Pohick Creek / Segment begins at the confluence with Middle Run and continues downstream to the confluence with South Run.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	2.61

Pohick Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.61**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A16R-02-BAC** **Pohick Creek**

Cause Location: Begins at the confluence with Sideburn Branch and continues downstream until the confluence with South Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 1aPOH015.09 at Route 645; excursions (5 of 12 samples - 41.7%) at station 1aPOH013.12 at Route 644; and excursions (7 of 12 samples - 58.3%) at station 1aPOH007.65 at Route 641.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A16R_POH01B14 / Pohick Creek / Segment begins at the confluence with Middle Run and continues downstream to the confluence with South Run.	5A	Escherichia coli	2016	M	2.61
VAN-A16R_POH02A02 / Pohick Creek / Segment begins at the confluence of an unnamed tributary to Pohick Creek, at rivermile 14.18, and continues downstream until the confluence with Middle Run.	5A	Escherichia coli	2012	M	5.41
VAN-A16R_POH03A04 / Pohick Creek / Segment begins at the confluence with Sideburn Branch and continues downstream until the confluence with an unnamed tributary to Pohick Creek, at rivermile 14.18.	5A	Escherichia coli	2006	M	1.77

Pohick Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.79**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A16R-03-BAC** **South Run**

Cause Location: Begins at the confluence with an unnamed tributary, at rivermile 3.6, and continues downstream to the confluence with Pohick Creek.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 1aSOH001.71 at Route 6070.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A16R_SOH01A12 / South Run / Segment begins at the confluence with an unnamed tributary, at rivermile 3.6, and continues downstream to the confluence with Pohick Creek.	5A	Escherichia coli	2016	L	4.16

South Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.16**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A16R-04-BAC** **Middle Run**

Cause Location: Begins at the confluence of Cherry Run and Peyton Run, creating Middle Run, and continues downstream to the confluence with Pohick Creek.

City / County: Fairfax City Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 11 samples - 54.5%) at station 1aMID000.75 at Route 640.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A16R_MID01A16 / Middle Run / Segment begins at the confluence of Cherry Run and Peyton Run, creating Middle Run, and continues downstream to the confluence with Pohick Creek.	5A	Escherichia coli	2016	L	2.85

Middle Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A17R-01-BAC** **Cedar Run**

Cause Location: Begins at the confluence with Mill Run, approximately 1.2 rivermiles downstream from Route 672, and continues downstream until the confluence with the Occoquan River/Lake Jackson.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 33 samples - 24.2%) at station 1aCER006.00 at Route 646; E. coli bacteria criterion excursions (3 of 7 samples - 42.9%) at station 1aCER009.52 at Route 611 (2010 Assessment); E. coli bacteria criterion excursions (10 of 32 samples - 31.3%) at station 1aCER016.46 at Route 806; and E. coli bacteria criterion excursions (7 of 15 samples - 46.7%) at station 1aCER025.25 at Route 602 (2010 Assessment). The Cedar Run and Licking Run bacteria TMDL for the Cedar Run watershed (POL0012) was approved by the EPA on 07/06/2004. The SWCB approved the TMDL on 12/02/2004. Federal ID 24411.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A17R_CER01A02 / Cedar Run / Segment begins at the confluence with Walnut Branch and continues downstream until the mouth of waterbody A17R.	4A	Escherichia coli	1996	L	1.64
VAN-A17R_CER02A02 / Cedar Run / Segment begins at the confluence with Turkey Run, approximately 0.15 rivermile upstream from Route 603, and continues downstream until the confluence with Walnut Branch.	4A	Escherichia coli	1998	L	6.46
VAN-A17R_CER03A02 / Cedar Run / Segment begins at the boundary of the PWS designation area, approximately rivermile 25.20, and continues downstream until the confluence with Turkey Run, approximately 0.15 rivermile upstream from Route 603.	4A	Escherichia coli	1998	L	4.22
VAN-A17R_CER03B06 / Cedar Run / Segment begins at the confluence with Mill Run, approximately 1.2 rivermiles downstream from Route 672, and continues downstream until the boundary of the PWS designation area, at approximately rivermile 25.20.	4A	Escherichia coli	1998	L	2.49
VAN-A18R_CER01A02 / Cedar Run / Segment begins at the boundary of the PWS designation area, at rivermile 7.86, and continues downstream until the confluence with the Occoquan River/Lake Jackson.	4A	Escherichia coli	1996	L	7.80
VAN-A18R_CER01B06 / Cedar Run / Segment begins at the confluence with Goslin Run and continues downstream until the boundary of the PWS designation area, at rivermile 7.86.	4A	Escherichia coli	1996	L	1.24
VAN-A18R_CER02A02 / Cedar Run / Segment begins at the boundary of the PWS designation area, at rivermile 12.81, and continues downstream until the confluence with Goslin Run.	4A	Escherichia coli	1996	L	3.64
VAN-A18R_CER02B06 / Cedar Run / Segment begins at the mouth of watershed A17R and continues downstream until the boundary of the PWS designation area, at rivermile 12.81.	4A	Escherichia coli	1996	L	0.77

Cedar Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**28.26**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A17R-02-BAC** **Licking Run**

Cause Location: Begins at Route 602, below the mouth of Germantown Lake, and continues downstream until the confluence with Cedar Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 1aLIL001.43 at Route 616. The Cedar Run and Licking Run bacteria TMDL for the Licking Run watershed (POL0013) was approved by the EPA on 07/06/2004. The SWCB approved the TMDL on 12/02/2004. Federal ID 23321.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A17R_LIL01A00 / Licking Run / Segment begins at the outlet of the Germantown Lake impoundment and continues downstream until the confluence with Cedar Run.	4A	Escherichia coli	1998	L	6.52

Licking Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.52**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A17R-03-BAC** **Licking Run**

Cause Location: Begins at the headwaters of Licking Run and continues downstream until the start of Germantown Lake.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2010 Assessment: E. coli bacteria criterion excursions (5 of 18 samples - 27.8%) at station 1aLIL008.23 at Route 663. 2014 Assessment: E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) at station 1aLIL009.92 at Route 674. A new TMDL is not required for this impaired segment of Licking Run because the downstream bacteria TMDL (23321, 07/06/2004) included modeling, source identification, and reductions that covered the entire Licking Run watershed (POL0013).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A17R_LIL02A04 / Licking Run / Segment begins at the boundary of the PWS designation area, at rivermile 11.32, and continues downstream until the start of Germantown Lake.	4A	Escherichia coli	2006	L	3.51
VAN-A17R_LIL02B06 / Licking Run / Segment begins at the headwaters of Licking Run and continues downstream until the boundary of the PWS designation area, at rivermile 11.32.	4A	Escherichia coli	2006	L	3.50

Licking Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.01**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A17R-04-BAC** **Turkey Run**

Cause Location: Begins at the confluence with an unnamed tributary to Turkey Run, approximately 0.25 rivermile upstream from the Route 602 crossing, and continues downstream until the confluence with Cedar Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 23 samples - 17.4%) at station 1aTUK003.37 at Route 602. A new TMDL is not required for this impaired segment of Turkey Run because the downstream Cedar Run and Licking Run bacteria TMDL (24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (POL0012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A17R_TUK01A06 / Turkey Run / Segment begins at the confluence with an unnamed tributary to Turkey Run, approximately 0.25 rivermile upstream from the Route 602 crossing, and continues downstream until the confluence with Cedar Run.	4A	Escherichia coli	2006	L	3.61

Turkey Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.61**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A17R-05-BAC** **Cedar Run**

Cause Location: Begins at the outlet of the Warrenton Reservoir and continues downstream to the confluence with Mill Run.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1ACER030.62 at Route 674 and E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aCER032.15 at Route 672 (2010 Assessment). A new TMDL is not required for this impaired segment of Cedar Run because the downstream bacteria TMDL (24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (POL0012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A17R_CER03C12 / Cedar Run / Segment begins at the boundary of the PWS designation area, approximately 0.6 rivermile downstream from the Route 678 crossing, and continues downstream to the confluence with Mill Run.	4A	Escherichia coli	2012	L	2.41
VAN-A17R_CER04A06 / Cedar Run / Segment begins at the outlet of the Warrenton Reservoir and continues downstream until the boundary of the PWS designation area, approximately 0.6 rivermile downstream from the Route 678 crossing.	4A	Escherichia coli	2008	L	2.49

Cedar Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.90**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A17R-06-BAC** **Walnut Branch**

Cause Location: Begins at the confluence with an unnamed tributary, just upstream from the railroad crossing, and continues downstream until the confluence with Cedar Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (2 of 7 samples - 28.6%) at station 1aWAL000.79 at Route 767. A new TMDL is not required for this impaired segment of Walnut Branch because the downstream Cedar Run and Licking Run bacteria TMDL (24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (POL0012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A17R_WAL01A06 / Walnut Branch / Segment begins at the confluence with an unnamed tributary, just upstream from the railroad crossing, and continues downstream until the confluence with Cedar Run.	4A	Escherichia coli	2008	L	1.69

Walnut Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.69**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A17R-07-BAC Owl Run**

Cause Location: Begins at the headwaters of Owl Run and continues downstream until the confluence with Cedar Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) at station 1aOWL001.85 at Route 616. A new TMDL is not required for this impaired segment of Owl Run because the downstream Cedar Run and Licking Run bacteria TMDL (24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (POL0012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A17R_OWL01A14 / Owl Run / Segment begins at the headwaters of Owl Run and continues downstream until the confluence with Cedar Run.	4A	Escherichia coli	2014	L	5.85

Owl Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.85**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A18R-01-BAC** **Elk Run**

Cause Location: Begins at the confluence with Furrs Run and continues downstream until the confluence with Town Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 8 samples - 50.0%) at station 1aELK000.10 at Route 806 (Elk Run Road). A new TMDL is not required for this impaired segment of Elk Run because the downstream bacteria TMDL (24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (POL0012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A18R_ELK01A08 / Elk Run / Segment begins at the confluence with Furrs Run and continues downstream until the confluence with Town Run.	4A	Escherichia coli	2008	L	2.27

Elk Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.27**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A18R-02-BAC** **Town Run**

Cause Location: Begins at the confluence with Negro Run and continues downstream until the confluence with Elk Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 19 samples - 31.6%) at station 1aTON003.77 at Route 611. A new TMDL is not required for this impaired segment of Town Run because the downstream bacteria TMDL (24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (POL0012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A18R_TON01A08 / Town Run / Segment begins at the confluence with Negro Run and continues downstream until the confluence with Elk Run.	4A	Escherichia coli	2008	L	2.51

Town Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.51**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A18R-02-BEN** **Lucky Run**

Cause Location: Begins at the headwaters of Lucky Run and continues downstream until the confluence with Cedar Run.

City / County: Prince William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2001 at station 1aLUC000.95 off Route 611 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A18R_LUC01A04 / Lucky Run / Segment begins at the headwaters of Lucky Run and continues downstream until the confluence with Cedar Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.48

Lucky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A18R-03-BAC** **Slate Run**

Cause Location: Begins at the headwaters of Slate Run and continues downstream until the confluence with Cedar Run.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at station 1aSLE000.36 at Route 649 (Old Church Road). A new TMDL is not required for this impaired segment of Slate Run because the downstream bacteria TMDL (24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (POL0012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A18R_SLE01A08 / Slate Run / Segment begins at the headwaters of Slate Run and continues downstream until the confluence with Cedar Run.	4A	Escherichia coli	2010	L	6.97

Slate Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.97**

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-01-BAC** **Broad Run**

Cause Location: Begins at the confluence with Rocky Branch and continues downstream until the confluence with Cannon Branch.

City / County: Manassas City Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 1aBRU011.48 at Sudley Manor Road. The Occoquan River bacteria TMDL for the Broad Run (1) watershed (POL0404) was approved by the EPA on 11/15/2006. The SWCB approved the TMDL on 07/31/2008. Federal ID 31993.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_BRU02A00 / Broad Run / Segment begins at the confluence with Rocky Branch and continues downstream until the confluence with Cannon Branch.	4A	Escherichia coli	2002	L	7.59

Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.59**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-02-BAC** **Broad Run**

Cause Location: Begins at the confluence with an unnamed tributary to Broad Run, at approximately rivermile 21.3, and continues downstream until the start, western end, of Lake Manassas.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2010 Assessment: E. coli bacteria criterion excursions (4 of 14 samples - 41.7%) at station 1aBRU020.12 at Route 29/15. The Occoquan River bacteria TMDL for the Broad Run (2) watershed (POL0405) was approved by the EPA on 11/15/2006. The SWCB approved the TMDL on 07/31/2008. Federal ID 31994.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_BRU07A02 / Broad Run / Segment begins 5 miles upstream of the Lake Manassas Dam and continues downstream until the start, western end, of Lake Manassas.	4A	Escherichia coli	2002	L	1.33

Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.33**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-03-BAC** **Kettle Run**

Cause Location: Begins at the confluence with an unnamed tributary to Kettle Run, just upstream from Route 602, and continues downstream until the confluence with Broad Run.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at station 1aKET002.06 at Route 611; E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 1aKET004.27 at Route 646; E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) at station 1aKET009.91 at Route 604; E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aKET012.03 at Route 761. The Occoquan River bacteria TMDL for the Kettle Run watershed (POL0408) was approved by the EPA on 11/15/2006. The SWCB approved the TMDL on 07/31/2008. Federal ID 31996.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_KET01A00 / Kettle Run / Segment begins at the confluence with an unnamed tributary to Kettle Run, just upstream from Route 708, and continues downstream until the confluence with Broad Run.	4A	Escherichia coli	2002	L	7.76
VAN-A19R_KET01B12 / Kettle Run / Segment begins at the confluence with an unnamed tributary to Kettle Run, at approximately rivermile 10.5, and continues downstream until the confluence with an unnamed tributary to Kettle Run, just upstream from Route 708.	4A	Escherichia coli	2014	L	2.45
VAN-A19R_KET02A04 / Kettle Run / Segment begins at the confluence with an unnamed tributary to Kettle Run, just upstream from Route 602, and continues downstream until the confluence with another unnamed tributary to Kettle Run, at approximately rivermile 10.5.	4A	Escherichia coli	2006	L	3.61

Kettle Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**13.82**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-04-BAC** **South Run**

Cause Location: Begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run).

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (4 of 9 samples - 44.4%) at station 1aSOT001.44 at Route 215. The Occoquan River bacteria TMDL for the South Run watershed (POL0407) was approved by the EPA on 11/15/2006. The SWCB approved the TMDL on 07/31/2008. Federal ID 32108.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_SOT01A00 / South Run / Segment begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run).	4A	Escherichia coli	2012	L	2.34

South Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.34**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-04-BEN** **South Run**

Cause Location: Begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run).

City / County: Fauquier Co. Prince William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

2012 Assessment: Two biological monitoring events in 2005 at station 1aSOT001.65 at Route 652 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The South Run benthic TMDL (POL0374) was approved by the EPA on 08/02/2006. The SWCB approved the TMDL on 03/09/2007. The primary stressor identified for South Run was determined based on evaluations of candidate stressors that potentially could be impacting the stream. Based on the stressor identification analysis, the most probable stressor for the benthic community of South Run was identified as total phosphorus enrichment. Federal ID 24412.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_SOT01A00 / South Run / Segment begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run).	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	2.34

South Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.34**

Sources:

Agriculture	Lake Fertilization	Municipal Point Source Discharges	Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-05-BAC** **Broad Run**

Cause Location: Begins at the confluence with Mill Run and continues downstream until the confluence with Catletts Branch.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aBRU025.35 at Route 55 (2014 Assessment), and E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aBRU026.40 at Route 628. The Occoquan River bacteria TMDL for the Broad Run watershed was approved by the EPA on 11/15/2006. The SWCB approved the TMDL on 07/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_BRU07B06 / Broad Run / Segment begins at the confluence with Trapp Branch and continues downstream until the confluence with Catletts Branch.	4A	Escherichia coli	2006	L	1.15
VAN-A19R_BRU08A04 / Broad Run / Segment begins at the confluence with Mill Run and continues downstream to the confluence with Trapp Run.	4A	Escherichia coli	2004	L	1.16

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.31**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-06-BAC** **Broad Run**

Cause Location: Begins at the confluence with Kettle Run and continues downstream until the confluence with Cedar Run, forming the Occoquan River/Lake Jackson.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 32 samples - 18.8%) at station 1aBRU001.59 at Route 692. A new TMDL is not required for this impaired segment of Broad Run because the downstream bacteria TMDL (32111, 11/15/2006) included modeling, source identification, and reductions that covered the entire Occoquan River watershed (POL0409).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_BRU01A04 / Broad Run / Segment begins at the confluence with Kettle Run and continues downstream until the confluence with Cedar Run, forming the Occoquan River/Lake Jackson.	4A	Escherichia coli	2006	L	2.40

Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.40**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-07-BAC** **Trapp Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Trapp Branch, approximately 0.08 rivermile downstream from the Route 696 crossing, and continues downstream until the confluence with Broad Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 1aTRA000.09 at Route 55. E. coli bacteria criterion excursions (10 of 12 samples - 83.3%) at station 1aTRA001.02 at Route 674. A new TMDL is not required for this impaired segment of Trapp Branch because the downstream Occoquan River bacteria TMDL (31994, 11/15/2006) included modeling, source identification, and reductions that covered the entire Broad Run (2) watershed (POL0405).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_TRA01A06 / Trapp Branch / Segment begins at the confluence with an unnamed tributary to Trapp Branch, approximately 0.08 rivermile downstream from the Route 696 crossing, and continues downstream until the confluence with Broad Run.	4A	Escherichia coli	2006	L	1.78

Trapp Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.78**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-09-BAC** **Broad Run**

Cause Location: Begins at the confluence with an unnamed tributary to Broad Run and continues downstream until the confluence with Mill Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aBRU029.80 at Route 55 (upstream). A new TMDL is not required for this impaired segment of Broad Run because the downstream bacteria TMDL (31995, 11/15/2006) included modeling, source identification, and reductions that covered the entire watershed (POL0406).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_BRU08B10 / Broad Run / Segment begins at the confluence with an unnamed tributary to Broad Run and continues downstream until the confluence with Mill Run.	4A	Escherichia coli	2010	L	4.17

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.17**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A19R-10-BAC** **North Fork Broad Run**

Cause Location: Begins at the confluence with an unnamed tributary to North Fork and continues downstream until the confluence with Lake Manassas (Broad Run).

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aNOF002.14 at Route 29/211. A new TMDL is not required for this impaired segment of North Fork Broad Run because the downstream Occoquan River bacteria TMDL (31993, 11/15/2006) included modeling, source identification, and reductions that covered the entire Broad Run (1) watershed (POL0404).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A19R_NOF01A10 / North Fork Broad Run / Segment begins at the confluence with an unnamed tributary to North Fork and continues downstream until the confluence with Lake Manassas	4A	Escherichia coli	2016	L	3.66

North Fork Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.66**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A20R-01-BAC** **Occoquan River**

Cause Location: Begins at the confluence with Purcell Branch and continues downstream until the start of the Occoquan Reservoir.

City / County: Manassas City Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 16 samples - 18.8%) at station 1aOCC021.35 at Route 3000. The Occoquan River bacteria TMDL (POL0409) was approved by the EPA on 11/15/2006. The SWCB approved the TMDL on 07/31/2008. Federal ID 32111.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A20R_OCC01A04 / Occoquan River / Segment begins at the confluence with Purcell Branch and continues downstream until the start of the Occoquan Reservoir.	4A	Escherichia coli	2006	L	3.35

Occoquan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.35**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A20R-02-BAC** **Purcell Branch**

Cause Location: Begins at the headwaters of Purcell Branch, near Woodbine School, and continues downstream until the confluence with the Occoquan River.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at station 1aPUR001.20 at Route 643. A new TMDL is not required for this impaired segment of Purcell Branch because the downstream bacteria TMDL (32111, 11/15/2006) included modeling, source identification, and reductions that covered the entire Occoquan River watershed (POL0409).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A20R_PUR01A06 / Purcell Branch / Segment begins at the headwaters of Purcell Branch, near Woodbine School, and continues downstream until the confluence with the Occoquan River.	4A	Escherichia coli	2006	L	3.85

Purcell Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.85**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-01-BEN** **Catharpin Creek**

Cause Location: Begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run.

City / County: Prince William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2009 at station 1aCAA001.18 at Route 676 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_CAA01A02 / Catharpin Creek / Segment begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run.	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	6.80

Catharpin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-01-PCB** **Bull Run**

Cause Location: Includes Bull Run near Manassas Park from the I-66 bridge downstream approximately fourteen miles to the Route 612 (Yates Ford Road) bridge.

City / County: Fairfax Co. Manassas Park City Prince William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04 and modified 07/27/05, limits consumption of carp and channel catfish to no more than two meals per month.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_BUL01A06 / Bull Run / Segment begins at the confluence with Flat Branch and continues downstream until the confluence with Cub Run.	5A	PCB in Fish Tissue	2006	L	0.19
VAN-A21R_BUL01B06 / Bull Run / Segment begins at the I-66 crossing and continues downstream until the confluence with Flat Branch.	5A	PCB in Fish Tissue	2006	L	2.63
VAN-A23R_BUL01A06 / Bull Run / Segment begins at the Route 612 crossing, at rivermile 5.8, and continues downstream until the beginning of the Occoquan Reservoir.	5A	PCB in Fish Tissue	2006	L	2.90
VAN-A23R_BUL01C04 / Bull Run / Segment begins at the confluence of Popes Head Creek with Bull Run and continues downstream until rivermile 5.8.	5A	PCB in Fish Tissue	2004	L	0.95
VAN-A23R_BUL02A02 / Bull Run / Segment begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek.	5A	PCB in Fish Tissue	2004	L	4.86

Bull Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**11.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-02-BAC** **Bull Run**

Cause Location: Begins at the confluence with Chestnut Lick, approximately 0.7 rivermile upstream from Route 705, and continues downstream until the confluence with an unnamed tributary to Bull Run, at rivermile 22.34.

City / County: Loudoun Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 31 samples - 16.1%) from station 1aBUL025.94 at Route 705. A new TMDL is not required for this impaired segment of Bull Run because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_BUL02A00 / Bull Run / Segment begins at the confluence with Chestnut Lick, approximately 0.7 rivermile upstream from Route 705, and continues downstream until the confluence with an unnamed tributary to Bull Run, at rivermile 22.34.	4A	Escherichia coli	2006	L	4.66

Bull Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.66**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-02-BEN** **Bull Run**

Cause Location: Begins at the confluence with Chestnut Lick, approximately 0.7 rivermile upstream from Route 705, and continues downstream until the confluence with an unnamed tributary to Bull Run, at rivermile 22.34.

City / County: Loudoun Co. Prince William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Four biological monitoring events in 2014 and 2015 at station 1aBUL025.94 at Route 705 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_BUL02A00 / Bull Run / Segment begins at the confluence with Chestnut Lick, approximately 0.7 rivermile upstream from Route 705, and continues downstream until the confluence with an unnamed tributary to Bull Run, at rivermile 22.34.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.66

Bull Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.66**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-03-BAC** **Catharpin Creek**

Cause Location: Begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aCAA001.18 at Route 676. A new TMDL is not required for this impaired segment of Catharpin Creek because the downstream Occoquan River bacteria TMDL (32109, 11/15/2006) included modeling, source identification, and reductions that covered the entire Little Bull Run watershed (POL0410).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_CAA01A02 / Catharpin Creek / Segment begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run.	4A	Escherichia coli	2008	L	6.80

Catharpin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.80**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-03-BEN** **Unnamed Tributary to Bull Run**

Cause Location: Begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run.

City / County: Prince William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2016 at station 1aXOB000.17 at 0.1 mile downstream from Route 677 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_XOB01A18 / Unnamed Tributary to Bull Run / Segment begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.73

Unnamed Tributary to Bull Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.73**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-04-BAC** **Youngs Branch**

Cause Location: Begins at the headwaters of Youngs Branch and continues downstream until the confluence with Bull Run.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aYOU001.50 at Route 29. A new TMDL is not required for this impaired segment of Youngs Branch because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_YOU01A02 / Youngs Branch / Segment begins at the headwaters of Youngs Branch and continues downstream until the confluence with Bull Run.	4A	Escherichia coli	2012	L	6.05

Youngs Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.05**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-04-BEN** **Little Bull Run**

Cause Location: Begins at the confluence with Catharpin Creek and continues downstream until the confluence with Bull Run.

City / County: Prince William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Three biological monitoring events in 2015 and 2016 at station 1aLII001.07 at Robin Drive resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_LII01A02 / Little Bull Run / Segment begins at the confluence with Lick Branch and continues downstream until the confluence with Bull Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	1.95
VAN-A21R_LII02A02 / Little Bull Run / Segment begins at the confluence with Catharpin Creek and continues downstream until the confluence with Lick Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.17

Little Bull Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-05-BAC** **Bull Run**

Cause Location: Begins at the confluence with Little Bull Run and continues downstream until the confluence with Youngs Branch.

City / County: Fairfax City Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aBUL016.31 at Route 29/211. A new TMDL is not required for this impaired segment of Bull Run because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_BUL01D08 / Bull Run / Segment begins at the confluence with Little Bull Run and continues downstream until the confluence with Youngs Branch.	4A	Escherichia coli	2016	L	4.02

Bull Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.02**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-06-BAC** **Unnamed Tributary to Bull Run**

Cause Location: Begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples 18.2%) at station 1aXOB000.23 at Route 677. A new TMDL is not required for this impaired segment of an unnamed tributary to Bull Run because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_XOB01A18 / Unnamed Tributary to Bull Run / Segment begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run.	4A	Escherichia coli	2018	L	3.73

Unnamed Tributary to Bull Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.73**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A21R-07-BAC** **Little Bull Run**

Cause Location: Begins at the headwaters of Little Bull Run and continues downstream until the confluence with Catharpin Creek.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aLII006.75 at Route 676. A new TMDL is not required for this impaired segment of Little Bull Run because the downstream Occoquan River bacteria TMDL (32109, 11/15/2006) included modeling, source identification, and reductions that covered the entire Little Bull Run watershed (POL0410).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A21R_LII03A06 / Little Bull Run / Segment begins at the headwaters of Little Bull Run and continues downstream until the confluence with Catharpin Creek.	4A	Escherichia coli	2018	L	9.93

Little Bull Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.93**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-01-BAC** **Cub Run**

Cause Location: Begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 33 samples - 18.2%) at station 1aCUB002.61 at Route 658. A new TMDL is not required for this impaired segment of Cub Run because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_CUB01A00 / Cub Run / Segment begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.	4A	Escherichia coli	2006	L	6.89

Cub Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.89**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-01-BEN** **Flatlick Branch**

Cause Location: Begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2001 at station 1aFLL000.62 (between Route 609 and Route 620) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_FLL01A04 / Flatlick Branch / Segment begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	3.22

Flatlick Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-01-PCB** **Cub Run**

Cause Location: Begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

Two exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in one species of fish (American eel) in three total samples collected in 2015 at monitoring station 1aCUB002.61 at Route 658.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_CUB01A00 / Cub Run / Segment begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.	5A	PCB in Fish Tissue	2018	L	6.89

Cub Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**6.89**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-02-BAC** **Elklick Run**

Cause Location: Begins at the confluence with an unnamed tributary to Elklick Run, approximately 0.65 rivermile downstream from the Route 620 crossing, and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at station 1aELC001.39 at Route 609. A new TMDL is not required for this impaired segment of Elklick Run because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_ELC01A04 / Elklick Run / Segment begins at the confluence with an unnamed tributary to Elklick Run, approximately 0.65 rivermile downstream from the Route 620 crossing, and continues downstream until the confluence with Cub Run.	4A	Escherichia coli	2006	L	2.27

Elklick Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.27**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-02-BEN** **Big Rocky Run**

Cause Location: Begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aBIR003.02 at Route 657 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_BIR01A02 / Big Rocky Run / Segment begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	4.34

Big Rocky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.34**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-03-BAC** **Flatlick Branch**

Cause Location: Begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) for station 1aFLL000.88 at Route 620. A new TMDL is not required for this impaired segment of Flatlick Branch because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_FLL01A04 / Flatlick Branch / Segment begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.	4A	Escherichia coli	2014	L	3.22

Flatlick Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.22**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-03-BEN** **Cub Run**

Cause Location: Begins at the confluence with an unnamed tributary to Cub Run at rivermile 13.23 and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2009 and one biological monitoring event in 2010 at station 1aCUB004.63, upstream of Route 28 (2016 Assessment) and a total of four biological monitoring events in 2015 and 2016 at station 1aCUB011.25 at Route 50 and a total of two biological monitoring events in 2016 at station 1aCUB011.78, above the confluence with Sand Branch, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_CUB01A00 / Cub Run / Segment begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	6.89
VAN-A22R_CUB02A02 / Cub Run / Segment begins at the confluence with an unnamed tributary to Cub Run at rivermile 13.23 (perennial headwaters) and continues downstream until the confluence with Elklick Run.	5A	Benthic-Macroinvertebrate Bioassessments	2016	M	6.34

Cub Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-04-BAC** **Big Rocky Run**

Cause Location: Begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) at station 1aBIR002.19 at Route 620. A new TMDL is not required for this impaired segment of Big Rocky Run because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_BIR01A02 / Big Rocky Run / Segment begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run.	4A	Escherichia coli	2014	L	4.34

Big Rocky Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.34**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-04-BEN** **Elklick Run**

Cause Location: Begins at the confluence with an unnamed tributary to Elklick Run, approximately 0.65 rivermile downstream from the Route 620 crossing, and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2012 at station 1aELC001.39 at Route 609 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_ELC01A04 / Elklick Run / Segment begins at the confluence with an unnamed tributary to Elklick Run, approximately 0.65 rivermile downstream from the Route 620 crossing, and continues downstream until the confluence with Cub Run.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	2.27

Elklick Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.27**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-05-BAC** **Sand Branch**

Cause Location: Begins at the intermittent headwaters and continues downstream to the confluence with Cub Run.

City / County: Fairfax Co. Loudoun Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 14 samples 42.9%) at station 1aSAN000.34 at Route 609. E. coli bacteria criterion excursions (4 of 14 samples 28.6%) at station 1aSAN001.45 at Route 609. A new TMDL is not required for this impaired segment of Sand Branch because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entre Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_SAN01A18 / Sand Branch / Segment begins at the confluence with an unnamed tributary at the perennial headwaters and continues downstream to the confluence with Cub Run.	4A	Escherichia coli	2018	L	0.61
VAN-A22R_SAN02A18 / Sand Branch / Segment begins at the intermittent headwaters and continues downstream to the confluence with an unnamed tributary at the perennial headwaters.	4A	Escherichia coli	2018	L	0.93

Sand Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.54**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A22R-05-BEN** **Sand Branch**

Cause Location: Begins at the intermittent headwaters and continues downstream to the confluence with Cub Run.

City / County: Fairfax Co. Loudoun Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 1aSAN000.34 at Route 609 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. A total of two biological monitoring events in 2016 at station 1aSAN001.45 at Route 639 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A22R_SAN01A18 / Sand Branch / Segment begins at the confluence with an unnamed tributary at the perennial headwaters and continues downstream to the confluence with Cub Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.61
VAN-A22R_SAN02A18 / Sand Branch / Segment begins at the intermittent headwaters and continues downstream to the confluence with an unnamed tributary at the perennial headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.93

Sand Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A23R-01-BEN** **Bull Run**

Cause Location: Begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek.

City / County: Fairfax Co. Manassas Park City Prince William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

2012 Assessment: Two biological monitoring events in 2005 at 1aBUL009.61, downstream of Route 28; one biological monitoring event in 2005 at 1aBUL010.28 at Route 28; and two biological monitoring events in 2005 at 1aBUL011.12, upstream of Route 616, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The Bull Run sediment TMDL (POL0402) was approved by the EPA on 09/26/2006. The SWCB approved the TMDL on 06/27/2007. Federal ID 30362.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A23R_BUL02A02 / Bull Run / Segment begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	4.86

Bull Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.86**

Sources:

- Post-development Erosion and Sedimentation
- Streambank Modifications/destabilization
- Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A23R-02-BAC** **Popes Head Creek**

Cause Location: Begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 33 samples - 24.2%) at station 1aPOE002.00 at Route 645. The Occoquan River bacteria TMDL for the Popes Head Creek watershed (POL0412) was approved by the EPA on 11/15/2006. The SWCB approved the TMDL on 07/31/2008. Federal ID 32107.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A23R_POE01A00 / Popes Head Creek / Segment begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run.	4A	Escherichia coli	2004	L	5.63

Popes Head Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.63**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A23R-02-BEN** **Popes Head Creek**

Cause Location: Begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

2012 Assessment: Two biological monitoring events in 2005 at station 1aPOE002.00 at Route 645 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. The Popes Head Creek sediment TMDL (POL0403) was approved by the EPA on 09/26/2006. The SWCB approved the TMDL on 06/27/2007. Federal ID 30363.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A23R_POE01A00 / Popes Head Creek / Segment begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	5.63

Popes Head Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.63**

Sources:

Post-development Erosion and Sedimentation	Streambank Modifications/destabilization	Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A23R-03-BAC** **Little Rocky Run**

Cause Location: Begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (3 of 15 samples - 20.0%) at station 1aLIP001.00 at Route 658 (Compton Road). A new TMDL is not required for this impaired segment of Little Rocky Run because the downstream Occoquan River bacteria TMDL (32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (POL0411).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A23R_LIP01A06 / Little Rocky Run / Segment begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.	4A	Escherichia coli	2008	L	5.23

Little Rocky Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.23**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A23R-03-BEN** **Little Rocky Run**

Cause Location: Begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 1aLIP001.00 at Route 658 (Compton Road), resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A23R_LIP01A06 / Little Rocky Run / Segment begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	5.23

Little Rocky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A24L-01-PCB** **Occoquan Reservoir**

Cause Location: Segment includes the upper Bull Run arm of the Occoquan Reservoir; extending from rivermile 2.89 on Bull Run downstream until the crossing of the Route 612 (Yates Ford Road) bridge.

City / County: Fairfax Co. Prince William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory and also due to six excursions above the fish tissue value (TV) of 20 ppb for PCBs in fish tissue. Three excursions were recorded in tissue from Channel Catfish and three excursions in tissue from Carp, both sampled in 2015 at DEQ fish tissue/sediment monitoring station 1ABUL001.57.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A24L_OCC02A06 / Occoquan Reservoir / Segment includes the upper Bull Run arm of the Occoquan Reservoir; extending from rivermile 2.89 on Bull Run downstream until the crossing of the Route 612 (Yates Ford Road) bridge.	5A	PCB in Fish Tissue	2006	L	63.12

Occoquan Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**63.12**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A24L-02-PCB** **Occoquan Reservoir**

Cause Location: Segment includes most of the Occoquan Reservoir; extending from rivermile 19.83 on the Occoquan River and rivermile 1.57 on Bull Run, at the crossing of the Route 612 bridge, downstream until the water supply dam of the Fairfax County Water Authority.

City / County: Fairfax Co. Prince William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The fish consumption use is considered impaired based upon five excursions above the fish tissue value (TV) of 20 ppb for PCBs in fish tissue. Four excursions were recorded in tissue from Channel Catfish and one excursion in tissue from American Eel, both sampled in 2015 at DEQ fish tissue/sediment monitoring station 1AOCC008.80.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A24L_OCC01A02 / Occoquan Reservoir / Segment includes most of the Occoquan Reservoir; extending from rivermile 19.83 on the Occoquan River and rivermile 1.57 on Bull Run, at the crossing of the Route 612 bridge, downstream until the water supply dam of the Fairfax County Water Authority.	5A	PCB in Fish Tissue	2018	L	######

Occoquan Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**1,250.03**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A24R-01-BAC** **Wolf Run**

Cause Location: Begins at the confluence with Maple Branch and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 1aWOL001.26 at Route 643.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A24R_WOL01A06 / Wolf Run / Segment begins at the confluence with Maple Branch and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.	5A	Escherichia coli	2006	L	2.50

Wolf Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A24R-02-BAC** **Sandy Run**

Cause Location: Begins at the headwaters of Sandy Run and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aSAD001.76 at Cathedral Forest Drive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A24R_SAD01A04 / Sandy Run / Segment begins at the boundary of the PWS designation, at rivermile 3.1 and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.	5A	Escherichia coli	2008	L	2.10
VAN-A24R_SAD01A10 / Sandy Run / Segment begins at the headwaters of Sandy Run and continues downstream until the boundary of the PWS designation, at rivermile 3.1.	5A	Escherichia coli	2008	L	3.98

Sandy Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.08**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A24R-03-BAC** **Hooes Run**

Cause Location: Begins at the outlet from Lake Omiscol and continues downstream until the beginning of the inundated waters of the Occoquan Reservoir.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at station 1aHOO000.34 at Route 641 (Old Bridge Road).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A24R_HOO01A02 / Hooes Run / Segment begins at the outlet from Lake Omiscol and continues downstream until the beginning of the inundated waters of the Occoquan Reservoir.	5A	Escherichia coli	2012	L	0.98

Hooes Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.98**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25E-02-BAC** **Neabsco Creek**

Cause Location: Segment includes the tidal waters of Neabsco Bay, beginning at rivermile 1.37, downstream until the confluence with Occoquan Bay.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 50 samples - 16.0%) at station 1aNEA000.57 at the railroad bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25E_NEA01A00 / Neabsco Bay / Segment includes the tidal waters of Neabsco Bay, beginning at rivermile 1.37, downstream until the confluence with Occoquan Bay. Portion of CBP segment POTTF.	5A	Escherichia coli	2004	L	0.545

Neabsco Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	**0.545**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25E-03-BAC** **Occoquan River**

Cause Location: Extends from the end of the free-flowing waters to 0.5 rivermile downstream of monitoring station 1aOCC006.64.

City / County: Fairfax Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 18 samples - 16.7%) combined from stations 1aOCC006.47, upstream of the Occoquan Regional Park boat ramp, and 1aOCC006.71 at Route 123 (Gordon Boulevard).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25E_OCC05A02 / Occoquan River / Segment extends from the end of the free-flowing waters to 0.5 rivermile upstream of monitoring station 1aOCC005.16. Portion of CBP segment POTTF.	5A	Escherichia coli	2014	L	0.086

Occoquan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	**0.086**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25E-04-BAC** **Marumsco Creek**

Cause Location: Includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aMAU001.16 at Featherstone Drive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25E_MAU01A12 / Marumsco Creek / Segment includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay. Portion of CBP segment POTTF.	5A	Escherichia coli	2012	L	0.025

Marumsco Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	**0.025**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25E-04-EBEN** **Occoquan River**

Cause Location: Extends 0.5 mile around Coastal 2000 monitoring station 1aOCC002.62.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

2008 Assessment: Coastal 2000 weight of evidence analysis for station 1aOCC002.62, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment were the primary factor for this determination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25E_OCC03A04 / Belmont Bay (Occoquan River) / Segment extends 0.5 mile around Coastal 2000 monitoring station 1aOCC002.62 (coordinates 38.6382, -77.208). Portion of CBP segment POTTF.	5A	Estuarine Bioassessments	2006	L	0.286

Occoquan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.286**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25R-01-BEN** **Giles Run**

Cause Location: Begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: Two biological monitoring events in 2010 at station 1aGIL003.10 at Route 642 (Lorton Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25R_GIL01A04 / Giles Run / Segment begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	6.48

Giles Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25R-01-PCB** **Giles Run**

Cause Location: Begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 4A

2012 Assessment: Three exceedances of the human health criteria for total polychlorinated biphenyls (PCBs) in the water column were recorded in 2005 and 2006 at station 1aGIL000.70 at Route 611. The Tidal Potomac River PCB TMDL for the Occoquan River watershed (POL0476) was approved by the EPA on 10/31/2007. The SWCB approved the TMDL on 04/11/2008. Federal ID 35565.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25R_GIL01A04 / Giles Run / Segment begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.	4A	PCB in Water Column	2010	L	6.48

Giles Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**6.48**

Sources:

Atmospheric Deposition - Toxics

Combined Sewer Overflows

Contaminated Sediments

Upstream Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25R-02-BAC** **Mills Branch**

Cause Location: Begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aWLB000.06 at Occoquan Regional Park.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25R_WLB01A02 / Mills Branch / Segment begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River. Mills Branch, a channeled flow under the Lorton landfill, is an unnamed tributary on the Occoquan/Ft. Belvoir quads.	5A	Escherichia coli	2014	L	1.72

Mills Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25R-02-PCB** **Mills Branch**

Cause Location: Begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 4A

2012 Assessment: Two exceedances of the human health criteria for total polychlorinated biphenyls (PCBs) in the water column were recorded in 2006 at station 1aWLB000.06 at Occoquan Regional Park. The Tidal Potomac River PCB TMDL for the Occoquan River watershed (POL0476) was approved by the EPA on 10/31/2007. The SWCB approved the TMDL on 04/11/2008. Federal ID 35565.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25R_WLB01A02 / Mills Branch / Segment begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River. Mills Branch, a channeled flow under the Lorton landfill, is an unnamed tributary on the Occoquan/Ft. Belvoir quads.	4A	PCB in Water Column	2010	L	1.72

Mills Branch **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**1.72**

Sources:

Atmospheric Deposition - Toxics

Combined Sewer Overflows

Contaminated Sediments

Upstream Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25R-03-BAC** **Giles Run**

Cause Location: Begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aGIL000.85 at Route 1 (Jefferson Davis Highway).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25R_GIL01A04 / Giles Run / Segment begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.	5A	Escherichia coli	2014	L	6.48

Giles Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25R-04-BAC** **Marumsco Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Marumsco Creek, just upstream from Easy Street, and continues downstream until the end of the free-flowing waters.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 11 samples - 45.5%) at station 1aMAU001.67 at Route 1 (Jefferson Davis Highway).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25R_MAU01A04 / Marumsco Creek / Segment begins at the confluence with an unnamed tributary to Marumsco Creek, just upstream from Easy Street, and continues downstream until the end of the free-flowing waters.	5A	Escherichia coli	2014	L	0.53

Marumsco Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A25R-05-BAC** **Unnamed Tributary to Occoquan River**

Cause Location: Begins at the headwaters of an unnamed tributary and continues downstream until the confluence with the Occoquan River.

City / County: Fairfax Co. Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 1aXMK000.37 at Route 2100.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A25R_XMK01A16 / Unnamed Tributary to Occoquan River / Segment begins at the headwaters of an unnamed tributary and continues downstream until the confluence with the Occoquan River.	5A	Escherichia coli	2016	L	1.11

Unnamed Tributary to Occoquan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.11**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26E-01-BZOKFL Powells Creek**

Cause Location: Extends to a 0.5 mile radius around the ACB station 1aPOW-765-ALL.

City / County: Prince William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Benzo[k]fluoranthene / 5A

2002 Assessment: Exceedances of the water quality criterion based tissue value (TV) of 5.5 ppb for benzo(k) fluoranthene in fish tissue (largemouth bass and sunfish) at station 1aPOW001.20 in 1996.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26E_POW02A02 / Powells Creek / Segment extends to a 0.5 mile radius around the ACB station 1aPOW-765-ALL (38.5842, -77.2647). Portion of CBP segment POTTF.	5A	Benzo[k]fluoranthene	2002	L	0.402

Powells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Benzo[k]fluoranthene - Total Impaired Size by Water Type:	**0.402**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26L-01-HG** **Lake Montclair**

Cause Location: Includes all of Lake Montclair.

City / County: Prince William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2012 Assessment: Exceedances of the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded in three species of fish (9 total samples): largemouth bass (2006), channel catfish (2006) and black crappie (2006) collected at monitoring station 1aPOW009.08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26L_POW01A06 / Lake Montclair / Segment includes all of Lake Montclair.	5A	Mercury in Fish Tissue	2010	L	103.54

Lake Montclair **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**103.54**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26L-01-PCB** **Lake Montclair**

Cause Location: Includes all of Lake Montclair.

City / County: Prince William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 4A

2010 Assessment: Exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in three species of fish (4 total samples): carp (2004), brown bullhead catfish (2004) and channel catfish (2004, 2006) collected at monitoring station 1aPOW009.08. The Tidal Potomac River PCB TMDL for the Powells Creek watershed was approved by the EPA on 10/31/2007. The SWCB approved the TMDL on 04/11/2008. Federal ID 34374.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26L_POW01A06 / Lake Montclair / Segment includes all of Lake Montclair.	4A	PCB in Fish Tissue	2010	L	103.54

Lake Montclair **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**103.54**	

Sources:

Atmospheric Deposition - Toxics

Combined Sewer Overflows

Contaminated Sediments

Upstream Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26R-02-BAC** **Powells Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Powells Creek, at rivermile 12.77 and continues downstream until the end of the free-flowing waters of Powells Creek, however does not include Lake Montclair and the first 0.2 rivermiles below the lake.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 13 samples - 23.1%) at station 1aPOW003.11 at Route 1. E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) at station 1aPOW009.99 at Route 643. The Potomac River Tributaries bacteria TMDL for the Powells Creek watershed (766) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53801.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26R_POW01A00 / Powells Creek / Segment begins approximately 0.2 rivermiles below Lake Montclair and continues downstream until the end of the free-flowing waters of Powells Creek.	4A	Escherichia coli	2006	L	5.37
VAN-A26R_POW02A02 / Powells Creek / Segment begins at the confluence with an unnamed tributary to Powells Creek, at rivermile 12.77, and continues downstream until the beginning of Lake Montclair.	4A	Escherichia coli	2014	L	3.91

Powells Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.28**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26R-02-PH** **Unnamed tributary to Potomac River**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream until its confluence with the Potomac River

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Excursions less than the lower limit of the pH criterion range (4 of 12 samples - 33.3%) at station 1aXLF000.13 at Route 633 (Arkendale Road).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26R_XLF01A10 / Unnamed tributary to Potomac River / Segment begins at the headwaters of the unnamed tributary and continues downstream until its confluence with the Potomac River.	5A	pH	2014	L	3.67

Unnamed tributary to Potomac River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.67**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26R-03-BAC** **Quantico Creek**

Cause Location: Begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 33 samples - 21.2%) at station 1aQUA004.46 at Route 1 Business. The Potomac River Tributaries bacteria TMDL for the Powells Creek watershed (768) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53797.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26R_QUA01A00 / Quantico Creek / Segment begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay.	4A	Escherichia coli	2004	L	1.47

Quantico Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.47**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26R-04-BAC** **North Branch Chopawamsic Creek**

Cause Location: Begins at the headwaters of North Branch Chopawamsic Creek and continues downstream until the confluence with Middle Branch.

City / County: Prince William Co. Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 13 samples - 23.1%) at station 1aNOR009.87 at the MCB-1 bridge crossing. The Potomac River Tributaries bacteria TMDL for the North Branch Chopawamsic Creek watershed (769) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53788.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26R_NOR01A02 / North Branch Chopawamsic Creek / Segment begins at the headwaters of North Branch Chopawamsic Creek and continues downstream until the confluence with Middle Branch.	4A	Escherichia coli	2004	L	7.26

North Branch Chopawamsic Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.26**

Sources:

Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)	Urban Runoff/Storm Sewers
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26R-05-BAC** **South Fork Quantico Creek**

Cause Location: Begins at the headwaters of the South Fork Quantico Creek and continues downstream until the start of the impounded waters, adjacent to what is labeled as Mawavi Camp No 2 on the Joplin quad.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) at station 1aSOQ006.73 at Route 619. The Potomac River tributaries bacteria TMDL for the South Fork Quantico Creek watershed (767) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53796.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26R_SOQ01B02 / South Fork Quantico Creek / Segment begins at the headwaters of the South Fork Quantico Creek and continues downstream until the start of the impounded waters, adjacent to what is labeled as Mawavi Camp No 2 on the Joplin quad.	4A	Escherichia coli	2004	L	4.82

South Fork Quantico Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.82**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26R-07-BAC** **Unnamed tributary to Potomac River**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream until its confluence with the Potomac River

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 1aXLF000.13 at Route 633 (Arkendale Road). The Potomac River tributaries bacteria TMDL for the Unnamed Tributary (XLF) watershed (770) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53790.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26R_XLF01A10 / Unnamed tributary to Potomac River / Segment begins at the headwaters of the unnamed tributary and continues downstream until its confluence with the Potomac River.	4A	Escherichia coli	2010	L	3.67

Unnamed tributary to Potomac River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.67**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Urban Runoff/Storm Sewers
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A26R-08-BAC** **South Branch Chopawamsic Creek**

Cause Location: Begins at the headwaters of the South Branch Chopawamsic Creek, and continues downstream to the inundated waters of the Breckenridge Reservoir.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 13 samples 23.1%) at station 1aSOB001.80 at MCB-1.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A26R_SOB01A12 / South Branch Chopawamsic Creek / Segment begins at the headwaters of the South Branch Chopawamsic Creek, and continues downstream to the inundated waters of the Breckenridge Reservoir.	5A	Escherichia coli	2018	L	4.66

South Branch Chopawamsic Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.66**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A27R-01-DO** **Unnamed tributary to Aquia Creek**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream until its confluence with Aquia Creek.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Excursions less than the minimum dissolved oxygen criterion (4 of 16 samples - 25.0%) at citizen station 1aXLN-SCVDOT-ALL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A27R_XLN01A10 / Unnamed tributary to Aquia Creek / Segment begins at the headwaters of the unnamed tributary and continues downstream until its confluence with Aquia Creek.	5A	Oxygen, Dissolved	2010	L	2.25

Unnamed tributary to Aquia Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.25**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A27R-02-BAC** **Aquia Creek**

Cause Location: Begins at the headwaters of Aquia Creek and continues downstream until the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610.

City / County: Fauquier Co. Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

2016 Assessment: E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at station 1aAUA023.09 at Route 644.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A27R_AUA02A02 / Aquia Creek / Segment begins at the headwaters of Aquia Creek and continues downstream until the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610.	5A	Escherichia coli	2012	L	8.81

Aquia Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.81**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A28R-01-BAC** **Austin Run**

Cause Location: Begins at the confluence with an unnamed tributary to Austin Run, just upstream of the Route 1 crossing, and continues downstream until the confluence with Aquia Creek.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aAUS000.49 at the end of Aquia Drive (2016 Assessment) and E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aAUS001.60 at Route 1 (Jefferson Davis Highway). The Potomac River tributaries bacteria TMDL for the Austin Run watershed (771) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53793.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A28R_AUS01A04 / Austin Run / Segment begins at the confluence with an unnamed tributary to Austin Run (streamcode XGQ) and continues downstream until the confluence with Aquia Creek.	4A	Escherichia coli	2004	L	0.85
VAN-A28R_AUS02A06 / Austin Run / Segment begins at the confluence with an unnamed tributary to Austin Run, just upstream of the Route 1 crossing, and continues downstream until the confluence with another unnamed tributary to Austin Run (streamcode XGQ).	4A	Escherichia coli	2014	L	0.69

Austin Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.54**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29E-01-PH** **Potomac Creek**

Cause Location: Segment extends from rivermile 1.91 until rivermile 1.09 along Potomac Creek and includes the lower portion of the Accokeek Creek arm of Potomac Creek, approximately 0.35 rivermile upstream.

City / County: King George Co. Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

2014 Assessment: Sufficient excursions greater than the upper limit of the pH criterion range were recorded at continuous monitoring station 1aPOM-000.97-VIMS (69 of 606 observations, 11.4%).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29E_POM01B06 / Potomac Creek / Segment extends from rivermile 1.91 until rivermile 1.09 along Potomac Creek. Portion of CBP segment POTOH.	5A	pH	2014	L	0.587

Potomac Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**0.587**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29E-02-BAC** **Fairview Beach (Potomac River)**

Cause Location: Includes all of Fairview Beach on the Potomac River.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5R

14 exceedances of the monthly geometric mean enterococci criterion were recorded at the Virginia Department of Health station (VA351214) at Fairview Beach. During 2011 through 2016, VDH issued a total of 30 beach monitoring advisories for Fairview Beach based on the results of enterococci bacteria sampling at station VA351214. The Fairview Beach bacteria Watershed Plan was approved by the EPA on 12/04/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29E_POT01A06 / Fairview Beach/Potomac River / Segment includes all of Fairview Beach on the Potomac River. Portion of CBP segment POTOH.	5R	Enterococcus	2006	L	0.005

Fairview Beach (Potomac River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.005**		

Sources:

Sediment Resuspension (Contaminated Sediment)	Unspecified Domestic Waste	Unspecified Urban Stormwater	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29E-03-BAC** **Chotank Creek**

Cause Location: Includes the tidal portion of Chotank Creek, from its headwaters until the fire road crossing inside of Caledon State Park.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

2016 Assessment: Enterococci bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aCHN002.97 at the fire road in Caledon State Park.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29E_CHN02A10 / Chotank Creek / Segment includes the tidal portion of Chotank Creek, from its headwaters until the fire road crossing inside of Caledon State Park. Portion of CBP segment POTOH.	5A	Enterococcus	2012	L	0.054

Chotank Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.054**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29R-01-BAC** **Accokeek Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Accokeek Creek, approximately 0.33 rivermile downstream from Route 1 at rivermile 8.62, and continues downstream until the end of the free-flowing waters.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 1aACC006.13 at Route 608. The Potomac River tributaries bacteria TMDL for the Accokeek Creek watershed (772) was developed and approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53785.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29R_ACC01A00 / Accokeek Creek / Segment begins at the confluence with an unnamed tributary to Accokeek Creek (rivermile 8.62), approximately 0.33 rivermile downstream from Route 1, and continues downstream until the end of the free-flowing waters.	4A	Escherichia coli	2002	L	4.48

Accokeek Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.48**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29R-01-BEN** **Unnamed tributary to Long Branch**

Cause Location: Begins at the headwaters of an unnamed tributary to Long Branch and continues downstream until the confluence with Long Branch, at rivermile 3.58.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2014 at station 1aXLB000.05 (0.05 mile upstream of confluence with Long Branch) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29R_XLB01A08 / Unnamed tributary to Long Branch / Segment begins at the headwaters of an unnamed tributary to Long Branch and continues downstream until the confluence with Long Branch, at rivermile 3.58.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.30

Unnamed tributary to Long Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.30**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29R-02-BAC** **Potomac Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Potomac Creek, at rivermile 9.12, and continues downstream until the east end of swamp.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at station 1aPOM008.24 at Route 626 (Potomac Run Road) and E. coli bacteria criterion excursions (2 of 8 samples - 25.0%) at station 1aPOM006.72 at Route 608 (2016 Assessment). The Potomac River tributaries bacteria TMDL for the Potomac Creek watershed (774) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53786.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29R_POM01A00 / Potomac Creek / Segment begins at the railroad crossing at the west end of swamp, upstream from Route 608, and continues downstream until the east end of swamp.	4A	Escherichia coli	2004	L	2.18
VAN-A29R_POM02A06 / Potomac Creek / Segment begins at the confluence with an unnamed tributary to Potomac Creek, at rivermile 9.12, and continues downstream until the railroad crossing at the west end of swamp, upstream from Route 608.	4A	Escherichia coli	2014	L	1.91

Potomac Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.09**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sanitary Sewer Overflows (Collection System Failures)
Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29R-03-BAC** **Potomac Run**

Cause Location: Begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (16 of 18 samples - 88.9%) at station 1aPOR000.40 at Route 648. The Potomac River tributaries bacteria TMDL for the Potomac Run watershed (773) was approved by the EPA on 09/26/2013. The SWCB approved the TMDL on 04/04/2014. Federal ID 53792.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29R_POR01A06 / Potomac Run / Segment begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch.	4A	Escherichia coli	2006	L	6.59

Potomac Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.59**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Urban Runoff/Storm Sewers
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29R-03-DO** **Potomac Run**

Cause Location: Begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

2016 Assessment: Excursions less than the minimum dissolved oxygen criterion (2 of 18 samples - 11.1%) at station 1aPOR000.40 at Route 648.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29R_POR01A06 / Potomac Run / Segment begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch.	5A	Oxygen, Dissolved	2014	L	6.59

Potomac Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.59**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A29R-05-BAC** **Dirt Bridge Run**

Cause Location: Begins at the confluence of two unnamed tributaries and continues downstream until the confluence with Passapatanzy Creek.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 10 samples 20.0%) at station 1aDBR001.37 at Route 218.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A29R_DBR01A10 / Dirt Bridge Run / Segment begins at the confluence of two unnamed tributaries and continues downstream until the confluence with Passapatanzy Creek.	5A	Escherichia coli	2018	L	1.81

Dirt Bridge Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.81**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30E-01-BAC** **Williams Creek**

Cause Location: Begins at the head of tide of Williams Creek and continues downstream until the extent of the Section C area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, effective May 15, 2012.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

2014 Assessment: Enterococci bacteria criterion excursions (3 of 11 samples - 27.3%) at station 1aWLL001.30 at Route 206 and excursions (4 of 6 samples - 66.7%) at station 1aWLL002.21 at Route 301. A new TMDL is not required for this impaired segment of Williams Creek because the Upper Machodoc Creek Watershed bacteria TMDL (36032, 12/18/2008) included modeling, source identification, and reductions that covered the entire watershed (POL0443).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_WLL01B10 / Williams Creek / The downstream portion of the boundary of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Enterococcus	2010	L	0.113
VAN-A30E_WLL02A02 / Williams Creek / The upstream portion of the boundary of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Enterococcus	2010	L	0.022

Williams Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.135**		

Sources:

- Grazing in Riparian or Shoreline Zones
- Impacts from Land Application of Wastes
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30E-01-PCB** **Coan River, Monroe Creek, Upper Machodoc Creek**

Cause Location: Includes the tidal portions of the following tributaries from the Potomac River Bridge at Route 301 to the mouth of the Potomac River near Smith Point: Upper Machodoc Creek, Monroe Creek, and Coan River.

City / County: King George Co. Northumberland Co. Westmoreland Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 4A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits consumption of channel catfish, gizzard shad, and white perch to no more than two meals per month.

Nine exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in five species of fish (channel catfish, gizzard shad, white perch, mummichog, and croaker) in 11 total samples collected in 2004 at monitoring station 1aUMC001.36. Two exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in three species of fish (channel catfish, gizzard shad, and bluefish) sampled in 2004 at monitoring station 1aUMC004.43.

The Tidal Potomac River PCB TMDL for the Upper Machodoc Creek watershed (POL0483) was approved by the EPA on 10/31/2007. The SWCB approved the TMDL on 04/11/2008. Federal ID 35064.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_UMC01A02 / Upper Machodoc Creek / The boundaries of the condemned (prohibited) area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section F, effective May 7, 2013. Portion of CBP segment POTMH.	4A	PCB in Fish Tissue	2006	L	0.022
VAN-A30E_UMC01B06 / Upper Machodoc Creek / The Upper Machodoc Creek portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 7, 2013. Portion of CBP segment POTMH.	4A	PCB in Fish Tissue	2006	L	0.064
VAN-A30E_UMC02A04 / Upper Machodoc Creek / The boundaries of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section B, effective May 7, 2013. Portion of CBP segment POTMH.	4A	PCB in Fish Tissue	2006	L	0.028
VAN-A30E_UMC03A04 / Upper Machodoc Creek / A portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section E, effective May 7, 2013. Portion of CBP segment POTMH.	4A	PCB in Fish Tissue	2006	L	0.043
VAN-A30E_UMC03B10 / Upper Machodoc Creek / Segment includes the area of UMC described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section M1, effective May 7, 2013. Portion of CBP segment POTMH.	4A	PCB in Fish Tissue	2006	L	0.049
VAN-A30E_UMC04A10 / Upper Machodoc Creek / Segment includes main body of tidal Upper Machodoc Creek not included in segment VAN-A30E_UMC04B06 or the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 7, 2013.	4A	PCB in Fish Tissue	2004	L	0.419

Potomac and Shenandoah River Basins

Portion of CBP segment POTMH.					
VAN-A30E_UMC04B06 / Upper Machodoc Creek / Segment includes main body of tidal Upper Machodoc Creek not included in segment VAN-A30E_UMC04A10 or the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 7, 2013. Portion of CBP segment POTMH.	A	PCB in Fish Tissue	2004	L	0.418
VAN-A30E_UMC04C06 / Upper Machodoc Creek / Segment includes the downstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, dated 05/07/13, and continuing until the open embayment of Upper Machodoc Creek. Portion of CBP segment POTMH.	4A	PCB in Fish Tissue	2006	L	0.184
VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 07, 2013. Portion of CBP segment POTMH.	4A	PCB in Fish Tissue	2004	L	0.705
VAP-A31E_MON01A00 / Monroe Creek/Monroe Bay / Prohibited area around STP outfall as described in VDH shellfish condemnation 002-001D, 6/7/2016	4A	PCB in Fish Tissue	2004	L	0.176
VAP-A31E_MON02A98 / Monroe Bay / Administratively condemned portion of VDH condemnation notice 002-001A, 6/17/2016	4A	PCB in Fish Tissue	2004	L	0.355
POTMH					
VAP-A31E_MON03A98 / Monroe Bay / Portion of VDH condemnation notice 002-001A, 6/17/2016	4A	PCB in Fish Tissue	2004	L	0.172
POTMH					
VAP-A31E_MON03B16 / Monroe Bay / Described in VDH condemnation notice 002-001M2, 6/17/2016	4A	PCB in Fish Tissue	2004	L	0.063
POTMH					
VAP-A31E_MON04A00 / Monroe Bay / Downstream of VDH-DSS condemnation area 002-001A, 6/17/2016	4A	PCB in Fish Tissue	2004	L	0.221
POTMH					
VAP-A31E_MON05A04 / Monroe Bay / Described in VDH Condemnation 002-001C, 6/7/2016	4A	PCB in Fish Tissue	2004	L	0.002
POTMH					
VAP-A34E_COA01A02 / Coan River / Portion of VDH-DSS Condemnation Notice 008-214B, 2/23/2012 not included on SFC 145, 2/23/1997.	4A	PCB in Fish Tissue	2006	L	0.009
POTMH					
VAP-A34E_COA01A98 / Coan River / Described in the VDH-DSS Condemnation Notice 008-214B, 2/19/2016, excluding Mill Creek.	4A	PCB in Fish Tissue	2006	L	0.330
POTMH					
VAP-A34E_COA01B16 / Coan River / Portion of VDH-DSS Condemnation Notice 145I, 2/25/1997 open in 008-214, 2/19/2016.	4A	PCB in Fish Tissue	2006	L	0.028
POTMH					

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VAP-A34E_COA02A02 / Coan River / From SFC 008-214B, 2/23/2012 to its mouth at the Potomac, excluding otherwise segmented waterbodies.	A	PCB in Fish Tissue	2006	L	2.756

POTMH

Coan River, Monroe Creek, Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:	**6.041**		

Sources:

Atmospheric Deposition - Toxics	Combined Sewer Overflows	Contaminated Sediments	Discharges from Municipal Separate Storm Sewer Systems (MS4)
Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source	Upstream Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30E-03-SF** **Upper Machodoc Creek**

Cause Location: Defined as Section D of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 05/07/13.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_UMC04C06 / Upper Machodoc Creek / Segment includes the downstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, dated 05/07/13, and continuing until the open embayment of Upper Machodoc Creek. Portion of CBP segment POTMH.	4A	Fecal Coliform	2012	L	0.184
VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 07, 2013. Portion of CBP segment POTMH.	4A	Fecal Coliform	1998	L	0.705

Upper Machodoc Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.888**		

Sources:

- Grazing in Riparian or Shoreline Zones
- Impacts from Land Application of Wastes
- Livestock (Grazing or Feeding Operations)
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30E-06-SF** **Deep Creek**

Cause Location: Defined in Section D of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 05/07/13. The Upper Machodoc Creek shellfish TMDL for the Deep Creek watershed (POL0602) was approved by the EPA on 12/18/2008. The SWCB approved the TMDL on 07/27/2009. Federal ID 36253.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_DEE01A00 / Deep Creek / Segment includes the downstream portion of Deep Creek to the confluence with Upper Machodoc Creek within the boundaries described in the VDH Shellfish Area Condemnation Number 001A-036, Section D, effective 05/07/13. Portion of CBP segment POTMH.	4A	Fecal Coliform	2002	L	0.019

Deep Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30E-07-SF** **Upper Machodoc Creek**

Cause Location: Defined as Section M1 of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The shellfishing use is categorized as seasonally (April-October) impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 05/07/13. A new TMDL is not required for this impaired segment of Upper Machodoc Creek because the Upper Machodoc Creek shellfish TMDL (36028, 12/18/2008) included modeling, source identification, and reductions that covered the entire Williams Creek, Upper Machodoc Creek watershed (POL0443).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_UMC03B10 / Upper Machodoc Creek / Segment includes the area of UMC described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section M1, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Fecal Coliform	2014	L	0.049

Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30R-01-DO** **Pepper Mill Creek**

Cause Location: Begins at the headwaters of Pepper Mill Creek and continues downstream until its confluence with Upper Machodoc Creek.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

2014 Assessment: Excursions less than the minimum dissolved oxygen criterion (2 of 14 samples - 14.3%) at station 1aPEP001.58 at Route 206.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30R_PEP01A10 / Pepper Mill Creek / Segment begins at the headwaters of Pepper Mill Creek and continues downstream until the confluence with Upper Machodoc Creek.	5C	Oxygen, Dissolved	2010	L	8.66

Pepper Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30R-01-PH** **Pepper Mill Creek**

Cause Location: Begins at the headwaters of Pepper Mill Creek and continues downstream until its confluence with Upper Machodoc Creek.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

2014 Assessment: Excursions less than the lower limit of the pH criterion range (3 of 14 samples - 21.4%) at station 1aPEP001.58 at Route 206.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30R_PEP01A10 / Pepper Mill Creek / Segment begins at the headwaters of Pepper Mill Creek and continues downstream until the confluence with Upper Machodoc Creek.	5C	pH	2010	L	8.66

Pepper Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**8.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30R-02-BAC** **Upper Machodoc Creek**

Cause Location: Includes the upstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 07, 2013.
Portion of CBP segment POTMH.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Enterococcus bacteria criterion excursions (5 of 17 samples - 29.4%) at station 1aUMC004.43 at Route 218. A new bacteria TMDL is not required for this impaired segment of Upper Machodoc Creek because the Upper Machodoc Creek Watershed shellfish TMDL (36028, 12/18/2008) included modeling, source identification, and reductions for bacteria that covered the entire watershed (POL0444).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 07, 2013. Portion of CBP segment POTMH.	4A	Enterococcus	2006	L	0.705

Upper Machodoc Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.705**		

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30R-02-DO** **Gambo Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until the ponded waters on Gambo Creek.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Excursions less than the minimum dissolved oxygen criterion (6 of 16 samples - 37.5%) at station 1aGAM003.50 at Route 301 and excursions less than the minimum dissolved oxygen criterion (5 of 8 samples - 62.5%) at station 1aGAM003.83 at Route 635.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30R_GAM01A04 / Gambo Creek / Segment begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until estuarine Gambo Creek.	5C	Oxygen, Dissolved	2016	L	0.95

Gambo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.95**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A30R-02-PH** **Gambo Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until estuarine Gambo Creek.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (5 of 15 samples - 33.3%) at station 1aGAM003.50 at Route 301 and excursions less than the lower limit of the pH criterion range (3 of 7 samples - 42.9%) at station 1aGAM003.83 at Route 635.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30R_GAM01A04 / Gambo Creek / Segment begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until estuarine Gambo Creek.	5C	pH	2016	L	0.95

Gambo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.95**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-01-SF** **Rosier Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 088A, 7/1/1998

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 001-088A, 8/20/2015

The Shellfish TMDL for the portion of the Rosier Creek that was impaired in the 1998 cycle (088A, 7/1/1998) was developed during the 2008 cycle. The TMDL was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

The condemnation has expanded. The lower portion of the current cycle's condemnation was not included in the TMDL and is now included under A31E-01-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_ROS01A98 / Rosier Creek / Described in VDH condemnation notice 088A, 7/1/1998.	4A	Fecal Coliform	1998	L	0.206

Rosier Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.206**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-01-SF2 Rosier Creek**

Cause Location: The portion of VDH Shellfish Condemnation 001-088A, 8/20/2015 which was not included in the Rosier Creek Shellfish TMDL (excluding Goldman Creek).

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 001-088A, 8/20/2015

The Shellfish TMDL for the portion of the Rosier Creek that was impaired in the 1998 cycle I (088A, 7/1/1998) was developed during the 2008 cycle. The TMDL was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

The lower portion of the current cycle's condemnation was not included in the TMDL; however, the area is considered nested in the Rosier Creek TMDL.

The condemnation expanded in the 2016 cycle. It subsequently shrank again in the 2018 cycle and section M1 was split off and partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_ROS01A08 / Rosier Creek / Portion of VDH condemnation notice 001-088A, 8/20/2015 not included in the 2006 TMDL.	4A	Fecal Coliform	2006	L	0.149

Segment shrunk and split in 2018 cycle.

POTMH

Rosier Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.149**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-02-SF** **Goldman Creek**

Cause Location: Described in VDH Shellfish Condemnation 001-008B, 8/20/2015

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 001-008B, 8/20/2015

Goldman Creek was initially impaired of the Shellfish Consumption Use during the 2014 cycle due to VDH-DSS Shellfish Condemnation 001-088B, 9/13/2012. In the 2016 cycle, the Rosier Creek impairment expanded and the impairments were merged. They split again in the 2018 cycle.

The impairment is nested in the Rosier Creek Shellfish TMDL. The TMDL was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. The condemnation was not included in the TMDL; however, the area is within the tidal range of the addressed impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_GLD01A00 / Goldman Creek / Described in VDH-DSS condemnation notice 001-088B, 8/20/2015	4A	Fecal Coliform	2014	L	0.043

Slight adjustment in the 2018 cycle

POTMH

Goldman Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.043**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-03-SF** **Monroe Creek**

Cause Location: The portion of VDH Shellfish Condemnation 002-001A, 6/17/2016 which is not included in the administrative condemnation.

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 002-001A, 6/17/2016

The area was seasonally condemned in the 2010 cycle, however condemnation A expanded in the 2014 cycle. The Shellfish TMDL for Monroe Creek was approved by the EPA on 6/8/2006 and by the SWCB on 7/27/2009. The area was addressed by the TMDL; therefore, it was considered Category 4A.

Condemnation A shrank slightly in the 2016 cycle and section M2 was split off; it will be considered partially delisted (Cat. 2C.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_MON03A98 / Monroe Bay / Portion of VDH condemnation notice 002-001A, 6/17/2016	4A	Fecal Coliform	2014	L	0.172

POTMH

Monroe Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.172**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-04-PH** **Monroe Creek**

Cause Location: As described in VDH condemnation 002-001D, 6/17/2016

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

During the 2012 cycle, the upper portion of Monroe Creek was impaired of the Aquatic Life Use due to a pH violation rate of 10/16 at 1AMRC002.81, which is located at Rt. 658.

A Swampwaters Determination Report was completed during the 2014 cycle. The report attributed the pH exceedances to natural conditions and the impairment is considered Category 4C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_MON01A00 / Monroe Creek/Monroe Bay / Prohibited area around STP outfall as described in VDH shellfish condemnation 002-001D, 6/7/2016	4C	pH			0.176

Monroe Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**0.176**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-06-BAC** **Mattox Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 002-001B, 6/17/2016

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The segment was initially listed in 1996 based on excessive fecal coliform standards at the Route 205 bridge (1AMAO004.08). The segment was adjusted during the 2006 cycle to be coincident with VDH-DSS Shellfish Condemnation 001B (11/15/2004) and the Recreation Use impairment switched to Enterococci due to exceedances at 1AMAO004.08.

During the 2008 and 2010 cycles, the segment remained impaired due to Enterococci exceedance at 1AMAO001.36 and at 1AMAO004.08. The exceedance rate was 5/12 during the 2014 cycle at 1AMAO004.08. However, the bacterial TMDL for the Mattox Creek Watershed was approved by the EPA on 12/4/2006; therefore, the segment is considered Category 4A for the Recreation Use.

The impairment length has been adjusted to remain coincident with Mattox Creek shellfish condemnations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_MAO01A98 / Mattox Creek / Portion of the condemnation notice 002-001B, 6/17/2016 that is not administratively condemned Segment extended in the 2018 cycle. POTMH	4A	Enterococcus	2006	L	0.429
VAP-A31E_MAO01B10 / Mattox Creek / Upper portion of the condemnation notice 002-001B, 6/17/2016 which is administratively condemned. Segment merged in the 2018 cycle. POTMH	4A	Enterococcus	2006	L	0.366

Mattox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.795**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-06-SF** **Mattox Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 002-001B, 6/17/2016 which is not an administrative condemnation

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 002-001B, 6/17/2016

The segment has been considered impaired of the Shellfish Consumption Use since 1996. The impairment is currently described in VDH-DSS Shellfish Condemnation 002-001B, 9/20/2013. The Shellfish TMDL for the Mattox Creek Watershed was developed during the 2008 cycle and was approved by the EPA on 12/4/2006 and the water was considered Category 4A for the Shellfish Use.

However, during the 2010 cycle it was determined that the upper portion of the section is administratively closed as a buffer for the Outdoor World Harborview STP. Therefore the use was considered removed for the upper portion and it was partially delisted.

The advisory was shortened during the 2012 cycle and split into 002-001B and 002-001C, 8/30/2010. It expanded and re-merged in the 2014 cycle. It has slightly shrunk and expanded in 2016 and 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_MAO01A98 / Mattox Creek / Portion of the condemnation notice 002-001B, 6/17/2016 that is not administratively condemned	4A	Fecal Coliform	1996	L	0.429

Segment extended in the 2018 cycle.

POTMH

Mattox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.429**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-07-BAC** **Popes Creek**

Cause Location: From the extent of tide to the mouth of Popes Creek

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Popes Creek was initially assessed as impaired of the Recreation Use in 2002 based on fecal coliform standard exceedances at 1APOP000.38, which is located off of the George Washington National Monument picnic area. During the 2006 cycle, the fecal coliform rate remained impaired (2/7) and enterococci was added as an impairment (2/6).

During the 2010 cycle, the enterococci exceedance rate was 4/11; the impairment was considered nested because it is contained within the shellfish TMDL study area, which was approved on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_POP01A98 / Popes Creek / Described in condemnation notice 003-146, 9/23/2008.	4A	Enterococcus	2006	L	0.576

Popes Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.576**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-07-SF** **Popes Creek**

Cause Location: From the extent of tide to the mouth of Popes Creek

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Popes Creek was previously assessed as not supporting the Shellfish Consumption Use based on VDH-DSS Shellfish Condemnation 146, 4/27/1989; this condemnation was later replaced by 003-146, 9/23/2008.

The Popes Creek Shellfish TMDL was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. The segment is considered Category 4A for the Shellfish Use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_POP01A98 / Popes Creek / Described in condemnation notice 003-146, 9/23/2008.	4A	Fecal Coliform	1998	L	0.576

Popes Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing	Fecal Coliform - Total Impaired Size by Water Type:	**0.576**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31E-11-BAC** **Bridges Creek**

Cause Location: The tidal portion of Bridges Creek

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

Bridges Creek was assessed as not supporting of the Recreation Use support goal during the 2004 cycle based on a fecal coliform violation rate of 2/2 at 01660860, a USGS station located near the mouth of Bridges Creek.

The impairment converted to enterococci during the 2012 cycle based on violations at 1ABRG000.15.

The enterococci exceedance rate was 26/35 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31E_BRG01A04 / Bridges Creek / Tidal limit to mouth	5A	Enterococcus	2012	L	0.182

POTMH

Bridges Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.182**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31R-01-BAC** **Pine Hill Creek Watershed**

Cause Location: Pine Hill Creek watershed from its headwaters to tidal limit at Rosier Creek.

City / County: King George Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, the Pine Hill Creek watershed was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 1APIN007.24, which is located at Route 301.

Note: monitoring at station 1APIN000.57 is acceptable (1/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31R_PIN01A00 / Pine Hill Creek Watershed / Pine Hill Creek and its tributaries from the confluence with Rosier Creek to their headwaters.	5A	Escherichia coli	2014	L	34.91

Pine Hill Creek Watershed **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**34.91**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A31R-03-BAC** **Popes Creek Watershed**

Cause Location: The Popes Creek watershed above the tidal limit.

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The nontidal Popes Creek watershed was impaired of the Recreation Use during the 2014 cycle due to an E. coli exceedance rate of 2/11 at 1APOP003.92, which is located at the Route 3 bridge.

The impairment is considered nested in the Popes Creek Watershed Shellfish TMDL, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. It will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A31R_POP01A00 / Popes Creek / Watershed above tidal limit.	4A	Escherichia coli	2014	L	29.88

Popes Creek Watershed **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**29.88**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-01-SF** **Cold Harbor Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 004-184A, 2/1/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 004-184A, 2/1/2016

Cold Harbor Creek was mistakenly assessed as impaired in the 1998 cycle due to VDH-DSS Shellfish Condemnation 184A, 6/21/1996. The area had been reopened on 2/10/1997; therefore it should have been assessed as fully supporting.

The segment was first listed appropriately in the 2004 cycle. The impairment was addressed in the "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" report, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008. Allocations were given to nonpoint sources. The segment is considered Category 4A for the shellfish use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_CHB01A98 / Cold Harbor Bay / Described in the condemnation notice 004-184A, 2/1/2016	4A	Fecal Coliform	2004	L	0.083

POTMH

Cold Harbor Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.083**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-02-SF** **Currioman Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 184, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 184, 2/10/1997 - Impaired in 1998

Portion of current condemnation 004-184B, 2/1/2016

The upstream portion was included in the "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" report, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008. This portion is considered Category 4A.

The downstream portion of the current condemnation is addressed in A32E-13-SF.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_CUR01A98 / Currioman Creek / Described in the condemnation notice 004-184, 2/10/1997	4A	Fecal Coliform	1998	L	0.052

POTMH

Currioman Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.052**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-04-SF** **Nomini Creek, Peirce Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations 082A and 082B, 7/3/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portions of VDH Shellfish Condemnation 004-082D, 2/1/2016

Portions of Nomini Creek (0.5404 sq. mi.) and Pierce Creek (0.14 sq. mi.) were assessed as impaired in 1998. During the 2004 cycle, the condemnation was expanded and combined. The Nomini Creek watershed TMDL, which was developed in the 2008 cycle and approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008, addressed the 1998 portions of the impairment (004-082B and 004-082A, 7/3/1997). The residual of the impaired area is addressed in A32E-04-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_NOM01A98 / Nomini Creek / As described in VDH Shellfish Condemnation 082B, 7/3/1997. POTMH	4A	Fecal Coliform	1998	L	0.540
VAP-A32E_PEI01A98 / Peirce Creek / As described in VDH Shellfish Condemnation 082A, 7/3/1997. POTMH	4A	Fecal Coliform	1998	L	0.142

Nomini Creek, Peirce Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.682**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-04-SF2** **Nomini Creek, Peirce Creek**

Cause Location: The portions of VDH Notice and Description of Shellfish Condemnation 004-082D, 2/1/2016 that were not included in the 2007 Nomini Creek watershed TMDL.

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Condemnation 004-082D, 2/1/2016

Portions of Nomini Creek (0.5404 sq. mi.) and Pierce Creek (0.14 sq. mi.) were assessed as impaired in 1998. During the 2004 cycle, the condemnation was expanded and combined. However, the Nomini Creek watershed TMDL, which was developed in the 2008 cycle and approved by the EPA on 8/22/2007, only addressed the 1998 portion of the impairment. As the condemnation first expanded on the 2004 list, the TMDL for the downstream portion was due in 2016.

The impairment is considered nested within the Nomini Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

Shrank slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_NOM01A04 / Nomini Creek, Pierce Creek / Portion of VDH Shellfish Condemnation 004-082D, 2/1/2016 downstream of 082B, 7/3/1997 and portion upstream of 082A, 7/3/1997.	4A	Fecal Coliform	2004	L	0.247

Segment shortened in 2018 cycle

POTMH

Nomini Creek, Peirce Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.247**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-05-SF** **Buckner Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 082D, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 004-082B, 2/1/2016

The upper portion of Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to VDH shellfish advisory 082D, 2/10/1997. Although the closure was expanded during the 2008 cycle (004-082B 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the original upstream impaired area, which is classified as Category 4A.

In the 2016 cycle, the condemnation shrank (004-082B, 1/22/2014); the condemned area remained Category 4A and the lower portion was partially delisted (Category 2C.)

The condemnation expanded past the 1997 advisory boundary again in the 2018 cycle. See A32E-07-SF

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_BUB01B16 / Buckner Creek / Described in VDH Condemnation 004-082D, 2/10/1997	4A	Fecal Coliform	1998	L	0.183

Merged in the 2018 cycle.

POTMH

Buckner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.183**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-06-SF** **North Prong Buckner Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 004-082D, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 004-082A, 2/1/2018

The upper portion of North Prong Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082E, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082A, 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the original upstream impaired area. This upstream portion of the condemnation is classified as Category 4A; the lower portion is considered nested and is addressed in A32E-21-SF.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_NOP01A02 / North Prong Buckner Creek / Described in the condemnation notice 082E, 2/10/1997.	4A	Fecal Coliform	1998	L	0.023

POTMH

North Prong Buckner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.023**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-07-SF** **Buckner Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 004-082B, 2/1/2016 open in 082D, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 004-082B, 2/1/2016

The upper portion of Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to VDH shellfish advisory 082D, 2/10/1997. Although the closure was expanded during the 2008 cycle (004-082B 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the original upstream impaired area, which is classified as Category 4A.

The condemnation expanded past the 1997 advisory boundary again in the 2018 cycle. The impairment is considered nested in the upstream TMDL (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_BUB02B14 / Buckner Creek / Portion of condemnation 004-082B, 2/1/2016 not included in 082D, 2/10/1997	4A	Fecal Coliform	2018	L	0.065

POTMH

Buckner Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.065**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-08-SF** **Lower Machodoc Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083B, 12/28/2007

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 005-083A, 7/14/2016

0.36 sq. mile of Lower Machodoc Creek was assessed in 1998 as impaired of the Shellfish Use due to VDH shellfish condemnation 83B, 5/16/1997. The segment has expanded and contracted several times.

A TMDL was developed based on the 12/28/2007 extent and was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

During the 2014 cycle, the condemnation shrank considerably and was now smaller than the completed TMDL segment. The condemned area remains Category 4A; the opened area was partially delisted (Category 2C).

Condemnation grew in the 2018 cycle and now extends past the TMDL boundary (see A32E-18-SF).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_LOW01A04 / Lower Machodoc Creek / As described in VDH condemnation notice 005-083B, 12/28/2007	4A	Fecal Coliform	1998	L	0.536

Merged in the 2018 cycle.

POTMH

Lower Machodoc Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.536**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-09-EBEN** **Lower Machodoc Creek**

Cause Location: One-half mile upstream and downstream of monitoring station 1ALOW002.18

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

During the 2016 cycle, a portion of Lower Machodoc Creek was assessed as impaired of the Aquatic Life Use. Estuarine probabilistic monitoring at station 1ALOW002.18 in 2013 indicated a high potential for chronic benthic alteration due to PAHs in sediment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_LOW02B16 / Lower Machodoc Creek / One-half mile upstream and downstream of station 1ALOW002.18.	5A	Estuarine Bioassessments	2016	L	0.687

POTMH

Lower Machodoc Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.687**		

Sources:

Contaminated Sediments Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-10-SF** **Weatherall Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083D, 7/14/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 005-083D, 7/14/2016

Weatherall Creek was first listed for the Shellfish Use during the 2004 cycle. The Shellfish Use impairment was addressed in the Lower Machodoc Shellfish TMDL which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009. Weatherall Creek was considered Category 4A.

That condemnation shrank during the 2014 cycle and Weatherall Creek is now open for harvest (005-083, 9/12/2012) and was delisted (Category 2C.)

The area was re-condemned in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_WEA02A04 / Weatherall Creek / As described in VDH condemnation 005-083D, 7/14/2016	4A	Fecal Coliform	2016	L	0.055

POTMH

Weatherall Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.055**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-11-SF** **Cabin Point Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083B, 11/5/2014

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Condemnation Notice 005-083B, 7/14/2016

The segment was previously considered nonproductive and the use was removed. It was first considered impaired during the 2008 cycle.

The Shellfish Use impairment was addressed in the Lower Machodoc Shellfish TMDL which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009. Cabin Point Creek is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_CAP01A04 / Cabin Point Creek / As described in the condemnation notice 005-083B, 7/14/2016	4A	Fecal Coliform	2008	L	0.123

POTMH

Cabin Point Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.123**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-12-SF** **Glebe Creek and Aimes Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083A, 12/28/2007

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 005-083E and -083F, 7/14/2016

The Shellfish Use impairment was addressed in the Lower Machodoc Shellfish TMDL which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009. The TMDL was based on the extent in condemnation 005-083A, 12/28/2007.

In the 2018 cycle, the condemnation shrank and the open portion was partially delisted (Category 2C.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_GLB02A08 / Aimes and Glebe Creeks / As described in VDH Shellfish Condemnation 005-083E and -083F, 7/14/2016.	4A	Fecal Coliform	2008	L	0.120

Split in the 2018 cycle.

POTMH

Mileage adjusted in 2006 and 2008 cycles.

Glebe Creek and Aimes Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.120**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-13-SF** **Currioman Creek**

Cause Location: The portion of VDH Notice and Description of Shellfish Condemnation 004-184B, 2/1/2016 that was not included in the 8/23/2004 condemnation

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish condemnation 004-184B, 2/1/2016

The upstream portion of Currioman Creek has been listed for shellfish condemnations since 1998. The condemnation expanded on 1/27/2006, however the 2007 TMDL did not address the expanded portion. The expansion is first listed in 2008; therefore, the TMDL is due in 2020.

The impairment is considered nested in the upstream Currioman Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_CUR01B08 / Currioman Creek / From the limit of VDH condemnation 004-184, 2/10/1997 downstream to the limit of 004-184B, 2/1/2016.	4A	Fecal Coliform	2008	L	0.020

POTMH

Currioman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.020**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-14-SF** **Poor Jack Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 004-184C, 2/1/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Condemnation Notice 004-184C, 2/1/2016

The impairment is considered nested in the neighboring Currioman Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_POO01A08 / Poor Jack Creek / Described in VDH Shellfish Condemnation 004-184C, 2/1/2016	4A	Fecal Coliform	2008	L	0.147

POTMH

Poor Jack Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.147**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-15-SF** **Davis Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082G, 2/1/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Condemnation Notice 004-082G, 2/1/2016

Davis Creek was initially listed in the 2008 cycle as impaired of the Shellfish Consumption Use due to VDH condemnation 004-082D, 1/27/2006. During the 2012 cycle, the condemnation expanded and merged with the Nomini Creek impairment; therefore the segment was a portion of VDH Shellfish Condemnation 004-082D, 1/23/2012. The Nomini Creek condemnation shrank and split in the 2016 cycle; Davis Creek remains condemned.

The impairment is considered nested within the Nomini Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_DAV01A08 / Davis Creek / Described in VDH condemnation 004-082G, 2/1/2016	4A	Fecal Coliform	2008	L	0.026

POTMH

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-16-SF** **Jules Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082C, 2/1/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Condemnation Notice 004-082C, 2/1/2016

The impairment is considered nested within the Nomini Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_JUL01A08 / Jules Creek / Described in VDH Shellfish Condemnation 004-082C, 2/1/2016	4A	Fecal Coliform	2008	L	0.045

POTMH

Jules Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.045**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-17-SF** **Matthews Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082E, 2/1/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Condemnation Notice 004-082E, 2/1/2016

The impairment is considered nested within the Nomini Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_MAT01A08 / Matthews Cove / Described in VDH Shellfish Condemnation 004-082E, 2/1/2016	4A	Fecal Coliform	2008	L	0.019

POTMH

Matthews Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32E-18-SF** **Lower Machodoc Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 005-083A, 7/14/2006 open in 005-083B, 12/28/2007

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 005-083A, 7/14/2016

An upstream portion of Lower Machodoc Creek was assessed in 1998 as impaired of the Shellfish Use due to VDH shellfish condemnation 83B, 5/16/1997. The segment has expanded and contracted several times.

A TMDL was developed based on the 12/28/2007 extent and was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

Condemnation grew in the 2018 cycle and now extends past the TMDL boundary. The expansion is proposed for nesting in the upstream TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_LOW01B18 / Lower Machodoc Creek / Boundary of condemned area 005-083B, 12/28/2007 downstream to limit of 005-083A, 7/14/2016	4A	Fecal Coliform	2018	L	0.626

POTMH

Lower Machodoc Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.626**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* A32E-19-SF** **Barnes Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 082C, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 004-08F, 2/1/2016

Barnes Creek is assessed as impaired of the Shellfish Use. This area was impaired in the 1998 cycle and was addressed in the TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination". This condemnation is classified as Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_BAN02A08 / Barnes Creek / Described in VDH Shellfish Condemnation 082C, 2/10/1997	4A	Fecal Coliform	2008	L	0.057

POTMH

Barnes Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing				
	Fecal Coliform - Total Impaired Size by Water Type:	**0.057**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* A32E-21-SF** **North Prong Buckner Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 004-082A, 2/1/2016 not included in 004-082E, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 004-082A, 2/1/2016

The upper portion of North Prong Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082E, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082A, 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the original upstream impaired area. The upstream portion of the condemnation was classified as Category 4A, however this lower portion was considered Category 5B; the TMDL was due in 2020.

During the 2014 cycle, the impairment was nested in the North Prong Buckner Creek TMDL and is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32E_NOP02A08 / North Prong Buckner Creek / Portion of VDH condemnation 004-082A, 2/1/2016 that was not included in 082E, 2/10/1997	4A	Fecal Coliform	2008	L	0.060

Expanded in the 2018 cycle.

POTMH

North Prong Buckner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.060**		

Sources:

Non-Point Source

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***Cause Group Code:* A32R-01-DO** **Thompson Branch**

Cause Location: Thompson Branch from its headwaters to the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on dissolved oxygen exceedances at Route 626 (1ATHP001.15), as well as DO exceedances at special study stations in the creek (1/1).

During the 2014 cycle, the segment remained impaired with a DO violation rate of 2/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_THP01A06 / Thompson Branch / Headwaters to tidal limit.	5C	Oxygen, Dissolved	2006	L	1.60

Thompson Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.60**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* A32R-01-PH** **Thompson Branch**

Cause Location: Thompson Branch from its headwaters to the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on pH exceedances at Route 626 (1ATHP001.15), as well as pH exceedances at special study stations in the creek (1/1).

During the 2014 cycle, the segment remained impaired with a pH violation rate of 10/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_THP01A06 / Thompson Branch / Headwaters to tidal limit.	5C	pH	2006	L	1.60

Thompson Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.60**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* A32R-02-BAC** **Lee Creek**

Cause Location: Lee Creek from its headwaters to the tidal limit.

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Lee Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 4/13 at 1ALEC001.18, which is located at the Route 675 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_LEC01A10 / Lee Creek / Headwaters to tidal limit.	4A	Escherichia coli	2012	L	1.35

Lee Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.35**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-03-PH** **XLK - Nomini Creek, UT**

Cause Location: The unnamed tributary in its entirety.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2010 cycle, the stream was assessed as not supporting the Aquatic Life Use due to a pH exceedance rate of 2/2 at probabilistic monitoring station 1AXLK000.04.

The impairment was confirmed during the 2016 cycle with an exceedance rate of 2/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_XLK01A10 / Nomini Creek, UT / Headwaters to mouth at Nomini Creek.	5C	pH	2010	L	1.45

XLK - Nomini Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.45**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-04-BAC** **XCJ - Jones Branch, UT**

Cause Location: Tributary XCJ from its headwaters to its mouth at Jones Branch

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the tributary was impaired of the Recreation Use due to an E. coli violation rate of 4/13 at 1AXCJ000.54, which is located at the Route 618 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_XCJ01A10 / XCJ - Jones Branch, UT / Headwaters to mouth at Jones Branch.	4A	Escherichia coli	2012	L	1.02

XCJ - Jones Branch, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.02**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-05-BAC** **Tavern Run**

Cause Location: Tavern Run from its headwaters to the confluence with Newtons Mill Run.

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Tavern Run was impaired of the Recreation Use due to E. coli violations at 1ATAE002.50, which is located at the Route 615 bridge.

Additional monitoring occurred in the 2014 cycle; the impairment was confirmed with exceedance rates of 8/24 at 1ATAE002.50 and 2/12 at 1ATAE003.85.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_TAE01A12 / Tavern Run / Headwaters to Newtons Mill Run	4A	Escherichia coli	2012	L	3.27

Tavern Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.27**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-05-PH** **Tavern Run**

Cause Location: Tavern Run from its headwaters to the confluence with Newtons Mill Run.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Tavern Run was impaired of the Aquatic Life Use due to pH violations at 1ATAE002.50, which is located at the Route 615 bridge.

Additional monitoring occurred in the 2014 cycle; the impairment was confirmed with exceedance rates of 3/24 at 1ATAE002.50 and 3/12 at 1ATAE003.85.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_TAE01A12 / Tavern Run / Headwaters to Newtons Mill Run	5C	pH	2012	L	3.27

Tavern Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-06-BAC** **Nontidal Nomini Creek Tributaries**

Cause Location: Marshall Creek, Buena Vista Branch and Templeman Run.

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, monitoring occurred throughout the upper Nomini Creek watershed. Multiple tributaries indicated E. coli exceedances.

3/12 at 1ABUV000.15
4/12 at 1AMAR000.62
3/12 at 1ATEM003.54

Note: Tavern Run is already listed for bacteria (see A32R-05-BAC).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_BUV01A14 / Buena Vista Branch / Headwaters to mouth	4A	Escherichia coli	2014	L	2.26
VAP-A32R_MAR01A14 / Marshall Creek / Headwaters to mouth at Templeman Run	4A	Escherichia coli	2014	L	2.88
VAP-A32R_TEM01A14 / Templeman Run / Headwaters to tidal limit	4A	Escherichia coli	2014	L	3.99

Nontidal Nomini Creek Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.13**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-06-PH** **Nontidal Nomini Creek Tributaries**

Cause Location: Multiple tributaries throughout the upper Nomini Creek watershed - including Marshall Creek, Buena Vista Branch, Oldham Creek, Newtons Mill Run, Antioch Branch, Templeman Run.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, monitoring occurred throughout the upper Nomini Creek watershed. Multiple tributaries indicated low pH - including Nomini Creek, Marshall Creek, Buena Vista Branch, Oldham Creek, Newtons Mill Run, Antioch Branch, and Templeman Run.

4/5 at 1AANT001.31
3/12 at 1ABUV000.15
2/12 at 1AMAR000.62
2/12 at 1ANET001.77
2/12 at 1AOLD000.70
3/12 at 1ATEM003.54
2/12 at 1ANOM012.38

Note; Nomini Creek, UT (XLK) and Tavern Run were already listed for pH (see A32R-03-PH and A32R-05-PH).

Additional monitoring was conducted during the 2016 cycle at 1ANOM0012.38. The pH exceedance rate was acceptable 2/23 and Nomini Creek was partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_ANT01A14 / Antioch Branch / Headwaters to mouth at Nomini Creek.	5C	pH	2014	L	2.06
VAP-A32R_BUV01A14 / Buena Vista Branch / Headwaters to mouth	5C	pH	2014	L	2.26
VAP-A32R_MAR01A14 / Marshall Creek / Headwaters to mouth at Templeman Run	5C	pH	2014	L	2.88
VAP-A32R_NET01A14 / Newtons Mill Run / Headwaters to mouth at Tavern Run.	5C	pH	2014	L	3.18
VAP-A32R_OLD01A14 / Oldham Creek / Headwaters to mouth at Tavern Run.	5C	pH	2014	L	1.99
VAP-A32R_TEM01A14 / Templeman Run / Headwaters to tidal limit	5C	pH	2014	L	3.99

Nontidal Nomini Creek Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**16.36**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-07-DO** **Marshall Creek**

Cause Location: Marshall Creek from its headwaters to its mouth at Templeman Run.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Marshall Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/12 at 1AMAR000.62, which is located at the Route 600 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_MAR01A14 / Marshall Creek / Headwaters to mouth at Templeman Run	5C	Oxygen, Dissolved	2014	L	2.88

Marshall Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.88**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-08-BAC** **Barnes Creek**

Cause Location: The nontidal portion of Barnes Creek.

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Barnes Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 1ABAN001.34, which is located at Route 649.

It is considered nested within the Barnes Creek TMDL, which was addressed in the report "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination." The TMDL was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_BAN01A14 / Barnes Creek / Headwaters to tidal limit.	4A	Escherichia coli	2014	L	1.94

Barnes Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.94**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-08-DO** **Barnes Creek**

Cause Location: The nontidal portion of Barnes Creek.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Barnes Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/12 at 1ABAN001.34, which is located at Route 649.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_BAN01A14 / Barnes Creek / Headwaters to tidal limit.	5C	Oxygen, Dissolved	2014	L	1.94

Barnes Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.94**

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-08-PH** **Barnes Creek**

Cause Location: The nontidal portion of Barnes Creek.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, Barnes Creek was impaired of the Aquatic Life Use due to a pH exceedance rate of 5/12 at 1ABAN001.34, which is located at Route 649.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_BAN01A14 / Barnes Creek / Headwaters to tidal limit.	5C	pH	2014	L	1.94

Barnes Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.94**

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-09-DO** **Mount Pleasant Creek**

Cause Location: The nontidal portion of Mount Pleasant Creek.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Mount Pleasant Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 1AMBP001.00, which is located at Route 612.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_MPB01A14 / Mount Pleasant Branch / Headwaters to tidal limit.	5C	Oxygen, Dissolved	2014	L	2.26

Mount Pleasant Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.26**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A32R-09-PH** **Mount Pleasant Creek**

Cause Location: The nontidal portion of Mount Pleasant Creek.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, Mount Pleasant Creek was impaired of the Aquatic Life Use due to a pH exceedance rate of 3/11 at 1AMBP001.00, which is located at Route 612.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A32R_MPB01A14 / Mount Pleasant Branch / Headwaters to tidal limit.	5C	pH	2014	L	2.26

Mount Pleasant Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.26**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-01-SF** **Gardner Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143A and -E, 8/4/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Number 006-143A and -E, 8/4/2016

Gardner Creek was included on the 1998 303(d) list due to VDH condemnation 143, 6/26/1996. The Shellfish Bacterial TMDL for Gardner Creek was developed during the 2010 cycle. The TMDL addressed the maximum extent of the condemnation, which occurred in condemnation 006-143A, 5/5/2005.

The condemnation has expanded and contracted several times. During the 2014 cycle, the condemnation shrank again. The open area was partially delisted (0.0522 mi2) and is considered Category 2C.

Condemnation shrank further in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_GAD01A98 / Gardner Creek / Described in condemnations 006-143A and -E, 8/4/2016.	4A	Fecal Coliform	1998	L	0.008

Size reduced in the 2018 cycle.

POTMH

Gardner Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.008**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-02-BAC** **Jackson Creek**

Cause Location: Tidal portion of Jackson Creek

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, the segment was impaired of the Recreation Use due to an enterococci violation rate of 2/12 at 1AXDW000.08, which is located at the end of Rt. 661.

The area is within the study area for the Jackson Creek Shellfish TMDL, which was approved by the EPA on 7/15/2009 and by the SWCB on 11/14/2009; therefore, the segment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_JCK01A98 / Jackson Creek / Described in VDH condemnation notice 006-143B and -D, 8/4/2016	4A	Enterococcus	2012	L	0.096
Segment split in the 2018 cycle.					
POTMH					
VAP-A33E_JCK01B18 / Jackson Creek / Portion of VDH condemnation notice 006-143B, 5/5/2005 seasonally condemned in 006-143S2, 8/4/2016	4A	Enterococcus	2012	L	0.042
POTMH					

Jackson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.137**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-02-SF** **Jackson Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143B, 5/30/2012

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 006-143B and -D, 8/4/2016

The Shellfish Bacterial TMDL for Jackson Creek was approved by the EPA on 7/15/2009. The TMDL addressed the maximum extent of the condemnation, which occurred in condemnation 006-143B, 5/5/2005.

The condemnation has expanded and contracted several times.

The condemnation shrank in the 2018 cycle and the downstream portion was partially delisted (Category 2C).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_JCK01A98 / Jackson Creek / Described in VDH condemnation notice 006-143B and -D, 8/4/2016	4A	Fecal Coliform	1998	L	0.096

Segment split in the 2018 cycle.

POTMH

Jackson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.096**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-03-BAC** **Bonum Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143C, 8/4/2016

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Bonum Creek was impaired of the Recreation Use due to an enterococci violation rate of 4/12 at 1ABOM000.46, which is located at the end of Rt. 763.

The Bonum Creek Shellfish TMDL was approved by the EPA on 7/15/2009. As this bacterial impairment is located within the study area for the completed TMDL, the Recreation Use is considered nested (Category 4A.)

The impairment was adjusted slightly in the 2018 cycle to remain coincident with the shellfish condemnation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_BOM01A98 / Bonum Creek / Described in the condemnation notice 006-143C, 8/4/2016.	4A	Enterococcus	2012	L	0.180

Shortened in the 2018 cycle.

POTMH

Bonum Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.180**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-03-SF** **Bonum Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143C, 8/4/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 006-143C, 8/6/2016

Bonum Creek was included on the 1998 303(d) list due to VDH Condemnation 159, 4/27/1989. The Shellfish Bacterial TMDL for Bonum Creek was approved by the EPA on 7/15/2009 and by the SWCB on 11/14/2009. The TMDL addressed the maximum extent of the condemnation, which occurred in condemnation 006-143C, 5/5/2005. The upstream portion of this area remained impaired in the 2010 condemnation (006-143C, 5/19/2008); however, the downstream portion was opened for harvest and was partially delisted and considered Category 2C.

The condemnation shrank further in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_BOM01A98 / Bonum Creek / Described in the condemnation notice 006-143C, 8/4/2016.	4A	Fecal Coliform	1998	L	0.180

Shortened in the 2018 cycle.

POTMH

Bonum Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.180**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-04-BAC** **Lodge Creek**

Cause Location: Lodge Creek from its tidal limit to the downstream extent of VDH-DSS condemnation 007-028F, 5/12/1997

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

Lodge Creek from its tidal limit downstream to the end of VDH-DSS condemnation 007-028F, 7/21/2004 has been assessed as not supporting the Recreation Use due to enterococci exceedances at 1ALOG001.20, which is located at the end of Route 712. The segment was expanded during the 2008 cycle to align the boundary with the 5/12/1997 impairment. During the 2018 cycle, the violation rate was 5/36.

The bacteria TMDL for shellfish impairments in the Yeocomico River watershed was approved by the EPA on 6/8/2006. Section 028F was addressed in the report. However, the Recreation Use impairment cannot be nested because the Callao WWTP was not addressed in the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_LOG01A98 / Lodge Creek / Described in the condemnation notice 007-225C, 9/26/2016.	5A	Enterococcus	2006	L	0.030
POTMH					
VAP-A33E_LOG02A98 / Lodge Creek / Portion of condemnation notice 007-225A, 9/26/2016 that is not administratively condemned.	5A	Enterococcus	2006	L	0.138
Shrank in the 2018 cycle.					
POTMH					
VAP-A33E_LOG02B10 / Lodge Creek / Portion of condemnation notice 007-225A, 9/26/2016 that is administratively condemned.	5A	Enterococcus	2006	L	0.074
POTMH					
VAP-A33E_LOG02C12 / Lodge Creek / Portion of condemnation notice 007-028F, 5/12/1997 that is within 007-225M2, 9/26/2016.	5A	Enterococcus	2006	L	0.058
Expanded in the 2018 cycle.					
POTMH					

Lodge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.301**		

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-05-SF** **White Point Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 007-028C, 9/26/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 007-028C, 9/26/2016

White Point Creek was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028B, 5/12/1997 (A33E-05-SF). The condemnation grew during the 2008 cycle (007-028B, 12/12/2006); however, only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by the EPA on 6/8/2006.

However, during the 2012 cycle, the entire segment was open for harvest on the 11/1/2010 condemnation; therefore the segment was delisted.

A portion of the area closed again in the 2018 cycle. The open portion remains Category 2C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_WHP01A98 / White Point Creek / Described in the condemnation notice 007-028C, 9/28/2016	4A	Fecal Coliform	2018	L	0.044

POTMH

White Point Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.044**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-07-BAC** **Hampton Hall Branch**

Cause Location: Tidal Hampton Hall Branch

City / County: Northumberland Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Hampton Hall Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 3/11 at 1AHAM001.92, which is located at Route 202.

The area is within the study area for the Yeocomico River Watershed TMDL report, which was approved by the EPA on 6/8/2006; therefore, the segment is considered nested (Category 4A).

The exceedance rate was 2/11 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_HAM01A02 / Hampton Hall Branch / Tidal Hampton Hall Branch	4A	Enterococcus	2012	L	0.274

POTMH

Hampton Hall Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.274**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-07-SF** **Hampton Hall Branch, Kinsale Branch**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations 007-028B, 8/7/2014

City / County: Northumberland Co. Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 007-028B, 9/26/2016

The West Yeocomico River (including Hampton Hall Branch and Kinsale Branch) was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028C, 5/12/1997. The original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by the EPA on 6/8/2006. This portion was considered as Category 4A.

The segment shortened dramatically during the 2012 cycle and split into two separate condemnations - Kinsale Branch and Hampton Hall Creek. These areas remained Category 4A. The remainder of the 1998 extent was partially delisted (Category 2C).

The condemnation extended to the TMDL extent in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_HAM01A02 / Hampton Hall Branch / Tidal Hampton Hall Branch POTMH	4A	Fecal Coliform	1998	L	0.274
VAP-A33E_KIN01A12 / Kinsale Branch / Tidal limit to mouth POTMH	4A	Fecal Coliform	1998	L	0.108
VAP-A33E_WES01B12 / West Yeocomico River / Portion of the West Yeocomico River mainstem within condemnation notice 007-028C, 5/12/1997 POTMH	4A	Fecal Coliform	2016	L	0.052

Hampton Hall Branch, Kinsale Branch **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.434**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-08-EBEN** **West Yeocomico River**

Cause Location: Downstream portion of West Yeocomico River mainstem (below condemnations)

City / County: Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The lower West Yeocomico River was impaired of the Aquatic Life Use in the 2018 cycle due to an altered benthic community at Coastal 2000 station 1AWES000.78 in 2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_WES02A06 / West Yeocomico River / Downstream of condemnations	5A	Estuarine Bioassessments	2018	L	0.394

POTMH

West Yeocomico River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.394**		

Sources:

Contaminated Sediments Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-09-SF** **Mill Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 007-225B, 9/26/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 007-225B, 9/26/2016

The upper part of Mill Creek was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028E, 5/12/1997. The impairment was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by the EPA on 6/8/2006. This original segment is considered Category 4A.

The Mill Creek condemnation is now smaller than the 1998 area. The upstream portion remains impaired (Category 4A); the lower portion was considered a partial delist (Category 2C.) The condemnation has vacillated in size slightly over numerous cycles.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_MIA01A98 / Mill Creek / Described in the condemnation notice 007-225B, 9/26/2016	4A	Fecal Coliform	1998	L	0.149

Expanded in the 2018 cycle.

POTMH

Mill Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.149**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-10-SF** **Lodge Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnations 028A and -G, 10/30/2012 which are not administratively or seasonally condemned

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 007-225A, 9/26/2016

A portion of Lodge Creek was assessed as impaired of the Shellfish Use in 1998 due to VDH condemnation 028F, 5/12/1997. It was subsequently addressed in the bacteria TMDL for shellfish impairments in the Yeocomico River Watershed, which was approved by the EPA on 6/8/2006.

However, during the 2010 cycle, it was determined that the upper portion of the condemnation (007-028E, 11/10/2008) is an administrative closure. Therefore the use was considered removed and the upper portion was partially delisted. The downstream portion remains impaired and is considered Category 4A.

During the 2012 cycle, the condemnation shrank and the downstream-most portion was converted to seasonally condemned; therefore, it was partially delisted.

The condemnation shrank again during the 2018 cycle (Category 2C).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_LOG02A98 / Lodge Creek / Portion of condemnation notice 007-225A, 9/26/2016 that is not administratively condemned.	4A	Fecal Coliform	1998	L	0.138

Shrank in the 2018 cycle.

POTMH

Lodge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.138**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33E-12-SF** **Shannon Branch**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 007-028A, 9/26/2016

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 007-028A, 9/26/2016

The Shellfish Use impairment is considered nested within the neighboring White Point Creek Shellfish TMDL. The TMDL was included in the Yeocomico River Watershed Shellfish TMDL Report, which was approved by the EPA on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33E_SHA01A98 / Shannon Branch / Described in the condemnation notice 007-028A, 9/26/2016.	4A	Fecal Coliform	2006	L	0.036

POTMH

Shannon Branch **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.036**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33L-01-DO** **Hampton Hall, Gardy Millpond**

Cause Location: Hampton Hall, Gardy Millpond

City / County: Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle an error was discovered from the 2014 cycle. The temperature impairment from 2014 cycle was actually a DO impairment. the violation rate for the DO impairment was 13/69 at station 1AHAM003.08. No new data has been collected since the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33L_HAM01A12 / Hampton Hall, Gardy Millpond / From the confluence of Hampton Hall Branch to Rt. 617	5C	Oxygen, Dissolved	2016	L	45.86

Hampton Hall, Gardy Millpond **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**45.86**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-01-BAC** **Mill Creek**

Cause Location: From its headwaters to the tidal limit.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2002 cycle, Mill Creek was assessed not supporting of the Recreation Use goal based on fecal coliform exceedances at Route 202 (1AMIA004.12).

During the 2010 cycle, the E. coli violation rate at 1AMIA004.12 was 1/6 (insufficient information for assessment). However, there was additional monitoring downstream at 1AMIA002.34 which showed impairment (2/6). The segment remained listed and was extended downstream to the tidal limit; the impairment converted to E. coli.

In the 2018 cycle, the E. coli exceedance rates were 3/12 at 1AMIA002.34 and 6/24 at 1AMIA004.12.

The Bacteria TMDL for (non-tidal) Mill Creek was approved by the EPA on 7/30/2010 and by the SWCB on 12/13/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_MIA01A00 / Mill Creek / From its headwaters to the tidal limit	4A	Escherichia coli	2010	L	5.00

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.00**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-02-BAC** **Lodge Creek**

Cause Location: The free flowing portion of Lodge Creek.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, Lodge Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/21 at 1ALOG003.30, which is located at the Route 360 bridge. Monitoring at station 1ALOG003.45 was acceptable (0/3).

Additional monitoring was conducted in the 2018 cycle at 1ALOG003.45; the exceedance rate was 5/21.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_LOG01A04 / Lodge Creek / Headwaters to tidal limit	5A	Escherichia coli	2014	L	3.44

Lodge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.44**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-02-DO** **Lodge Creek**

Cause Location: The free flowing portion of Lodge Creek.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Lodge Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1ALOG003.30, which is located at the Route 360 bridge. The exceedance rate was 6/21 during the 2018 cycle. Monitoring at station 1ALOG003.45 was acceptable (0/3).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_LOG01A04 / Lodge Creek / Headwaters to tidal limit	5C	Oxygen, Dissolved	2010	L	3.44

Lodge Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.44**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-03-BAC** **Gardner Creek**

Cause Location: The free flowing portion of Gardner Creek.

City / County: Northumberland Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the segment was considered impaired of the Recreation Use due to an E. coli violation rate of 2/11 at 1AGAD001.73. Note: the violation rate was 0/8 at 1GAD002.54; therefore, additional sampling may be warranted.

The bacterial TMDL for the shellfish impairment on tidal Gardner Creek was approved by the EPA on 7/15/2009 and by the SWCB on 11/14/2009. Because the riverine bacterial impairment is located within the TMDL study watershed, the impairment is considered Nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_GAD01A10 / Gardner Creek / Headwaters to tidal limit	4A	Escherichia coli	2012	L	1.40

Gardner Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.40**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-03-DO** **Gardner Creek**

Cause Location: The free flowing portion of Gardner Creek.

City / County: Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Gardner Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1AGAD001.73, which is located at 3352 Coles Point Road. During the 2012 cycle, the violation rate was 4/11 at 1AGAD001.73.

Additional monitoring was conducted in the 2016 cycle at 1AGAD002.54; the dissolved oxygen exceedance rate was 3/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_GAD01A10 / Gardner Creek / Headwaters to tidal limit	5C	Oxygen, Dissolved	2010	L	1.40

Gardner Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.40**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-03-PH** **Gardner Creek**

Cause Location: The free flowing portion of Gardner Creek.

City / County: Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2010 cycle, Gardner Creek was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 5/5 at 1AGAD001.73, which is located at 3352 Coles Point Road as well as a pH violation rate of 1/1 at 1AGAD002.54, which is located at the Route 612 bridge.

During the 2012 cycle, the violation rates increased to 11/11 and 7/7, respectively.

Additional monitoring was conducted in the 2016 cycle at 1AGAD002.54; the pH exceedance rate was 11/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_GAD01A10 / Gardner Creek / Headwaters to tidal limit	5C	pH	2010	L	1.40

Gardner Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.40**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-04-PH** **XMB - Hampton Hall Creek, UT**

Cause Location: Headwaters to the backwater of Gardys Millpond.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, UT XMB was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 1AXMB000.88, which is located at Route 618.

The exceedance rate decreased to 3/24 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_XMB01A14 / XMB - Hampton Hall Branch, UT / Headwaters to backwater of Gardys Millpond	5C	pH	2014	L	3.48

XMB - Hampton Hall Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.48**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-05-DO** **XLZ - Hampton Hall Creek, UT**

Cause Location: Headwaters to the backwater of Gardys Millpond.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2018 cycle, UT XLZ was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/24 at 1AXLZ002.04, which is located at Route 601.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_XLZ01A14 / XLZ - Hampton Hall Branch, UT / Headwaters to backwater of Gardys Millpond.	5C	Oxygen, Dissolved	2018	L	3.13

XLZ - Hampton Hall Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.13**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-05-PH** **XLZ - Hampton Hall Creek, UT**

Cause Location: Headwaters to the backwater of Gardys Millpond.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, UT XLZ was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 1AXLZ002.04, which is located at Route 601.

The exceedance rate decreased to 3/24 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_XLZ01A14 / XLZ - Hampton Hall Branch, UT / Headwaters to backwater of Gardys Millpond.	5C	pH	2014	L	3.13

XLZ - Hampton Hall Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.13**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-06-BAC** **XMA - Hampton Hall Creek, UT**

Cause Location: Headwaters to the mouth at XLZ.

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, UT XMA was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 1AXMA000.12, which is located at Route 601.

The impairment is considered nested within the Hampton Hall Branch Shellfish TMDL, which was developed as part of the Yeocomico River Watershed TMDL report. The report was approved by the EPA on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_XMA01A14 / XMA - Hampton Hall Branch, UT / Headwaters to mouth at XLZ.	4A	Escherichia coli	2014	L	2.07

XMA - Hampton Hall Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.07**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A33R-07-BAC** **XMC - Lodge Creek, UT**

Cause Location: Headwaters to mouth at Lodge Creek.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, UT XMC was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/12 at 1AXMC000.92, which is located at the Route 768 bridge.

The impairment is proposed for nesting in the downstream Yeocomico River Watershed Shellfish TMDL, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A33R_XMC01A14 / XMC - Lodge Creek, UT / Headwaters to mouth at Lodge Creek.	4A	Escherichia coli	2014	L	1.69

XMC - Lodge Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.69**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-01-SF** **The Glebe**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 145D, 2/25/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 008-213B, 3/5/2015

A 0.13 portion of Glebe Creek was initially assessed as impaired of the Shellfish Use due to VDH-DSS Condemnation Notice 145D, 2/25/1997.

In the 2004 cycle, the segment was extended; however, the 12/18/2003 TMDL was only performed on the 1998 portion. The original impairment is classified as Cat. 4A (TMDL completed).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_GLE01A98 / The Glebe / Described in the condemnation notice 145D, 2/25/1997.	4A	Fecal Coliform	1998	L	0.132

POTMH

The Glebe **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.132**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-01-SF2 The Glebe**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 008-213B, 3/5/2015 not included in the 1997 impairment

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation 008-213B, 3/5/2015

A 0.13 portion of Glebe Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to VDH-DSS Condemnation Notice 145D, 2/25/1997. In the 2004 cycle, the segment was extended to match condemnation 145C, 11/27/2002. However, the TMDL was only performed on the 1998 portion.

The impairment is nested within the Glebe Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_GLE01A04 / The Glebe / Portion of VDH-DSS notice 008-213B, 3/5/2015 open on 145D, 2/25/1997	4A	Fecal Coliform	2004	L	0.045

POTMH

The Glebe	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.045**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-02-SF** **Killneck Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 008-214A, 2/19/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 008-214A, 2/19/2016

Killneck Creek was assessed as not supporting of the Shellfish Consumption Use during the 1998 cycle due to VDH-DSS condemnation 145E, 2/25/1997. The shellfish condemnation for this segment was addressed in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004. During the 2012 cycle, the condemnation was rescinded and the entire segment was delisted.

The condemnation was re-closed during the 2014 cycle. The impairment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_KNC01A98 / Killneck Creek / Described in the condemnation notice 008-214A, 2/19/2016.	4A	Fecal Coliform	2014	L	0.027

POTMH

Killneck Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.027**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-04-SF** **XFJ - Coan River, UT (Cellars Cove)**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 008-214C, 2/19/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 008-214C, 2/19/2016

A portion of the tributary was listed in the 1998 cycle due to condemnation 145G, 2/25/1997. The shellfish condemnation for this segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004. The condemnation size has been adjusted through several cycles; however, during the 2012 cycle the condemnation shrunk and currently matches the 1998 impairment. It is considered Category 4A.

Note: Although the 1998 portion of the tributary is shown on the TMDL map, the TMDL used station 8-33 which is near the mouth of the creek instead of station 8-34, which was located within the 1998 impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_XFJ01A98 / XFJ - Coan River, UT (Cellars Cove) / Described in the condemnation notice 008-214C, 2/19/2016.	4A	Fecal Coliform	1998	L	0.032

POTMH

XFJ - Coan River, UT (Cellars Cove)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.032**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-05-BAC** **Coan River**

Cause Location: Coan River mainstem within VDH Shellfish Condemnation Number 145I, 2/25/1997

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, the uppermost portion of the Coan River was assessed as impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 1ACOA004.12, which is located at a private dock at the end of Route 629. As the impairment is located within the study area for the Shellfish bacterial TMDL for the Coan River which was approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004, the impairment is considered nested (Category 4A).

A portion of nontidal Coan Mill Stream was impaired of the Recreation Use since the 2002 cycle based on E. coli exceedances at 1ACON000.96 (old fact sheet A34R-01-BAC). In the 2014 cycle, it was determined that this station is actually tidally influenced. The impairment is now a part of A34E-05-BAC. The enterococci exceedance rate was 12/24 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_COA01A98 / Coan River / Described in the VDH-DSS Condemnation Notice 008-214B, 2/19/2016, excluding Mill Creek. POTMH	4A	Enterococcus	2012	L	0.330
VAP-A34E_COA01B16 / Coan River / Portion of VDH-DSS Condemnation Notice 145I, 2/25/1997 open in 008-214, 2/19/2016. POTMH	4A	Enterococcus	2012	L	0.028

Coan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.358**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-05-SF** **Headly Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 145H, 2/25/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 008-214E, 2/19/2016

Headly Cove was assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145I, 2/25/1997. The impairment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004. The segment is classified as Category 4A for shellfish consumption.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_HEA01A98 / Headly Cove / Described in the VDH-DSS Condemnation Notice 008-214D, 2/19/2016	4A	Fecal Coliform	1998	L	0.026

POTMH

Headly Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-05-SF2** **Mill Creek and the Coan River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 145I, 2/25/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 008-214B, 2/19/2016

Mill Creek and the upstream most portion of the Coan River were assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145I, 2/25/1997. The impairment has expanded in several assessment cycles. However only the original segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004.

During the 2016 cycle, the condemnation shrank significantly and is now smaller than the TMDL extent. The condemned segment is classified as Category 4A; the newly opened portion was partially delisted (Cat 2C).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_COA01A98 / Coan River / Described in the VDH-DSS Condemnation Notice 008-214B, 2/19/2016, excluding Mill Creek.	4A	Fecal Coliform	1998	L	0.330
POTMH					
VAP-A34E_MII01A06 / Mill Creek / Tidal limit to mouth at Coan River	4A	Fecal Coliform	1998	L	0.104
POTMH					

Mill Creek and the Coan River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.434**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-07-SF** **Cod Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-141A, 3/26/2014

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 009-141A, 3/26/2014

Cod Creek was included on the 1998 303(d) list due to VDH Condemnation 141A, 1/31/1997. The Shellfish TMDL for Cod Creek was developed during the 2010 cycle based on the maximum extent of the impairment (1/31/1997). The TMDL was approved by the EPA on 11/16/2009; therefore, Cod Creek will be considered Category 4A.

The condemnation shrank slightly during the 2014 cycle and the lower portion was partially delisted (Category 2C).

The condemnation shrank again in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_COC01A98 / Cod Creek / Described in the condemnation notice 009-141A, 3/26/2014.	4A	Fecal Coliform	1998	L	0.049

POTMH

Cod Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-08-SF** **Cod Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-141B, 3/26/2014

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 009-141B, 3/26/2014

Cod Creek was included on the 1998 303(d) list due to VDH condemnation 141B, 1/31/1997. The Shellfish TMDL for Cod Creek was developed during the 2010 cycle based on the maximum extent of the impairment (1/31/1997). The TMDL was approved by the EPA on 11/16/2009; therefore, Cod Creek is considered Category 4A.

The condemnation shrank slightly during the 2014 cycle and the lower portion was partially delisted (Category 2C).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_COC01B02 / Cod Creek, UT / Described in the condemnation notice 009-141B, 3/26/2014	4A	Fecal Coliform	1998	L	0.054

POTMH

Cod Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.054**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-09-BAC** **Presley Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-141C, 3/26/2014

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Presley Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 1APRE001.58, which is located off Rt. 629. The area is within the study area for the Presley Creek Shellfish TMDL, which was approved by the EPA on 11/16/2009; therefore, it is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_PRE01A98 / Presley Creek / Described in the condemnation notice 009-141C, 3/26/2014.	4A	Enterococcus	2012	L	0.332

POTMH

Presley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.332**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-09-SF** **Presley Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-141C, 3/26/2014

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 009-141C, 3/26/2014

Presley Creek was included on the 1998 303(d) list due to VDH condemnation 140, 4/27/1989. The Shellfish TMDL for Presley Creek was developed during the 2010 cycle based on the maximum extent of the impairment (009-141C, 3/30/2009). The TMDL was approved by the EPA on 11/16/2009; therefore, Presley Creek is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_PRE01A98 / Presley Creek / Described in the condemnation notice 009-141C, 3/26/2014.	4A	Fecal Coliform	1998	L	0.332

POTMH

Presley Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.332**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-12-SF** **Hull Creek and Spring Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-142A, -B, and -E, 4/12/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnations 009-142A, -B, and -E, 4/12/2016

A portion of Hull Creek was listed as impaired of the Shellfish Use in the 1998 cycle because of VDH-DSS Shellfish Condemnation 142A, 1/31/1997.

The Shellfish TMDL for Hull Creek was developed during the 2010 cycle based on the maximum extent of the impairment (8/21/2000). The TMDL was approved by the EPA on 11/16/2009; therefore, Hull Creek is considered Category 4A.

The condemnation subsequently shrank and split segments. Closed segments remain Category 4A; the remainder (including Spring Cove) was partially delisted (Category 2C).

The condemnation grew slightly in the 2018 cycle and Spring Cove was relisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_HUL01A02 / Hull Creek and Floyd Cove / Described in VDH condemnations 009-142A and -E, 4/12/2016, excluding Spring Cove. Expanded slightly in the 2018 cycle.. POTMH	4A	Fecal Coliform	1998	L	0.252
VAP-A34E_HUL01C12 / Fleets Cove (Hull Creek, UT) / Described in VDH condemnation 009-142B, 4/12/2016 POTMH	4A	Fecal Coliform	1998	L	0.024
VAP-A34E_SPN01A04 / Spring Cove / Tidal limit to mouth at Hull Creek POTMH	4A	Fecal Coliform	2018	L	0.010

Hull Creek and Spring Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.285**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-13-SF** **Rogers Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 142C, 4/12/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 009-142C, 4/12/2016

Rogers Creek was included on the 1998 303(d) list due to VDH condemnation 142B, 1/31/1997. The Shellfish TMDL for Rogers Creek was developed during the 2010 cycle based on the maximum extent of the impairment (3/17/2008). The TMDL was approved by the EPA on 11/16/2009.

During the 2016 cycle, the Rogers Creek condemnation shrank. The upstream portion remains impaired (Category 4A); the downstream portion was partially delisted (Category 2C.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_ROG01A98 / Rogers Creek / Described in the condemnation notice 009-142C, 4/12/2016.	4A	Fecal Coliform	1998	L	0.035

POTMH

Rogers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.035**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-14-SF** **Cubitt Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-161A, 3/26/2014

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 009-161A, 3/26/2014

Cubitt Creek was impaired during the 1998 cycle due to VDH-DSS Shellfish Condemnation 168, 4/27/1989. The Shellfish TMDL for Cubitt Creek was developed during the 2010 cycle based on the maximum extent of the impairment (5/30/1986). The TMDL was approved by the EPA on 11/16/2009; therefore, the creek is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_CUT01A98 / Cubitt Creek / Described in the condemnation notice 009-161A, 3/26/2014	4A	Fecal Coliform	1998	L	0.225

POTMH

Cubitt Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.225**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-15-SF** **Cod Creek, Tributary to Little Wicomico River**

Cause Location: Described in VDH condemnation 105A, 6/10/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 010-105G, 6/14/2016

Cod Creek was assessed as impaired during the 1998 cycle because of VDH-DSS Shellfish Condemnation 105B, 6/10/1997. The TMDL was adopted by the EPA on 12/18/2003 and the SWCB on 12/2/2004. The impairment shortened during the 2012 cycle and a portion of the impairment was partially delisted.

The impairment expanded in the 2014 and 2016 cycles (see fact sheet A34E-11-SF). It shrunk back to the TMDL extent in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_COO01A98 / Cod Creek, Trib to Little Wicomico / Described in VDH condemnation notice 105A, 06/10/1997	4A	Fecal Coliform	1998	L	0.078

CB5MH

Cod Creek, Tributary to Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.078**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-16-SF** **Little Wicomico River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 105B, 6/10/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 010-105A, 6/14/2016

This segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997.

During the 2004 cycle, the segment expanded. However, the 2003 TMDL only covered the original 1998 impaired section, which is classified as Cat. 4A. The TMDL for the expansion is due in 2016 (see fact sheet A34E-06-SF2).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_LIS01A98 / Little Wicomico River / Described in the VDH-DSS Condemnation Notice 105B, 6/10/1997	4A	Fecal Coliform	1998	L	0.203

CB5MH

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.203**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-16-SF2** **Little Wicomico River**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 010-105A, 6/9/2014 not listed in 1998 as well as Sections 010-150C and 010-105E

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 010-105A, 6/14/2016
VDH-DSS Condemnations 010-105C and -105E, 6/14/2016

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997. During the 2004 cycle, the segment expanded and has subsequently expanded and contracted during various assessment cycles. However, the 2003 TMDL only covered the original 1998 impaired section, which is classified as Cat. 4A. The TMDL for the expansion is due in 2016.

During the 2016 cycle, condemnation 010-105A, 6/9/2014 expanded considerably and several impairments were merged (A34E-16-SF2 and A34E-30-SF). The impairment is considered nested within the upstream Little Wicomico River Shellfish TMDL, which was approved by the EPA on 12/18/2003.

The condemnation shortened and split in the 2018 cycle; in addition, a seasonally condemned portion (010-105M4) was split off and partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_LIS01A02 / Little Wicomico River / Portion of VDH-DSS Condemnation 010-105A, 6/14/2016 open on 6/10/1997 as well as sections 010-105E and -105C.	4A	Fecal Coliform	2004	L	0.179

Segment shortened and split in the 2018 cycle.

CB5MH

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.179**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-17-SF** **Bridge Creek**

Cause Location: VDH condemnation 010-105B and portion of 010-105D, 6/14/2016 open in the 1998 cycle

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 010-105B and portion of 010-105D, 6/14/2016

A small portion of the segment was listed in the 2006 cycle due to condemnation 010-105C, 9/15/2004. The segment expanded and merged with another condemnation during the 2008 cycle. Although the other condemnation was listed in 1998 and was later addressed in the Shellfish TMDL approved by the EPA on 12/18/03, this AU represents the portion of the condemnation which was not included in the 2003 TMDL.

The impairment is considered nested within the Bridge Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_BRI01C98 / Bridge Creek / VDH condemnation 010-105B and portion of 010-105D, 6/14/2016 not otherwise segmented.	4A	Fecal Coliform	2006	L	0.129

CB5MH

Bridge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.129**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-18-SF** **Bridge Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 180, 6/10/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation Notice 010-105D, 6/14/2016

Bridge Creek was impaired of the Shellfish Consumption Use during the 1998 cycle due to VDH-DSS condemnation 180, 6/10/1997. The segment was delisted in 2004 because the area was reopened for harvest, but was closed again in the 2006 cycle.

The segment received a fecal coliform allocation in the "Little Wicomico River Watershed TMDL for Three Shellfish Areas Listed Due to Bacteria Contamination" report which was approved by the EPA on 12/18/2003; therefore, it is considered Cat. 4A for shellfish consumption.

Although the segment expanded and merged during the 2008 cycle, this AU represents only the portion of the condemnation which was included in the 2003 TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_BRI02C98 / Bridge Creek / Described in the condemnation notice 010-105D, 9/15/2004	4A	Fecal Coliform	2006	L	0.089

CB5MH

Bridge Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.089**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-21-SF** **Kingscote Creek**

Cause Location: Described in VDH-DSS condemnation 008-213A, 3/5/2015

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 008-213A, 3/5/2015

The Shellfish Use impairment is considered nested within the nearby Killneck Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_KIN04A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213A, 3/5/2015	4A	Fecal Coliform	2006	L	0.009

POTMH

Kingscote Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-24-BAC** **Spring Cove**

Cause Location: Tidal Spring Cove

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2010 cycle, Spring Cove was assessed as not supporting of the Recreation Use due to enterococci exceedances at 1ASPN000.08, which is located at the boat ramp off of Route 629.

Because the area is within the study area for the Hull Creek Shellfish TMDL which was approved by the EPA on 11/16/2009, the Recreation impairment is considered nested (Category 4A.) The exceedance rate was 6/26 during the 2012 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_SPN01A04 / Spring Cove / Tidal limit to mouth at Hull Creek	4A	Enterococcus	2010	L	0.010

POTMH

Spring Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.010**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-31-BAC** **Little Wicomico River**

Cause Location: Tidal extent to boundary of VDH Notice and Description of Shellfish Condemnation 105A, -105C, and -105E, 6/14/2016

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

In the 2006 cycle, the upper tidal portion of the Little Wicomico River was considered impaired of the Recreation Use due to enterococci exceedances at 1ALIS004.20, which is located off the mouth of Spences Creek. The enterococci violation rate was 4/26 during the 2012 cycle.

The impairment is considered nested because it is located within the tidal excursion of the upstream Little Wicomico River Shellfish TMDL. The TMDL was approved on 12/18/2003.

It was shortened in the 2018 cycle to remain coincident with the shellfish closure since that limit is more stringent.

Additional monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_LIS01A02 / Little Wicomico River / Portion of VDH-DSS Condemnation 010-105A, 6/14/2016 open on 6/10/1997 as well as sections 010-105E and -105C. Segment shortened and split in the 2018 cycle. CB5MH	4A	Enterococcus	2006	L	0.179
VAP-A34E_LIS01A98 / Little Wicomico River / Described in the VDH-DSS Condemnation Notice 105B, 6/10/1997 CB5MH	4A	Enterococcus	2006	L	0.203
VAP-A34E_LIS01C18 / Little Wicomico River / Described in VDH-DSS Condemnation 010-105M4. CB5MH	4A	Enterococcus	2006	L	0.016

Little Wicomico River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.397**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-34-SF** **Back Creek**

Cause Location: VDH Notice and Description of Shellfish Condemnation 010-105F, 6/14/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH condemnation 010-105F, 6/14/2016

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997. During several cycles, the segment expanded. However, the 2003 TMDL only covered the original 1998 impaired section, which will be classified as Cat. 4A. This impairment addresses only the 2008 expansion. The TMDL for this downstream-most segment was due in 2020.

During the 2014 cycle, Back Creek was nested in the Cod Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_BAC01A12 / Back Creek / Described in VDH SFC 010-105F, 6/14/2016.	4A	Fecal Coliform	2008	L	0.038

CB5MH

Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.038**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-35-SF** **Little Wicomico River, UT**

Cause Location: VDH Notice and Description of Shellfish Condemnation 010-105H, 6/14/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 010-105H, 614/2016

The impairment is considered nested in the nearby Bridge Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_LIS04B12 / Little Wicomico River, UT / Described in VDH condemnation 010-105H, 6/14/2016.	4A	Fecal Coliform	2012	L	0.024

CB5MH

Little Wicomico River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.024**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-36-BAC** **Hack Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-161B, 3/26/2014

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Hack Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 2/11 at 1AHAC000.96, which is located off of Route 644.

The Shellfish TMDL for Hack Creek was developed based on the maximum extent of the impairment (009-161B, 3/14/2007) and was approved by the EPA on 11/16/2009. Because the impairment is within the TMDL study area, the Recreation Use is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_HAC01A00 / Hack Creek / Tidal limit to mouth at Potomac River.	4A	Enterococcus	2012	L	0.224

POTMH

Hack Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.224**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34E-36-SF** **Hack Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-161B, 3/26/2014

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 009-161B, 3/26/2014

Hack Creek was designated as a non-productive shellfish growing area by VDH-DSS in previous summaries, so the use had been considered removed. However, during the 2008 cycle, it was determined that VDH considers the water condemned; therefore, Hack Creek was assessed as impaired (161, 4/27/1989.)

The Shellfish TMDL for Hack Creek was developed based on the maximum extent of the impairment (009-161B, 3/14/2007). The TMDL was approved by the EPA on 11/16/2009; therefore, the creek is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_HAC01A00 / Hack Creek / Tidal limit to mouth at Potomac River.	4A	Fecal Coliform	2008	L	0.224

POTMH

Hack Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.224**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34R-02-BAC** **Little Wicomico River**

Cause Location: The nontidal portion of Little Wicomico River.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The nontidal portion of the Little Wicomico River was impaired of the Recreation Use in the 2018 cycle due to an E. coli exceedance rate of 4/13 at 1ALIS007.20.

The segment is within the TMDL study area for the Little Wicomico River Watershed Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004. It will be considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34R_LIS01A06 / Little Wicomico River / Headwaters to tidal limit	4A	Escherichia coli	2018	L	2.33

Little Wicomico River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.33**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34R-02-PH** **Little Wicomico River**

Cause Location: The nontidal portion of Little Wicomico River.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The nontidal portion of Little Wicomico River was initially considered not supporting the Aquatic Life Use during the 2006 cycle due to a pH exceedance rate of 2/11 at 1ALIS007.20, located at the Route 646 bridge.

During the 2008 cycle, the exceedance rate increased to 3/13.

The exceedance rate was 3/10 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34R_LIS01A06 / Little Wicomico River / Headwaters to tidal limit	5C	pH	2006	L	2.33

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.33**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34R-03-DO** **XLL - Coan Mill Stream, UT**

Cause Location: The unnamed tributary in its entirety.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1AXLL000.92, which is located west of Route 301. The exceedance rate was 2/12 during the 2012 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34R_XLL01A10 / Coan Mill Stream, UT / Headwaters to mouth at Coan Mill Stream	5C	Oxygen, Dissolved	2010	L	2.10

XLL - Coan Mill Stream, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* A34R-04-BAC** **Coan Mill Stream**

Cause Location: From the headwaters to the confluence with the unnamed tributary at river mile 1.53

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 2012 cycle, Coan Mill Stream was assessed not supporting of the Recreation use goal based on an E. coli exceedance rate of 2/12 at Route 638 (1ACON002.88).

The stream is considered nested within the Shellfish TMDL for the Coan River Watershed, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34R_CON01B10 / Coan Mill Stream / Headwaters to the confluence with the unnamed tributary at rivermile 1.53.	4A	Escherichia coli	2012	L	2.93

Coan Mill Stream **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.93**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B02R-01-BAC** **West Strait Creek**

Cause Location: West Strait Creek from the headwaters downstream to the Monterey STP discharge. (Start Mile: 4.84 End Mile: 3.97 Total Impaired Size: .87 miles)

City / County: Highland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station 1AWSC003.79 (3 exceedences of 9 samples for e-coli ion 2014, no new data in 2016). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B02R_WSC03A00 / West Strait Creek / West Strait Creek from the headwaters downstream to the Monterey STP.	5A	Escherichia coli	2010	L	0.87

West Strait Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.87**

Sources:

Agriculture	Non-Point Source	Unspecified Domestic Waste	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B02R-01-BEN** **West Strait Creek**

Cause Location: West Strait Creek from the headwaters downstream to its confluence with Burner's Run. (Start Mile: 4.84 End Mile: 3.61 Total Impaired Size: 1.23 Miles)

City / County: Highland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station 1AWSC003.54 and 1AWSC003.79 (Impaired for VSCI). Initial Listing Date: 1996. This impairment is included in the EPA approved West Strait Creek/Strait Creek Benthic TMDL. Federal TMDL ID # 36924.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B02R_WSC02A00 / West Strait Creek / West Strait Creek from the Monterey STP downstream to its confluence with Burner's Run.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.36
VAV-B02R_WSC03A00 / West Strait Creek / West Strait Creek from the headwaters downstream to the Monterey STP.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	0.87

West Strait Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.23**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B02R-01-DO** **West Strait Creek**

Cause Location: West Strait Creek from the Monterey STP discharge downstream to its confluence with Burner's Run. (Start Mile: 3.97 End Mile: 3.61 Total Impaired Size: .36 Miles)

City / County: Highland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

This segment is impaired due to exceedences of the daily average dissolved oxygen WQS at station: 1AWSC003.54 (0 of 2 samples for DO, no new data impairment carries over) Initial Listing Date: 2010. This impairment is included in the EPA approved West Strait Creek/Strait Creek Benthic TMDL. Federal TMDL ID # 36926

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B02R_WSC02A00 / West Strait Creek / West Strait Creek from the Monterey STP downstream to its confluence with Burner's Run.	4A	Oxygen, Dissolved	2010	L	0.36

West Strait Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.36**

Sources:

Municipal Point Source Discharges

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B02R-02-BEN** **Strait Creek**

Cause Location: Strait Creek from its confluence with West Strait Creek downstream to the confluence of the South Branch Potomac River. (Start Mile: 3.29 End Mile: 0.00 Total Impaired Size: 3.29 Miles)

City / County: Highland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station 1ASTT000.72 (Impaired for benthics (VSCI) Initial Listing Date: 2002. This impairment is included in the EPA approved Strait Creek Benthic TMDL. Federal TMDL ID # 36923.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B02R_STC01A00 / Strait Creek / Strait Creek from its confluence with West Strait Creek downstream to the confluence with the South Branch Potomac River.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	3.29

Strait Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.29**

Sources:

Agriculture Channelization Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B02R-06-BAC** **Strait Creek**

Cause Location: Strait Creek from the headwaters downstream to its confluence with West Strait Creek. (Start Mile: 6.06 End Mile: 3.29 Total Impaired Size: 2.77 Miles) This segment was shortened in 2016 with delist of downstream segments)

City / County: Highland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations 1ASTT000.02 (No new data in 2018). Initial Listing Date: 2006

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B02R_STC02A00 / Strait Creek / Strait Creek from the headwaters downstream to its confluence with West Strait Creek.	5A	Escherichia coli	2006	L	2.77

Strait Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.77**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B03R-03-BAC** **South Fork South Branch Potomac River**

Cause Location: South Fork South Branch Potomac River from the headwaters downstream to the VA/WVA State Line. (Start Mile: 2.71 End Mile: 0.00 Total Impaired Size: 2.71 Miles

City / County: Highland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1ASFP02.56 (2 exceedences of 12 samples for e-coli, no data in 2018). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B03R_SFP01A00 / South Fork South Branch Potomac River / South Fork South Branch Potomac River from the headwaters downstream to the VA/WVA state line.	5A	Escherichia coli	2012	L	2.71

South Fork South Branch Potomac River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.71**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B04R-01-BAC** **Middle Fork Sleepy Creek**

Cause Location: Middle Fork Sleepy Creek from the headwaters downstream to the VA/WVA state line. (Start Mile: 2.93 End Mile: 0.00 Total Impaired Size: 2.93 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1AMIS000.33 (3 exceedences of 11 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B04R_MIS01A14 / Middle Fork Sleepy Creek / Middle Fork Sleepy Creek from the headwaters downstream to the VA/WVA state line.	5A	Escherichia coli	2014	L	2.93

Middle Fork Sleepy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.93**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B04R-02-BAC** **Sleepy Creek**

Cause Location: Sleepy Creek from the headwaters downstream to the VA/WVA state line. (Start Mile: 7.72 End Mile: 0.00 Total Impaired Size: 7.72 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1ASLP034.20 (2 exceedences of 12 samples for e-coli) Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B04R_SLP01A00 / Sleepy Creek / Sleepy Creek from the headwaters downstream to the VA/WVA state line.	5A	Escherichia coli	2016	L	7.72

Sleepy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.72**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B04R-03-BAC** **Middle Fork Sleepy Creek X-trib**

Cause Location: Middle Fork Sleepy Creek X-trib from the headwaters downstream to its confluence with Middle Fork Sleepy Creek. (Start Mile: 2.55 End Mile: 0.00 Total Impaired Size: 2.55 Miles.

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1AXSM000.08 (3 exceedences of 12 samples for e-coli) Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B04R_XSM01A18 / Middle Fork Sleepy Creek X-trib / Middle Fork Sleepy Creek X-trib from the headwaters downstream to its confluence with Middle Fork Sleepy Creek.	5A	Escherichia coli	2018	L	2.55

Middle Fork Sleepy Creek X-trib **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.55**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B05R-01-BAC** **Back Creek**

Cause Location: Back Creek from the headwaters downstream to its confluence with Isaacs Creek. (Start Mile: 25.34 End Mile: 7.73 Total Impaired Size: 17.61 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1ABAR041.11 (3 exceedences of 12 samples for e-coli). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B05R_BAR01B10 / Back Creek / Back Creek from the Route 600 bridge crossing downstream to its confluence with Isaacs Creek.	5A	Escherichia coli	2010	L	2.47
VAV-B05R_BAR02A04 / Back Creek / Back Creek from Rock Enon Spring downstream to the Route 600 bridge crossing.	5A	Escherichia coli	2010	L	10.94
VAV-B05R_BAR03A10 / Back Creek / Back Creek from the headwaters downstream to its confluence with Rock Enon Spring.	5A	Escherichia coli	2010	L	4.20

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.61**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B05R-02-BAC** **Little Isaacs Creek**

Cause Location: Little Isaacs Creek from the Timber Ridge School STP downstream (including an unnamed tributary originating near Reynolds Store) to its confluence with Isaacs Creek. (Start Mile: 9.93 End Mile: 0.00 Total Impaired Size: 9.93 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station 1ALIG001.84 (No new data in 2018, last data available was 2012). Initial Listing Date: 2008

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B05R_LIG01A00 / Little Isaacs Creek / Little Isaacs Creek from the Timber Ridge School STP downstream (including unnamed tributary originating near Reynolds Store) to its confluence with Isaacs Creek.	5A	Escherichia coli	2008	L	9.93

Little Isaacs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.93**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B05R-03-BAC** **Isaacs Creek**

Cause Location: Isaacs Creek from its confluence with Little Isaacs Creek downstream to its confluence with Back Creek. (Start Mile: 2.84 End Mile: 0.00 Total Impaired Size: 2.84 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station 1AISC001.77 (2 exceedences of 11 samples for e-coli) Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B05R_ISC01A00 / Isaacs Creek / Isaacs Creek from its confluence with Little Isaacs Creek downstream to its confluence with Back Creek.	5A	Escherichia coli	2016	L	2.84

Isaacs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.84**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B06R-02-BAC** **Hogue Creek**

Cause Location: Hogue Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 17.27 End Mile: 0.00 Total Impaired Size: 17.27 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1AHOC003.67 (5 exceedences of 12 samples); 1AHOC006.23; no new data in 2018 and 1AHOC008.96; no new data in 2018. Initial Listing Date: 2002. This segment is included in the EPA approved Hogue Creek bacteria TMDL. Federal TMDL ID # 34147

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B06R_HOC01A00 / Hogue Creek / Hogue Creek from the Route 679 bridge crossing downstream to its confluence with Back Creek.	4A	Escherichia coli	2008	L	6.43
VAV-B06R_HOC02A10 / Hogue Creek / Hogue Creek from a point .175 miles downstream of the Route 600 bridge downstream to the Route 679 bridge crossing.	4A	Escherichia coli	2008	L	8.52
VAV-B06R_HOC03A10 / Hogue Creek / Hogue Creek from the headwaters downstream to a point .175 miles downstream of the Route 600 bridge.	4A	Escherichia coli	2008	L	2.29

Hogue Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.24**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B06R_HOC01A00 / Hogue Creek / Hogue Creek from the Route 679 bridge crossing downstream to its confluence with Back Creek.	4A	Fecal Coliform	2002	L	6.43
VAV-B06R_HOC02A10 / Hogue Creek / Hogue Creek from a point .175 miles downstream of the Route 600 bridge downstream to the Route 679 bridge crossing.	4A	Fecal Coliform	2002	L	8.52
VAV-B06R_HOC03A10 / Hogue Creek / Hogue Creek from the headwaters downstream to a point .175 miles downstream of the Route 600 bridge.	4A	Fecal Coliform	2002	L	2.29

Hogue Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**17.24**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B07R-01-BAC** **Back Creek**

Cause Location: Back Creek from its confluence with Hogue Creek downstream to its confluence with Babbs Creek.

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1ABAR037.84 (3 exceedences of 13 samples).
Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B07R_BAR02A10 / Back Creek / Back Creek from its confluence with Hogue Creek downstream to its confluence with Babbs Creek.	5A	Escherichia coli	2018	L	4.92

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.92**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B08R-01-BAC** **Opequon Creek**

Cause Location: Opequon Creek from the headwaters downstream to its confluence with Abrams Creek. (Start Mile: 55.83 End Mile: 32.61 Total Impaired Size: 23.22 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1AOPE036.13 (11 exceedences of 36 samples for e-coli); 1AOPE044.17 (5 exceedences of 12 samples for e-coli); 1AOPE047.44 (4 exceedences of 6 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2004; This segment is included in the EPA approved Opequon Creek bacteria TMDL. Federal TMDL ID # 20941

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B08R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hoge Run downstream to its confluence with Abrams Creek.	4A	Escherichia coli	2004	L	12.83
VAV-B08R_OPE02A10 / Opequon Creek / Opequon Creek from the first Route 620 crossing downstream to its confluence with Hoge Run.	4A	Escherichia coli	2004	L	9.46
VAV-B08R_OPE03A10 / Opequon Creek / Opequon Creek from the headwaters downstream to the first Route 620 crossing.	4A	Escherichia coli	2004	L	0.92

Opequon Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.21**

Sources:

Municipal (Urbanized High Density Area)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B08R-01-BEN** **Opequon Creek**

Cause Location: Opequon Creek from the headwaters downstream to its confluence with Abrams Creek. (Start Mile: 55.83 End Mile: 32.61 Total Impaired Size: 23.22 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station 1AOPE036.13 (Impaired for VSCI). Initial Listing Date: 2010. This segment is part of the EPA approved Abrams/Opequon watershed TMDL. Federal TMDL ID # 23357

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B08R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hoge Run downstream to its confluence with Abrams Creek.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	12.83
VAV-B08R_OPE02A10 / Opequon Creek / Opequon Creek from the first Route 620 crossing downstream to its confluence with Hoge Run.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	9.46
VAV-B08R_OPE03A10 / Opequon Creek / Opequon Creek from the headwaters downstream to the first Route 620 crossing.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.92

Opequon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**23.21**

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B09R-01-BAC** **Abrams Creek**

Cause Location: Abrams Creek from the headwaters downstream to is confluence with Opequon Creek. (Start Mile: 11.18 End Mile: 0.00 Total Impaired Size: 11.18 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1AABR000.78 (3 exceedences of 12 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Abrams Creek bacteria TMDL. Federal TMDL ID # 17635

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_ABR01A00 / Abrams Creek / Abrams Creek from its headwaters downstream to its confluence with Opequon Creek.	4A	Escherichia coli	2008	L	11.18

Abrams Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.18**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_ABR01A00 / Abrams Creek / Abrams Creek from its headwaters downstream to its confluence with Opequon Creek.	4A	Fecal Coliform	1996	L	11.18

Abrams Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**11.18**

Sources:

Municipal (Urbanized High Density Area)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B09R-01-BEN** **Abrams Creek**

Cause Location: Abrams Creek from the headwaters downstream to is confluence with Opequon Creek. (Start Mile: 11.18 End Mile: 0.00 Total Impaired Size: 11.18 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1AABR000.78 (Impaired for VSCI); Initial Listing Date: 1996; This segment is included in the EPA approved Abrams Creek benthic TMDL. Federal TMDL ID # 17636

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_ABR01A00 / Abrams Creek / Abrams Creek from its headwaters downstream to its confluence with Opequon Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	11.18

Abrams Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.18**

Sources:

Municipal (Urbanized High Density Area)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B09R-02-BAC** **Opequon Creek**

Cause Location: Opequon Creek from its confluence with Abrams Creek downstream to the VA/WV state line. (Start Mile: 32.61 End Mile: 23.55 Total Impaired Size: 9.06 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1AOPE025.10 (1 exceedance of 12 samples for e-coli, no new 2018 data, still impaired). Initial Listing Date: 1996; This segment is part of the EPA approved Abrams/Opequon watershed TMDL. Federal TMDL ID # 20941

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hot Run downstream to the VA/WVA state line.	4A	Escherichia coli	2008	L	3.02
VAV-B09R_OPE02A10 / Opequon Creek / Opequon Creek from its confluence with Abrams Creek downstream to its confluence with Hot Run.	4A	Escherichia coli	2008	L	6.02

Opequon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.04**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hot Run downstream to the VA/WVA state line.	4A	Fecal Coliform	1996	L	3.02
VAV-B09R_OPE02A10 / Opequon Creek / Opequon Creek from its confluence with Abrams Creek downstream to its confluence with Hot Run.	4A	Fecal Coliform	1996	L	6.02

Opequon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**9.04**

Sources:

Municipal (Urbanized High Density Area)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B09R-02-BEN** **Opequon Creek**

Cause Location: Opequon Creek from its confluence with Abrams Creek downstream to the VA/WV state line. (Start Mile: 32.61 End Mile: 23.55 Total Impaired Size: 9.06 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1AOPE028.72 (Impaired for VSCI). Initial Listing Date: 1996; This segment is part of the EPA approved Abrams/Opequon watershed TMDL. Federal TMDL ID # 23357

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hot Run downstream to the VA/WVA state line.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	3.02
VAV-B09R_OPE02A10 / Opequon Creek / Opequon Creek from its confluence with Abrams Creek downstream to its confluence with Hot Run.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	6.02

Opequon Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.04**

Sources:

Municipal (Urbanized High Density Area)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B09R-03-BAC** **Lick Run**

Cause Location: Lick Run (also known as Hiatt Run) from its headwaters downstream to its confluence with Opequon Creek. (Start Mile: 8.21 End Mile: 0.00 Total Impaired Size: 8.21 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1ALIR000.95 (no new data in 2018); Initial Listing Date: 2006; This segment is included in the EPA approved TMDL for the Abrams/Opequon watershed. Federal TMDL ID # 20941

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_LIR01A00 / Lick Run / Lick Run (also known as Hiatt Run) from its headwaters downstream to its confluence with Opequon Creek.	4A	Escherichia coli	2006	L	8.21

Lick Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.21**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B09R-04-BAC** **Redbud Run**

Cause Location: Redbud Run and tributary from the headwaters downstream to its confluence with Opequon Creek. (Start Mile: 8.05 End Mile: 0.00 Total Impaired Size: 8.05 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1ARED000.46 (no 2018 data for e-coli) Initial Listing Date: 2004; The segment is included in the EPA approved Abrams/Opequon TMDL . Federal TMDL ID # 20941

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_RED01A00 / Redbud Run / Redbud Run from a point 4.4 miles upstream of its confluence with Opequon Creek downstream to its confluence with Opequon Creek.	4A	Escherichia coli	2008	L	4.50
VAV-B09R_RED02A10 / Redbud Run / Redbud Run from its headwaters downstream to a point 4.4 miles upstream of its confluence with Opequon Creek.	4A	Escherichia coli	2008	L	2.00
VAV-B09R_XRD01A10 / Redbud Run x-trib / Redbud Run x-trib from the headwaters downstream to its confluence with Redbud Run.	4A	Escherichia coli	2008	L	1.55

Redbud Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.05**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_RED01A00 / Redbud Run / Redbud Run from a point 4.4 miles upstream of its confluence with Opequon Creek downstream to its confluence with Opequon Creek.	4A	Fecal Coliform	2004	L	4.50
VAV-B09R_RED02A10 / Redbud Run / Redbud Run from its headwaters downstream to a point 4.4 miles upstream of its confluence with Opequon Creek.	4A	Fecal Coliform	2004	L	2.00
VAV-B09R_XRD01A10 / Redbud Run x-trib / Redbud Run x-trib from the headwaters downstream to its confluence with Redbud Run.	4A	Fecal Coliform	2004	L	1.55

Redbud Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**8.05**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B09R-04-BEN** **Redbud Run**

Cause Location: Redbud Run and tributary from the headwaters downstream to its confluence with Opequon Creek. (Start Mile: 8.05 End Mile: 0.00 Total Impaired Size: 8.05 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1ARED000.46 (Impaired for VSCI). Initial Listing Date: 2004. This segment is included in the EPA Approved Abrams/Opequon TMDL. Federal TMDL ID # 20160.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B09R_RED01A00 / Redbud Run / Redbud Run from a point 4.4 miles upstream of its confluence with Opequon Creek downstream to its confluence with Opequon Creek.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	4.50
VAV-B09R_RED02A10 / Redbud Run / Redbud Run from its headwaters downstream to a point 4.4 miles upstream of its confluence with Opequon Creek.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	2.00
VAV-B09R_XRD01A10 / Redbud Run x-trib / Redbud Run x-trib from the headwaters downstream to its confluence with Redbud Run.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	1.55

Redbud Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.05**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B10R-01-BEN** **Cockran Spring Branch**

Cause Location: Cockran Spring Branch from the spring downstream to its confluence with Middle River. (Start Mile: .58 End Mile: 0.00 Total Impaired Size: .58 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The benthic community at this site was not assessed during the 2018 cycle and the impaired status carries from previous assessments. This assessment unit is included in an EPA approved TMDL for Streams Impacted by Fish Farms. Initial Listing Date: 1996. Federal TMDL ID # 9461

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B10R_XDN01A00 / Cockran Spring Branch / Cockran Spring Branch from the spring downstream to its confluence with Middle River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.58

Cockran Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.58**

Sources:

Aquaculture (Permitted)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B10R-02-BAC** **Middle River**

Cause Location: Middle River from the headwaters downstream to its confluence with Jennings Branch. (Start Mile: 69.61 End Mile: 45.69 Total Impaired Size: 23.92 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BMDL060.48 (43 exceedences of 73 samples for e-coli); 1BMDL047.90 (4 exceedences of 12 samples) and FOMR Level II data indicate impairment still present. Initial Listing Date: 2004; This segment is included in the Middle River bacteria TMDL and is considered category 4A Impaired - EPA Approved TMDL. Federal TMDL ID # 33831

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B10R_MDL01A00 / Middle River / Middle River from its confluence with Back Creek downstream to its confluence with Eidson Creek.	4A	Escherichia coli	2004	L	4.78
VAV-B10R_MDL02A00 / Middle River / Middle River from its confluence with Cockran Spring Branch downstream to its confluence with Back Creek.	4A	Escherichia coli	2004	L	9.30
VAV-B10R_MDL03A00 / Middle River / Middle River from the headwaters downstream to its confluence with Cockran Spring Branch.	4A	Escherichia coli	2004	L	2.97
VAV-B11R_MDL01A00 / Middle River / Middle River from its confluence with Buffalo Branch downstream to its confluence with Jennings Branch.	4A	Escherichia coli	2010	L	3.37
VAV-B11R_MDL02A00 / Middle River / Middle River from its confluence with Eidson Creek downstream to its confluence with Buffalo Branch.	4A	Escherichia coli	2008	L	3.49

Middle River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.91**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B11R_MDL01A00 / Middle River / Middle River from its confluence with Buffalo Branch downstream to its confluence with Jennings Branch.	4A	Fecal Coliform	2006	L	3.37
VAV-B11R_MDL02A00 / Middle River / Middle River from its confluence with Eidson Creek downstream to its confluence with Buffalo Branch.	4A	Fecal Coliform	2006	L	3.49

Middle River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.86**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B10R-02-BEN** **Middle River**

Cause Location: Middle River from the headwaters downstream to its confluence with Eidson Creek. (Start Mile: 69.61 End Mile: 52.55 Total Impaired Size: 17.06 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BMDL060.48 (Impaired for VSCI) 1BMDL066.05 (Impaired for VSCI); 1BMDL066.84 (Impaired for VSCI). Initial Listing Date: 1998; This segment is included in the Middle River benthic TMDL and is considered category 4A Impaired - EPA Approved TMDL. Federal TMDL ID # 24511

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B10R_MDL01A00 / Middle River / Middle River from its confluence with Back Creek downstream to its confluence with Eidson Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.78
VAV-B10R_MDL02A00 / Middle River / Middle River from its confluence with Cockran Spring Branch downstream to its confluence with Back Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	9.30
VAV-B10R_MDL03A00 / Middle River / Middle River from the headwaters downstream to its confluence with Cockran Spring Branch.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	2.97

Middle River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**17.05**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B10R-03-BAC** **Back Creek**

Cause Location: Back Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 10.72 End Mile: 0.00 Total Impaired Size: 10.72 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BBAK001.74 (6 exceedences of 12 samples for e-coli in 2014, no new data in 2018). This impairment was lengthened in the 2018 cycle to correct for GIS errors. Initial Listing Date: 2004; The segment is considered category 4A Impaired - EPA Approved TMDL since it is within the geographical region covered by the EPA approved Middle River Bacteria TMDL. Federal TMDL ID # 7683

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B10R_BAK01A00 / Back Creek / Back Creek from the headwaters downstream to its confluence with Middle River.	4A	Escherichia coli	2008	L	10.72

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.72**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B10R_BAK01A00 / Back Creek / Back Creek from the headwaters downstream to its confluence with Middle River.	4A	Fecal Coliform	2004	L	10.72

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**10.72**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B10R-04-BAC** **Eidson Creek**

Cause Location: Eidson Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 8.84 End Mile: 0.00 Total Impaired Size: 8.84 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BEDN003.67 (9 exceedences of 12 samples for e-coli) no new data in 2018. FOMR Level II monitoring indicate impairment remains. Initial Listing Date: 2004; The segment is considered category 4A Impaired - EPA Approved TMDL since it is within the geographical region covered by the EPA approved Middle River Bacteria TMDL. Federal TMDL ID # 7683

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B10R_EDN01A00 / Eidson Creek / Eidson Creek from the headwaters downstream to its confluence with Middle River.	4A	Escherichia coli	2008	L	8.84

Eidson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.84**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B10R_EDN01A00 / Eidson Creek / Eidson Creek from the headwaters downstream to its confluence with Middle River.	4A	Fecal Coliform	2004	L	8.84

Eidson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.84**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B12R-01-BAC** **Lewis Creek**

Cause Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. (Start Mile: 10.06 End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Augusta Co. Staunton City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BLEW000.61 (7 exceedences of 12 samples for e-coli in 2014, no data in 2018); 1BLEW006.95 (10 exceedences of 12 samples for e-coli). Initial Listing Date: 2004; This segment has an EPA Approved TMDL for bacteria (e-coli). Federal TMDL ID # 7677

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River.	4A	Escherichia coli	2004	L	10.06

Lewis Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.06**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B12R-01-BEN** **Lewis Creek**

Cause Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. (Start Mile: 10.06 End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Augusta Co. Staunton City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BLEW000.61 (Impaired for VSCI); 1BLEW006.95 (Impaired for VSCI) and IBLEW009.19 (Impaired for VSCI). Initial Listing Date: 1996; This segment has an EPA Approved TMDL for benthics. Federal TMDL ID # 7676

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	10.06

Lewis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.06**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B12R-01-PCB** **Lewis Creek**

Cause Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. (Start Mile: 10.06 End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Augusta Co. Staunton City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to exceedences of Fish Tissue and Sediment screening values at stations: 1BLEW005.24 (01 Hg, HMW PAH, PHH, FTH, Pry, ATH Ben, Chrys, Chl 01 Fish PCB 2 sp 2005 Fish PCB) and 1BLEW006.64 (1 samples exceeded the PEC of 128 for Lead (172)) Data outside of data window, however, status carried forward. Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River.	5A	PCB in Fish Tissue	2004	H	10.06

Lewis Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**10.06**

Sources:

Inappropriate Waste Disposal	Municipal (Urbanized High Density Area)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B12R-02-BAC** **Middle River**

Cause Location: Middle River from the quarry discharge west of Franks Mill downstream to its confluence with Moffett Creek. (Start Mile: 43.92 End Mile: 41.00 Total Impaired Size: 2.92 Miles.

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BMDL043.35 (4 exceedences of 12 samples for e-coli. Original Initial Listing Date: 2008 as Cause ID B15R-01-BAC (added to downstream impairment), segment de-listed in 2016, re-listed in 2018 as Cause ID B12R-02-BAC as downstream segments remain fully supporting and re-list is not contiguous to B15R-01-BAC. This segment is included in the EPA approved Middle River bacteria TMDL. Federal TMDL ID # 33831.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B12R_MDL01B10 / Middle River / Middle River from the quarry discharge west of Franks Mill downstream to its confluence with Moffett Creek.	4A	Escherichia coli	2008	L	2.92

Middle River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.92**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B13R-01-BAC** **Moffett Creek**

Cause Location: Moffett Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 9.91 End Mile: 0.00 Total Impaired Size: 9.91 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BMFT001.43 (15 exceedences of 25 samples for e-coli) and 1BMFT006.20 (18 exceedences of 63 samples). Initial Listing Date: 2004; This segment is included in the EPA approved Moffetts Creek bacteria TMDL and is considered a category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7679.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B13R_MFT01A00 / Moffett Creek / Moffett Creek from the headwaters downstream to its confluence with Middle River.	4A	Escherichia coli	2008	L	9.91

Moffett Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.91**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B13R_MFT01A00 / Moffett Creek / Moffett Creek from the headwaters downstream to its confluence with Middle River.	4A	Fecal Coliform	1996	L	9.91

Moffett Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.91**

Sources:

Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B13R-01-BEN** **Moffett Creek**

Cause Location: Moffett Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 9.91 End Mile: 0.00 Total Impaired Size: 9.91 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BMFT005.11 (Impaired for VSCI in 2010); 1BMFT002.46 (Fully supporting VSCI in 2018) Need agreement for delist. Initial Listing Date: 1996; This segment is included in the EPA approved Moffetts Creek benthic TMDL and is considered a category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7678.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B13R_MFT01A00 / Moffett Creek / Moffett Creek from the headwaters downstream to its confluence with Middle River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	9.91

Moffett Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.91**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B13R-02-BAC** **Elk Run**

Cause Location: Elk Run from the headwaters downstream to its confluence with Moffett Creek. (Start Mile: 4.13 End Mile: 0.00 Total Impaired Size: 4.13 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BEKR000.25 (5 exceedences of 12 samples for e-coli in 2014, no new data in 2016/18). Initial Listing Date: 2004; This segment lies within the geographic area of the EPA approved Moffatts Creek Bacteria TMDL and thus is considered Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7679

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B13R_ELK01A00 / Elk Run / Elk Run from the headwaters downstream to its confluence with Moffett Creek.	4A	Escherichia coli	2008	L	4.13

Elk Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.13**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B13R_ELK01A00 / Elk Run / Elk Run from the headwaters downstream to its confluence with Moffett Creek.	4A	Fecal Coliform	2004	L	4.13

Elk Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.13**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B13R-03-BEN** **Tunnel Hollow X-trib**

Cause Location: Tunnel Hollow X-trib from the headwaters downstream to its confluence with Tunnel Hollow. (Start Mile: .58 End Mile: 0.00 Total Impaired Size: .58 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is impaired due to exceedences of the General Standard for Benthics at station: USFS 2021. This assessment unit is located within the George Washington National Forest was deemed to be impaired due to natural conditions (intermittent flow at sampling site) by the U.S. Forest Service biologist utilizing the U.S. Forest Service benthic survey at site 2021. Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B13R_XEI02A02 / Tunnel Hollow x-trib / Tunnel Hollow x-trib from the headwaters downstream to its confluence with Tunnel Hollow	4C	Benthic-Macroinvertebrate Bioassessments			0.58

Tunnel Hollow X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.58**

Sources:

Drought-related Impacts

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B14R-01-BAC** **Christians Creek**

Cause Location: Christians Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 32.96 End Mile: 0.00 Total Impaired Size: 32.96 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BCST000.13 (1 exceedance of 12 samples for e-coli in 2014, no new data in 2016/18); 1BCST007.42 (5 exceedences of 12 samples for e-coli); 1BCST012.32 (34 exceedences of 57 samples for e-coli); 1BCST016.48 (9 exceedences of 12 samples for e-coli); 1BCST021.76 (39 exceedences of 59 samples for e-coli) and 1BCST028.71 (3 exceedences of 6 samples in 2016, no data in 2018). Initial Listing Date: 1996; This segment is part of the EPA approved Christians Creek bacteria TMDL for bacteria. Federal TMDL ID

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B14R_CST01A00 / Christians Creek / Christians Creek from its confluence with Folly Mills Creek downstream to its confluence with Middle River.	4A	Escherichia coli	2004	L	18.61
VAV-B14R_CST02A00 / Christians Creek / Christians Creek from the headwaters downstream to its confluence with Folly Mills Creek.	4A	Escherichia coli	2004	L	14.34

Christians Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**32.95**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B14R_CST01A00 / Christians Creek / Christians Creek from its confluence with Folly Mills Creek downstream to its confluence with Middle River.	4A	Fecal Coliform	1996	L	18.61
VAV-B14R_CST02A00 / Christians Creek / Christians Creek from the headwaters downstream to its confluence with Folly Mills Creek.	4A	Fecal Coliform	1996	L	14.34

Christians Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**32.95**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B14R-01-BEN** **Christians Creek**

Cause Location: Christians Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 32.96 End Mile: 0.00 Total Impaired Size: 32.96 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station 1BCST007.42. Initial Listing Date 1996. This segment is included in the EPA approved Christians Creek benthic TMDL. Federal TMDL ID # 24514

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B14R_CST01A00 / Christians Creek / Christians Creek from its confluence with Folly Mills Creek downstream to its confluence with Middle River.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	18.61
VAV-B14R_CST02A00 / Christians Creek / Christians Creek from the headwaters downstream to its confluence with Folly Mills Creek.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	14.34

Christians Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**32.95**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B14R-02-BAC** **Folly Mills Creek**

Cause Location: Folly Mills Creek and tributary from the headwaters downstream to its confluence with Christians Creek. (Start Mile: 14.14 End Mile: 0.00 Total Impaired Size: 14.14 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BFMC003.57 (10 exceedences of 12 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2004; This segment is within the geographic boundary of the EPA approved Christians Creek bacteria TMDL and is considered a Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 17969

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B14R_FMC01A00 / Folly Mills Creek / Folly Mills Creek from a point 2.4 miles upstream of Christians Creek downstream to its confluence with Christians Creek.	4A	Escherichia coli	2012	L	2.48
VAV-B14R_FMC02A10 / Folly Mills Creek / Folly Mills Creek from the headwaters downstream to a point 2.4 miles upstream of Christians Creek.	4A	Escherichia coli	2012	L	7.34
VAV-B14R_XFM01A10 / Folly Mills Creek X-trib / Folly Mills Creek X-trib from the headwaters downstream to its confluence with Folly Mills Creek.	4A	Escherichia coli	2012	L	4.32

Folly Mills Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.14**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B14R_FMC01A00 / Folly Mills Creek / Folly Mills Creek from a point 2.4 miles upstream of Christians Creek downstream to its confluence with Christians Creek.	4A	Fecal Coliform	2004	L	2.48
VAV-B14R_FMC02A10 / Folly Mills Creek / Folly Mills Creek from the headwaters downstream to a point 2.4 miles upstream of Christians Creek.	4A	Fecal Coliform	2004	L	7.34
VAV-B14R_XFM01A10 / Folly Mills Creek X-trib / Folly Mills Creek X-trib from the headwaters downstream to its confluence with Folly Mills Creek.	4A	Fecal Coliform	2004	L	4.32

Folly Mills Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**14.14**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B14R-03-BAC** **Long Meadow Run**

Cause Location: Long Meadow Run and tributary from the headwaters downstream to its confluence with Christians Creek. (Start Mile: 11.06 End Mile: 0.00 Total Impaired Size: 11.06 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BMDW000.18 (5 exceedences of 12 samples for e-coli). Initial Listing Date: 2006; This segment is located within the geographical boundary of the EPA approved Christians Creek bacteria TMDL and is considered to be Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 17969

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B14R_LMR01A00 / Long Meadow Run / Long Meadow Run and tributary (Coleytown Run) from the headwaters downstream to its confluence with Christians Creek.	4A	Escherichia coli	2006	L	11.06

Long Meadow Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.06**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B14R-03-TEMP** **Long Meadow Run**

Cause Location: Long Meadow Run and tributary from the headwaters downstream to its confluence with Christians Creek. (Start Mile: 11.06 End Mile: 0.00 Total Impaired Size: 11.06 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

This segment is impaired due to exceedences of the natural trout temperature WQS (20 C) at station: 1BMDW000.18 (3 exceedences of 12 samples for temperature). Initial Listing Date: 2006. The aquatic life use is impaired due to exceedences of the temperature standard and is Category 5C due to suspected natural conditions.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B14R_LMR01A00 / Long Meadow Run / Long Meadow Run and tributary (Coleytown Run) from the headwaters downstream to its confluence with Christians Creek.	5C	Temperature, water	2006	L	11.06

Long Meadow Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**11.06**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B15R-01-BAC** **Middle River**

Cause Location: Middle River from the confluence with Christians Creek downstream to its confluence with North River. (Start Mile: 17.85 End Mile: 0.00 Total Impaired Size: 17.85 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BMDL001.83 (8 exceedences of 53 samples for e-coli) and 1BMDL013.94 (3 exceedences of 12 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Middle River bacteria TMDL. Federal TMDL ID # 24515.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B15R_MDL01A00 / Middle River / Middle River from its confluence with Christians Creek downstream to its confluence with North River.	4A	Escherichia coli	2008	L	17.85

Middle River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.85**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B15R_MDL01A00 / Middle River / Middle River from its confluence with Christians Creek downstream to its confluence with North River.	4A	Fecal Coliform	1996	L	17.85

Middle River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**17.85**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B15R-02-BAC** **Polecat Draft**

Cause Location: Polecat Draft and tributary from the headwaters downstream to its confluence with Middle River. (Start Mile: 7.90 End Mile: 0.00 Total Impaired Size: 7.90 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BPCD000.20 (32 exceedences of 45 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approval Polecat Draft TMDL for bacteria. Federal TMDL ID # 24515

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B15R_PCD01A00 / Polecat Draft / Polecat Draft and tributary from the headwaters downstream to its confluence with Middle River.	4A	Escherichia coli	2004	L	7.90

Polecat Draft	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.90**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B15R_PCD01A00 / Polecat Draft / Polecat Draft and tributary from the headwaters downstream to its confluence with Middle River.	4A	Fecal Coliform	1996	L	7.90

Polecat Draft	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**7.90**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B16L-01-TEMP** **Elkhorn Lake**

Cause Location: Elkhorn Lake (Total Impaired Size: 52.66 Acres)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This lake is impaired due to exceedences of the temperature WQS at station: 1BNTH045.36 (37 exceedences of 139 samples for temperature). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B16L_NTH01A04 / Elkhorn Lake / Elkhorn Lake	5A	Temperature, water	2010	L	52.66

Elkhorn Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:		**52.66**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B16R-01-PH** **North River**

Cause Location: North River from its confluence with Little River downstream to its confluence with Freemason Run. This impairment length was shortened in 2010 due to upstream stations returning to fully supporting status. Original length was 21.80 Miles. (Start Mile: 36.42 End Mile: 31.96 Total Impaired Size: 4.46 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment remains impaired due to excursions of the pH WQS at station: 1BNTH036.96 (1 excursion of 3 samples for pH 3 of 9 in 2010, no new data in 2016/18). Initial Listing Date: 2002

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B17R_NTH04A00 / North River / North River from its confluence with Little River downstream to its confluence with Freemason Run.	5A	pH	2002	L	4.46

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.46**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B17R-01-BAC** **North River**

Cause Location: North River from its confluence with Freemason Run downstream to its confluence with South River. (Start Mile: 31.96 End Mile: 0.00 Total Impaired Size: 31.96 Miles) Segment lengthened in 2012

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at station: 1BNTH029.30 (3 exceedences of 6 samples); 1BNTH022.25 (5 exceedences of 12 samples for e-coli in 2014, no data in 2016/18) 1BNTH014.08 (5 exceedences of 36 samples) and 1BNTH007.69 (3 exceedences of 12 samples for e-coli) Initial Listing Date: 2002; This segment is included in the EPA approved North River TMDL for bacteria. Federal TMDL ID # 23366.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B17R_NTH01A00 / North River / North River from its confluence with Briery Branch downstream to its confluence with Dry River.	4A	Escherichia coli	2014	L	3.48
VAV-B17R_NTH02A00 / North River / North River 5 miles above the Bridgewater Public Water Intake downstream to its confluence with Briery Branch.	4A	Escherichia coli	2012	L	1.31
VAV-B17R_NTH03A00 / North River / North River from its confluence with Freemason Run downstream to the 5 mile PWS limit for the Bridgewater Public Water Intake.	4A	Escherichia coli	2012	L	5.77
VAV-B23R_NTH01A04 / North River / North River from its confluence with Middle River downstream to its confluence with South River.	4A	Escherichia coli	2004	L	4.70
VAV-B23R_NTH01B10 / North River / North River from its confluence with Naked Creek downstream to its confluence with Middle River.	4A	Escherichia coli	2004	L	4.25
VAV-B23R_NTH02A04 / North River / North River from its confluence with Cooks Creek downstream to its confluence with Naked Creek.	4A	Escherichia coli	2004	L	6.87
VAV-B23R_NTH03A04 / North River / North River from the Harrisonburg Public Water Intake downstream to its confluence with Cooks Creek.	4A	Escherichia coli	2012	L	3.33
VAV-B23R_NTH04A04 / North River / North River from its confluence with Dry River downstream to the Harrisonburg Public Water Intake.	4A	Escherichia coli	2012	L	2.22

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**31.93**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B17R_NTH01A00 / North River / North River from its confluence with Briery Branch downstream to its confluence with Dry River.	4A	Fecal Coliform	2002	L	3.48
VAV-B23R_NTH01A04 / North River / North River from its	4A	Fecal Coliform	1996	L	4.70

Potomac and Shenandoah River Basins

confluence with Middle River downstream to its confluence with South River.					
VAV-B23R_NTH01B10 / North River / North River from its confluence with Naked Creek downstream to its confluence with Middle River.	4A	Fecal Coliform	1996	L	4.25
VAV-B23R_NTH02A04 / North River / North River from its confluence with Cooks Creek downstream to its confluence with Naked Creek.	4A	Fecal Coliform	1996	L	6.87
VAV-B23R_NTH03A04 / North River / North River from the Harrisonburg Public Water Intake downstream to its confluence with Cooks Creek.	4A	Fecal Coliform	1996	L	3.33
VAV-B23R_NTH04A04 / North River / North River from its confluence with Dry River downstream to the Harrisonburg Public Water Intake.	4A	Fecal Coliform	1996	L	2.22

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**24.85**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B17R-02-BAC** **Thorny Branch**

Cause Location: Thorny Branch and tributaries from the headwaters downstream to its confluence with North River. (Start Mile: 7.76 End Mile: 0.00 Total Impaired Size: 7.76 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

This segment remains impaired due to exceedences of the fecal coliform bacteria WQS at station: 1BTRN000.38 No fecal coliform or e-coli data are available in 2018. Initial Listing Date: 2004; This segment is included in the EPA approved North River TMDL for bacteria. Federal TMDL ID # 23366.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B17R_TRN01A00 / Thorny Branch / Thorny Branch and tributaries from the headwaters downstream to its confluence with North River.	4A	Fecal Coliform	2004	L	7.76

Thorny Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**7.76**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B18R-01-BEN** **Wolf Run**

Cause Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 3.31 End Mile: 0.00 Total Impaired Size: 3.31 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: USFS 2019. No new data available for the 2018 assessment window, this impairment carries over to this cycle. Initial Listing Date: 2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_WFR01A02 / Wolf Run / Wolf Run from the Forest Service Road crossing downstream to its confluence with Briery Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	1.18
VAV-B18R_WFR02A02 / Wolf Run / Wolf Run from the headwaters downstream to the Forest Service Road crossing.	5A	Benthic-Macroinvertebrate Bioassessments	2004	L	2.11

Wolf Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.29**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B18R-01-PH** **Wolf Run**

Cause Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 3.31 End Mile: 0.00 Total Impaired Size: 3.31 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA VT56 (12 excursions of 12 samples for pH in 2010, no new Level III data available for 2018. Level II data show 24 exceedences of 24 samples for pH. Impairment carries forward.). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_WFR01A02 / Wolf Run / Wolf Run from the Forest Service Road crossing downstream to its confluence with Briery Branch.	5A	pH	2006	L	1.18
VAV-B18R_WFR02A02 / Wolf Run / Wolf Run from the headwaters downstream to the Forest Service Road crossing.	5A	pH	2006	L	2.11

Wolf Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.29**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B18R-04-BAC** **Beaver Creek**

Cause Location: Beaver Creek from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 6.30 End Mile: 0.00 Total Impaired Size: 6.30 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment unit will remain impaired recreational use in the 2018 cycle based on best professional judgement. The data indicate improved conditions, no new data are available in the 2018 assessment window Initial Listing Date: 2002. This segment is included in the EPA approved Beaver Creek bacteria TMDL. Federal TMDL ID# 24517.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_BVR01A00 / Beaver Creek / Beaver Creek from its confluence with Waggys Creek downstream to its confluence with Briery Branch.	4A	Escherichia coli	2008	L	2.65
VAV-B18R_BVR02A00 / Beaver Creek / Beaver Creek from the headwaters (including Redbanks Run) downstream to its confluence with Waggys Creek.	4A	Escherichia coli	2008	L	3.63

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.28**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_BVR01A00 / Beaver Creek / Beaver Creek from its confluence with Waggys Creek downstream to its confluence with Briery Branch.	4A	Fecal Coliform	2002	L	2.65
VAV-B18R_BVR02A00 / Beaver Creek / Beaver Creek from the headwaters (including Redbanks Run) downstream to its confluence with Waggys Creek.	4A	Fecal Coliform	2002	L	3.63

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.28**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B18R-04-TEMP** **Beaver Creek**

Cause Location: Beaver Creek from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 6.30 End Mile: 0.00 Total Impaired Size: 6.30 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4C

This segment is impaired due to exceedences of the temperature WQS at station: 1BBVR003.60. Initial Listing Date: 2002; Temperature readings used to determine this assessment unit as impaired were based on readings at station 1BBVR003.60 and has been determined to be natural. By letter from the Virginia Department of Game & Inland Fisheries, this stream is considered a warm water stream and should not be considered Class V - Stockable Trout. This segment became Category 4C - Impaired, but not needing a TMDL due to natural conditions in the 2006 cycle. The trout designations were reviewed during the Virginia Triennial Review. Data indicate supporting status, however, the data are old. New data needed for de-listing. Initial Listing Date: 2002

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_BVR01A00 / Beaver Creek / Beaver Creek from its confluence with Waggys Creek downstream to its confluence with Briery Branch.	4C	Temperature, water			2.65
VAV-B18R_BVR02A00 / Beaver Creek / Beaver Creek from the headwaters (including Redbanks Run) downstream to its confluence with Waggys Creek.	4C	Temperature, water			3.63

Beaver Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.28**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B18R-05-BAC** **Briery Branch**

Cause Location: Briery Branch from its confluence with Beaver Creek downstream to its confluence with North River. (Start Mile: 1.47 End Mile: 0.00 Total Impaired Size: 1.47 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at station: 1BBRY001.22 (5 exceedences of 12 samples for e-coli). Initial Listing Date: 2004. This segment is included in the EPA approved North River bacteria TMDL. Federal TMDL ID # 23366.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_BRY01A02 / Briery Branch / Briery Branch from the 5 mile upper limit of the Bridgewater raw water intake (confluence with Beaver Creek) downstream to its confluence with North River.	4A	Escherichia coli	2014	L	1.47

Briery Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.47**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_BRY01A02 / Briery Branch / Briery Branch from the 5 mile upper limit of the Bridgewater raw water intake (confluence with Beaver Creek) downstream to its confluence with North River.	4A	Fecal Coliform	2004	L	1.47

Briery Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**1.47**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B18R-06-PH** **Rocky Run**

Cause Location: Rocky Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 1.93 End Mile: 0.00 Total Impaired Size: 1.93 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA RH33 (12 excursions of 12 samples for pH in 2010, no new data for 2018, impairment carries forward). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_ROB01A02 / Rocky Run / Rocky Run from the headwaters downstream to its confluence with Briery Branch.	5A	pH	2006	L	1.93

Rocky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.93**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B18R-07-PH** **Union Springs Run**

Cause Location: Union Springs Run from the headwaters downstream to its confluence with Red Banks Run. (Start Mile: 3.74 End Mile: 0.00 Total Impaired Size: 3.74 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA RH34 (12 excursions of 12 samples for pH in 2010, no new data for 2018, impairment carries forward). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B18R_USB01A00 / Union Springs Run / Union Springs Run from a point 3 miles upstream of Beaver Creek downstream to its confluence with Beaver Creek at Redbanks Run.	5A	pH	2006	L	3.07
VAV-B18R_USB02A10 / Union Springs Run / Union Springs Run from the headwaters downstream to a point 3 miles upstream of Beaver Creek at Redbanks Run.	5A	pH	2006	L	0.66

Union Springs Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.73**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B19R-01-BAC** **Mossy Creek**

Cause Location: Mossy Creek from the headwaters downstream to its confluence with North River. (Start Mile: 10.46 End Mile: 0.00 Total Impaired Size: 10.46 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BMSS001.35 (21 exceedences of 71 samples for e-coli). Initial Listing Date: 1996; The segment is included in the EPA approved Mossy Creek TMDL for bacteria. Federal TMDL ID # 1585

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B19R_MSS01A00 / Mossy Creek / Mossy Creek from the 5 mile upper limit for the Bridgewater Public Water Intake downstream to its confluence with North River.	4A	Escherichia coli	2004	L	2.29
VAV-B19R_MSS02A00 / Mossy Creek / Mossy Creek from a point 7.1 miles upstream of the confluence with North River downstream to the 5 mile upper limit for the PWS designation for the Bridgewater Public Water Intake.	4A	Escherichia coli	2004	L	5.10
VAV-B19R_MSS03A10 / Mossy Creek / Mossy Creek from the headwaters downstream to a point 7.1 miles upstream of the confluence with North River.	4A	Escherichia coli	2004	L	3.07

Mossy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**10.46**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B19R_MSS01A00 / Mossy Creek / Mossy Creek from the 5 mile upper limit for the Bridgewater Public Water Intake downstream to its confluence with North River.	4A	Fecal Coliform	1996	L	2.29
VAV-B19R_MSS02A00 / Mossy Creek / Mossy Creek from a point 7.1 miles upstream of the confluence with North River downstream to the 5 mile upper limit for the PWS designation for the Bridgewater Public Water Intake.	4A	Fecal Coliform	1996	L	5.10
VAV-B19R_MSS03A10 / Mossy Creek / Mossy Creek from the headwaters downstream to a point 7.1 miles upstream of the confluence with North River.	4A	Fecal Coliform	1996	L	3.07

Mossy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**10.46**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B19R-01-BEN** **Mossy Creek**

Cause Location: Mossy Creek from the headwaters downstream to its confluence with North River. (Start Mile: 10.46 End Mile: 0.00 Total Impaired Size: 10.46 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BMSS003.01 (Impaired for VSCI). Initial Listing Date 1998; This segment is included in the EPA approved Mossy Creek TMDL for benthics. Federal TMDL ID # 10673

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B19R_MSS01A00 / Mossy Creek / Mossy Creek from the 5 mile upper limit for the Bridgewater Public Water Intake downstream to its confluence with North River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	2.29
VAV-B19R_MSS02A00 / Mossy Creek / Mossy Creek from a point 7.1 miles upstream of the confluence with North River downstream to the 5 mile upper limit for the PWS designation for the Bridgewater Public Water Intake.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	5.10
VAV-B19R_MSS03A10 / Mossy Creek / Mossy Creek from the headwaters downstream to a point 7.1 miles upstream of the confluence with North River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	3.07

Mossy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.46**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B20L-01-TEMP** **Switzer Lake**

Cause Location: Switzer Lake (Total Impaired Size: 99.49 Acres)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This lake is impaired due to exceedences of the temperature WQS at station: 1BSKD003.18 (49 exceedences of 387 samples for temperature). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B20L_01 / Switzer Lake / Switzer Lake	5A	Temperature, water	2006	L	100.81

Switzer Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:		**100.81**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B20R-01-PH** **Dry River**

Cause Location: Dry River from its confluence with Little Laurel Run downstream to its confluence with Blacks Run. (Start Mile: 20.83 End Mile: 10.65 Total Impaired Size: 10.18 Miles) This segment was shortened in 2014 due to a downstream assessment unit returning for fully supporting status.

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 1BDUR017.26 (2 excursions of 12 samples for pH). Initial Listing Date: 2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B20R_DUR01A00 / Dry River / Dry River from the City of Harrisonburg water intake downstream to its confluence with Black Run.	5A	pH	2002	L	1.52
VAV-B20R_DUR02A00 / Dry River / Dry River from its confluence with Skidmore Fork downstream to the City of Harrisonburg Water Intake.	5A	pH	2002	L	4.32
VAV-B20R_DUR02B10 / Dry River / Dry River from the 5 miles PWS designation downstream to its confluence with Skidmore Fork.	5A	pH	2008	L	0.64
VAV-B20R_DUR03A00 / Dry River / Dry River from its confluence with Little Laurel Run downstream to the 5 mile PWS designation for the City of Harrisonburg Water Intake.	5A	pH	2002	L	3.70

Dry River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.18**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B20R-02-BEN** **Skidmore Fork**

Cause Location: Skidmore Fork from the headwaters downstream to the upper end of Switzer Lake. (Start Mile: 8.50 End Mile: 3.06 Total Impaired Size: 5.44 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is impaired due to exceedences of the General Standard for Benthics at station: USFS 2001 (MAIS-Impaired) Initial Listing Date: 2006; USFS believes this is a drought related impairment from the 1998-2002 regional drought and a natural conditions. Data in 2016 indicated that this impairment is no longer present, however both samples were taken in the spring and a sample needs to be fully supporting in both spring and fall successive samplings for delisting.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B20R_SKD03A00 / Skidmore Fork / Skidmore Fork from the headwaters downstream to the upper end of Switzer Lake.	4C	Benthic-Macroinvertebrate Bioassessments			5.44

Skidmore Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.44**

Sources:

Drought-related Impacts

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B21R-01-BAC** **Dry River**

Cause Location: Dry River from the Route 613 bridge at Lilly downstream to its confluence with North River. (Start Mile: 6.57 End Mile: 0.00 Total Impaired Size: 6.57 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BDUR000.02 (14 exceedences of 42 samples for e-coli). Initial Listing Date: 1998; This segment is included in the EPA approved Dry River bacteria TMDL. Federal TMDL ID # 1492

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B21R_DUR01A00 / Dry River / Dry River from its confluence with Muddy Creek downstream to its confluence with North River.	4A	Escherichia coli	2004	L	2.69
VAV-B21R_DUR02A00 / Dry River / Dry River from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Muddy Creek.	4A	Escherichia coli	2004	L	2.20
VAV-B21R_DUR03A00 / Dry River / Dry River from the Route 613 bridge downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake.	4A	Escherichia coli	2004	L	1.66

Dry River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.55**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B21R_DUR01A00 / Dry River / Dry River from its confluence with Muddy Creek downstream to its confluence with North River.	4A	Fecal Coliform	1998	L	2.69
VAV-B21R_DUR02A00 / Dry River / Dry River from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Muddy Creek.	4A	Fecal Coliform	1998	L	2.20
VAV-B21R_DUR03A00 / Dry River / Dry River from the Route 613 bridge downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake.	4A	Fecal Coliform	1998	L	1.66

Dry River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.55**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B21R-02-BAC** **Honey Run**

Cause Location: Honey Run from the headwaters downstream to its confluence with Dry River. (Start Mile: 4.26 End Mile: 0.00 Total Impaired Size: 4.26 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

This segment remains impaired based on data in the 2004 cycle for exceedences of the fecal coliform bacteria WQS. As no data are in the 2018 cycle, this status will carry to 2018. Initial Listing Date: 2004. This segment is included in the geographical boundary of the EPA approved Dry River TMDL for bacteria and is listed as Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7686

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B21R_HNY01A02 / Honey Run / Honey Run from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Supply Intake downstream to its confluence with Dry River.	4A	Fecal Coliform	2004	L	1.14
VAV-B21R_HNY02A02 / Honey Run / Honey Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake.	4A	Fecal Coliform	2004	L	3.11

Honey Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.25**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B22R-01-BAC** **Muddy Creek**

Cause Location: Muddy Creek from the headwaters downstream to its confluence with Dry River. (Start Mile: 11.15 End Mile: 0.00 Total Impaired Size: 11.15 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BMDD000.40 (20 exceedences of 36 samples for e-coli) and 1BMDD005.81 (42 exceedences of 62 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Muddy Creek bacteria TMDL. Federal TMDL ID # 1589

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B22R_MDD01A00 / Muddy Creek / Muddy Creek from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Dry River.	4A	Escherichia coli	2004	L	2.33
VAV-B22R_MDD02A00 / Muddy Creek / Muddy Creek from its confluence with War Branch downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake.	4A	Escherichia coli	2004	L	1.33
VAV-B22R_MDD03A00 / Muddy Creek / Muddy Creek from the headwaters downstream to its confluence with War Branch.	4A	Escherichia coli	2004	L	7.47

Muddy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.13**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B22R_MDD01A00 / Muddy Creek / Muddy Creek from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Dry River.	4A	Fecal Coliform	1996	L	2.33
VAV-B22R_MDD02A00 / Muddy Creek / Muddy Creek from its confluence with War Branch downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake.	4A	Fecal Coliform	1996	L	1.33
VAV-B22R_MDD03A00 / Muddy Creek / Muddy Creek from the headwaters downstream to its confluence with War Branch.	4A	Fecal Coliform	1996	L	7.47

Muddy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.13**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B22R-01-BEN** **Muddy Creek**

Cause Location: Muddy Creek from the headwaters downstream to its confluence with Dry River. (Start Mile: 11.15 End Mile: 0.00 Total Impaired Size: 11.15 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BMDD002.10 (Impaired for VSCI) and 1BMDD005.17 (Impaired for VSCI). Initial Listing Date: 1996; This unit is included in the EPA approved Muddy Creek benthic TMDL. Federal TMDL ID # 7689

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B22R_MDD01A00 / Muddy Creek / Muddy Creek from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Dry River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M	2.33
VAV-B22R_MDD02A00 / Muddy Creek / Muddy Creek from its confluence with War Branch downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M	1.33
VAV-B22R_MDD03A00 / Muddy Creek / Muddy Creek from the headwaters downstream to its confluence with War Branch.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M	7.47

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.13**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B23R-01-BEN** **North River**

Cause Location: North River from its confluence with Cooks Creek downstream to its confluence with South River. (Start Mile: 15.83 End Mile: 0.00 Total Impaired Size: 15.83 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BNTH014.48 (Impaired for VSCI). Initial Listing Date: 1996; The aquatic life impairment based on the impaired benthic status is now part of an EPA approved stressor report to move from 5A to 4A - Impaired - EPA approved TMDL (Letter from EPA dated 2/3/06). Federal TMDL ID numbers applicable are 9509 and 9510.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B23R_NTH01A04 / North River / North River from its confluence with Middle River downstream to its confluence with South River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.70
VAV-B23R_NTH01B10 / North River / North River from its confluence with Naked Creek downstream to its confluence with Middle River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.25
VAV-B23R_NTH02A04 / North River / North River from its confluence with Cooks Creek downstream to its confluence with Naked Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	6.87

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.82**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B24R-01-BAC** **Long Glade Creek**

Cause Location: Long Glade Creek from the headwaters downstream to its confluence with North River. (Start Mile: 11.22 End Mile: 0.00 Total Impaired Size: 11.22 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BLGC000.96 (21 exceedences of 59 samples for e-coli). Initial Listing Date: 2004. This segment is included in the EPA approved Mossy Creek/Long Glade Creek bacteria TMDL. Federal TMDL ID # 19708

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B24R_LGC01A00 / Long Glade Creek / Long Glade Creek from the headwaters downstream to its confluence with North River.	4A	Escherichia coli	2008	L	11.22

Long Glade Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.22**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B24R_LGC01A00 / Long Glade Creek / Long Glade Creek from the headwaters downstream to its confluence with North River.	4A	Fecal Coliform	1998	L	11.22

Long Glade Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**11.22**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B25L-01-BAC** **Silver Lake**

Cause Location: Silver Lake (Total Impaired Size: 10.51 Acres)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This lake is impaired due to exceedences of the e-coli WQS at station: 1BXEF000.23 (3 exceedences of 13 samples for e-coli). Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B25L_00 / Silver Lake / Silver Lake at Dayton	5A	Escherichia coli	2018	L	10.51

Silver Lake **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**10.51**	

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B25R-01-BAC** **Cooks Creek**

Cause Location: Cooks Creek from the headwaters downstream to its confluence with North River. (Start Mile: 14.39 End Mile: 0.00 Total Impaired Size: 14.39 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BCKS003.10 (21 exceedences of 36 samples for e-coli); 1BCKS007.71 (5 exceedences of 12 samples for e-coli) Initial Listing Date: 1996; This segment is included in the EPA approved Cooks Creek bacteria TMDL. Federal TMDL ID # 9473

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B25R_CKS01A00 / Cooks Creek / Cooks Creek from its confluence with Silver Creek (at Route 701 Slab Crossing) downstream to its confluence with North River.	4A	Escherichia coli	2004	L	7.74
VAV-B25R_CKS02A04 / Cooks Creek / Cooks Creek from the headwaters downstream to its confluence with Silver Creek (at the Route 701 Slab Crossing).	4A	Escherichia coli	2004	L	6.63

Cooks Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.37**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B25R_CKS01A00 / Cooks Creek / Cooks Creek from its confluence with Silver Creek (at Route 701 Slab Crossing) downstream to its confluence with North River.	4A	Fecal Coliform	1996	L	7.74
VAV-B25R_CKS02A04 / Cooks Creek / Cooks Creek from the headwaters downstream to its confluence with Silver Creek (at the Route 701 Slab Crossing).	4A	Fecal Coliform	1996	L	6.63

Cooks Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**14.37**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B25R-01-BEN** **Cooks Creek**

Cause Location: Cooks Creek from the headwaters downstream to its confluence with North River. (Start Mile: 14.39 End Mile: 0.00 Total Impaired Size: 14.39 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BCKS001.03 (Impaired for VSCI) and 1BCKS003.04 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Cooks Creek/Blacks Run benthic TMDL. Federal TMDL ID # 9509 & 9510

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B25R_CKS01A00 / Cooks Creek / Cooks Creek from its confluence with Silver Creek (at Route 701 Slab Crossing) downstream to its confluence with North River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M, 2yr	7.74
VAV-B25R_CKS02A04 / Cooks Creek / Cooks Creek from the headwaters downstream to its confluence with Silver Creek (at the Route 701 Slab Crossing).	4A	Benthic-Macroinvertebrate Bioassessments	1996	M, 2yr	6.63

Cooks Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.37**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B25R-02-BAC** **Silver Creek**

Cause Location: Silver Creek from the Silver Lake dam outfall downstream to its confluence with Cooks Creek. (Start Mile: .21 End Mile: 0.00 Total Impaired Size: .21 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

This segment remains impaired due to exceedences of the fecal coliform WQS during the 2004 cycle. No new data are in the 2018 cycle, thus the impaired status carries forward. Initial Listing Date: 2002; This segment is included in the EPA approved Cooks Creek bacteria TMDL. Federal TMDL ID # 9470

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B25R_SLV01A04 / Silver Creek / Silver Creek from the Silver Lake dam outfall downstream to its confluence with Cooks Creek.	4A	Fecal Coliform	2002	L	0.20

Silver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**0.20**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B25R-03-BAC** **Sunset Heights Branch**

Cause Location: Sunset Heights Branch from the headwaters downstream to its confluence with Cooks Creek. (Start Mile: 4.75 End Mile: 0.00 Total Impaired Size: 4.75 Miles)

City / County: Harrisonburg City Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

This segment remains impaired due to exceedences of the fecal coliform WQS during the 2004 cycle. No new data is in the 2018 cycle, thus the impaired status carries forward. Initial Listing Date: 2004; This segment is included in the EPA approved Cooks Creek bacteria TMDL. Federal TMDL ID # 9470

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B25R_XBU01A02 / Sunset Heights Branch / Sunset Heights Branch from the headwaters downstream to its confluence with Cooks Creek.	4A	Fecal Coliform	2004	L	4.74

Sunset Heights Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.74**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B26R-01-BAC** **Blacks Run**

Cause Location: Blacks Run from the headwaters downstream to its confluence with Cooks Creek. (Start Mile: 11.64 End Mile: 0.00 Total Impaired Size: 11.64 Miles)

City / County: Harrisonburg City Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BBLK000.38 (12 exceedences of 36 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Blacks Run bacteria TMDL. Federal TMDL ID # 9470

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B26R_BLK01A00 / Blacks Run / Blacks Run from the headwaters downstream to its confluence with Cooks Creek.	4A	Escherichia coli	2004	L	11.64

Blacks Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.64**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B26R_BLK01A00 / Blacks Run / Blacks Run from the headwaters downstream to its confluence with Cooks Creek.	4A	Fecal Coliform	1996	L	11.64

Blacks Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.64**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B26R-01-BEN** **Blacks Run**

Cause Location: Blacks Run from the headwaters downstream to its confluence with Cooks Creek. (Start Mile: 11.64 End Mile: 0.00 Total Impaired Size: 11.64 Miles)

City / County: Harrisonburg City Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BBLK000.08 (Impaired for VSCI) and 1BBLK005.62 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Blacks Run benthic TMDL. Federal TMDL ID # 9510

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B26R_BLK01A00 / Blacks Run / Blacks Run from the headwaters downstream to its confluence with Cooks Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M, 2yr	11.64

Blacks Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.64**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B27R-01-BAC** **Pleasant Run**

Cause Location: Pleasant Run from the headwaters downstream to its confluence with North River. (Start Mile: 6.74 End Mile: 0.00 Total Impaired Size: 6.74 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BPLR000.16 (12 exceedences of 12 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Pleasants Run bacteria TMDL. Federal TMDL ID # 9469

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B27R_PLR01A00 / Pleasant Run / Pleasant Run from the headwaters downstream to its confluence with North River.	4A	Escherichia coli	2004	L	6.73

Pleasant Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.73**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B27R_PLR01A00 / Pleasant Run / Pleasant Run from the headwaters downstream to its confluence with North River.	4A	Fecal Coliform	1996	L	6.73

Pleasant Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**6.73**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B27R-01-BEN** **Pleasant Run**

Cause Location: Pleasant Run from the headwaters downstream to its confluence with North River. (Start Mile: 6.74 End Mile: 0.00 Total Impaired Size: 6.74 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BPLR000.08 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Pleasants Run benthic TMDL. Federal TMDL ID # 9508

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B27R_PLR01A00 / Pleasant Run / Pleasant Run from the headwaters downstream to its confluence with North River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M	6.73

Pleasant Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.73**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B28R-01-BAC** **Naked Creek**

Cause Location: Naked Creek from the headwaters downstream to its confluence with North River. (Start Mile: 7.12 End Mile: 0.00 Total Impaired Size: 7.12 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BNKD000.80 (35 exceedences of 59 samples for e-coli), 1BNKD-NC5-FOSR (17 exceedences of 18 samples for e-coli in 2016, no data in 2018) and 1BNKD-NC6-FOSR (17 exceedences of 18 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 1996; This segment is located within the EPA approved Naked Creek bacteria TMDL. Federal TMDL ID # 7710

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B28R_NKD01A00 / Naked Creek / Naked Creek from the Route 696 bridge crossing downstream to its confluence with North River.	4A	Escherichia coli	2004	L	3.79
VAV-B28R_NKD02A10 / Naked Creek / Naked Creek from the headwaters downstream to the Route 696 bridge crossing.	4A	Escherichia coli	2004	L	3.33

Naked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.12**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B28R_NKD01A00 / Naked Creek / Naked Creek from the Route 696 bridge crossing downstream to its confluence with North River.	4A	Fecal Coliform	1996	L	3.79
VAV-B28R_NKD02A10 / Naked Creek / Naked Creek from the headwaters downstream to the Route 696 bridge crossing.	4A	Fecal Coliform	1996	L	3.33

Naked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.12**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B28R-02-BAC** **North Fork Naked Creek**

Cause Location: North Fork Naked Creek from the headwaters downstream to its confluence with Naked Creek. (Start Mile: 5.25 End Mile: 0.00 Total Impaired Size 5.25 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BNKN-NC2-FOSR (10 exceedences of 18 samples for e-coli in 2016, no data in 2018); 1BNKN-NC3-FOSR (9 exceedences of 18 samples for e-coli in 2016, no data in 2018) and 1BNKN-NC4-FOSR (5 exceedences of 6 samples for e-coli in 2016, no data in 2018). Initial Listing 2012. This segment included in the EPA approved Naked Creek Bacteria TMDL. Federal TMDL ID: 7710

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B28R_NKN01A00 / North Fork Naked Creek / North Fork Naked Creek from the headwaters downstream to its confluence with Naked Creek.	4A	Escherichia coli	2012	L	5.24

North Fork Naked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.24**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B29R-01-BAC** **Congers Creek/Duck Run/Mill Creek**

Cause Location: Congers Creek from the headwaters downstream to its confluence with Duck Run; Duck Run from the headwaters downstream to its confluence with Mill Creek, Mill Creek from the headwaters downstream to its confluence with North River. (Start Mile: 5.99, 2.88, 6.26 End Mile: 0.00, 0.00, 0.00 Total Impaired Size: 5.99 Miles, 2.88 Miles, 6.26 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

These segments remain impaired for recreational use based on exceedences of the fecal coliform and e-coli bacteria standards at station 1BCNG000.03, 1BDRK000.18 and 1BMIC001.00 (10 exceedences of 12 samples for e-coli). Initial Listing Date: 1996; These segments are included in the EPA approved Mill Creek TMDL for bacteria. Federal TMDL ID # 9468

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B29R_MIC01A00 / Mill Creek / Mill Creek from its confluence with Duck Run downstream to its confluence with the South Fork Shenandoah River.	4A	Escherichia coli	2004	L	2.78
VAV-B29R_MIC02A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with Duck Run.	4A	Escherichia coli	2004	L	3.46

Congers Creek/Duck Run/Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.24**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B29R_CNG01A00 / Congers Creek / Congers Creek from the Lake Shenandoah Dam outfall downstream to its confluence with Mill Creek.	4A	Fecal Coliform	2004	L	3.20
VAV-B29R_CNG02A10 / Congers Creek / Congers Creek from the headwaters downstream to the upper end of Lake Shenandoah.	4A	Fecal Coliform	2004	L	2.79
VAV-B29R_DKR01A00 / Duck Run / Duck Run from its headwaters downstream to its confluence with Mill Creek.	4A	Fecal Coliform	1996	L	2.87
VAV-B29R_MIC01A00 / Mill Creek / Mill Creek from its confluence with Duck Run downstream to its confluence with the South Fork Shenandoah River.	4A	Fecal Coliform	1996	L	2.78
VAV-B29R_MIC02A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with Duck Run.	4A	Fecal Coliform	1996	L	3.46

Congers Creek/Duck Run/Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**15.10**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B29R-01-BEN** **Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with North River. (Start Mile: 6.26 End Mile: 0.00 Total Impaired Size: 6.26 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BMIC001.00 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Mill Creek benthic TMDL. Federal TMDL ID # 9676

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B29R_MIC01A00 / Mill Creek / Mill Creek from its confluence with Duck Run downstream to its confluence with the South Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M	2.78
VAV-B29R_MIC02A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with Duck Run.	4A	Benthic-Macroinvertebrate Bioassessments	1996	M	3.46

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.24**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B30R-01-BAC** **South River**

Cause Location: South River from the headwaters downstream to its confluence with Stony Run. (Start Mile: 52.54 End Mile: 40.11 Total Impaired Size: 12.43 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BSTH041.68 (39 exceedences of 71 samples for e-coli) and 1BSTH044.90 (4 exceedences of 6 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 1996; This segment was included in the EPA approved Middle River/South River bacteria TMDL. Federal TMDL ID # 7700

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B30R_STH01A00 / South River / South River from the headwaters downstream to its confluence with Stony Run.	4A	Escherichia coli	2008	L	12.42

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**12.42**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B30R_STH01A00 / South River / South River from the headwaters downstream to its confluence with Stony Run.	4A	Fecal Coliform	1996	L	12.42

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**12.42**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B30R-02-PH** **Loves Run**

Cause Location: Loves Run from the headwaters downstream to its confluence with the South River. (Start Mile: 5.64 End Mile: 0.00 Total Impaired Size: 5.64 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA AU14 (12 excursions of 12 samples for pH) This data is now outside the assessment data window, however the impairment must carry forward. Level II data at this site indicates continued impairment (1 excursion of 1 sample for pH in 2016, no data in 2018). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B30R_LOV01A00 / Loves Run / Loves Run from a point 2.7 miles upstream of South River downstream to its confluence with South River.	5A	pH	2006	M	2.70
VAV-B30R_LOV02A10 / Loves Run / Loves Run from the headwaters downstream to a point 2.7 miles upstream of its confluence with South River.	5A	pH	2006	M	2.93

Loves Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.63**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B30R-03-BAC** **Pine Run**

Cause Location: Pine Run from the headwaters downstream to its confluence with the South River. (Start Mile: 20.38 End Mile: 0.00 Total Impaired Size: 20.38 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BPNE000.04 (3 exceedences of 6 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2006. This segment is included in the EPA approved South River bacteria TMDL. Federal TMDL ID # 7700

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B30R_PNE01A00 / Pine Run / Pine Run and tributaries from the headwaters downstream to its confluence with South River.	4A	Escherichia coli	2006	L	20.38

Pine Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.38**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B30R-03-BEN** **Pine Run**

Cause Location: Pine Run from the headwaters downstream to its confluence with the South River. (Start Mile: 20.38 End Mile: 0.00 Total Impaired Size: 20.38 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 1BPNE001.60 (Impaired for VSCI). Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B30R_PNE01A00 / Pine Run / Pine Run and tributaries from the headwaters downstream to its confluence with South River.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	20.38

Pine Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**20.38**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31L-01-PH** **Coles Run Reservoir**

Cause Location: Coles Run Reservoir (Total Impaired Size: 10.84 Acres)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This lake is impaired due to excursions of the pH WQS at station: 1BCLS003.60 (35 excursions of 35 samples for pH). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31L_00 / Coles Run Reservoir / Coles Run Reservoir	5A	pH	2008	L	10.84

Coles Run Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**10.84**	

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-01-BAC** **Back Creek**

Cause Location: Back Creek from its confluence with Toms Branch downstream to the confluence with South River. (Start Mile: 6.01 End Mile 0.00 Total Impaired Size 6.01 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station 1BBCK000.78. (2 exceedences of 9 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2012. This impairment was shortened in 2018 due to additional data upstream indicating fully supporting status, 2 upstream units delisted 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_BCK01A00 / Back Creek / Back Creek from its confluence with Toms Branch downstream to its confluence with South River.	5A	Escherichia coli	2012	L	6.01

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.01**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-01-BEN** **Back Creek**

Cause Location: Back Creek from its confluence with Toms Branch downstream to the confluence with South River. (Start Mile: 6.01 End Mile 0.00 Total Impaired Size 6.01 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station 1BBCK000.78 (Impaired for VSCI). Initial Listing Date 2002. This impairment was shortened in 2018 due to additional data upstream indicating fully supporting status, 2 upstream units delisted 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_BCK01A00 / Back Creek / Back Creek from its confluence with Toms Branch downstream to its confluence with South River.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	6.01

Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.01**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-02-BEN** **Mills Creek**

Cause Location: Mills Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 9.14 End Mile: 0.00 Total Impaired Size: 9.14 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at USFS Station: 5116 (Impaired for VSCI) and 1BMLS002.37 (Impaired for VSCI). Initial Listing Date: 2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_MLS01A02 / Mills Creek / Mills Creek from a point 1.8 miles upstream of Back Creek downstream to its confluence with Back Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	1.66
VAV-B31R_MLS02A10 / Mills Creek / Mills Creek from the South River Sanitary District's raw water intake downstream to a point 1.8 miles upstream of Back Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	2.44
VAV-B31R_MLS03A10 / Mills Creek / Mills Creek from the headwaters downstream to the South River Sanitary District's raw water intake.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	5.02

Mills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.12**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-02-PH** **Mills Creek**

Cause Location: Mills Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 9.14 End Mile: 0.00 Total Impaired Size: 9.14 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station 1BMLS002.37 (2 excursions of 6 samples for pH) and VT40-UVA (12 excursions of 24 samples for pH, Level II data). Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_MLS01A02 / Mills Creek / Mills Creek from a point 1.8 miles upstream of Back Creek downstream to its confluence with Back Creek.	5A	pH	2018	L	1.66
VAV-B31R_MLS02A10 / Mills Creek / Mills Creek from the South River Sanitary District's raw water intake downstream to a point 1.8 miles upstream of Back Creek.	5A	pH	2018	L	2.44
VAV-B31R_MLS03A10 / Mills Creek / Mills Creek from the headwaters downstream to the South River Sanitary District's raw water intake.	5A	pH	2018	L	5.02

Mills Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**9.12**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-03-BEN** **Toms Branch**

Cause Location: Toms Branch from the headwaters downstream to its confluence with Back Creek. (Start Mile: 3.49 End Mile: 0.00 Total Impaired Size: 3.49 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is considered impaired for aquatic life use based on moderately impaired benthic assessment by the U.S. Forest Service at site 5104 in the 2004 assessment. Newer data indicate improvement at this site, however, additional surveys are needed for de-listing. This impairment was determined to be natural in the 2004 assessment and that categorization will carry to the 2016 cycle. Initial Listing Date: 2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_TMS01A02 / Toms Branch / Toms Branch from a point 1.1 miles upstream of Back Creek downstream to its confluence with Back Creek.	4C	Benthic-Macroinvertebrate Bioassessments			1.15
VAV-B31R_TMS02A10 / Toms Branch / Toms Branch from the headwaters downstream to a point 1.1 miles upstream of Back Creek.	4C	Benthic-Macroinvertebrate Bioassessments			2.34

Toms Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.49**

Sources:

Drought-related Impacts

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-04-PH** **Coles Run**

Cause Location: Coles Run from the headwaters downstream to its confluence with South River. (Start Mile: 6.89 End Mile: 0.00 Total Impaired Size: 6.89 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA AU16 (12 excursions of 12 samples for pH in 2010, 1 excursion of 1 samples in 2016 with Level II data indicate continued impairment, the impairment carries forward, no data in 2018). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_CLS01A00 / Coles Run / Coles Run from the South River Sanitary District's raw water intake (Coles Run Dam) downstream to its confluence with South River.	5A	pH	2006	M	4.25
VAV-B31R_CLS02A10 / Coles Run / Coles Run from the headwaters downstream to the upper end of the Coles Run Reservoir.	5A	pH	2006	M	2.63

Coles Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**6.88**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-05-PH** **Johns Run**

Cause Location: Johns Run from the headwaters downstream its confluence with South River. (Start Mile: 5.45 End Mile: 0.00 Total Impaired Size: 5.45 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA AU15 (12 excursions of 12 samples for pH in 2010, 1 excursion of 1 samples in 2016 with Level II data indicate continued impairment, the impairment carries forward, no data in 2018). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_JHN01A00 / Johns Run / Johns Run from the headwaters downstream to its confluence with South River.	5A	pH	2006	M	5.45

Johns Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.45**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-06-PH** **Kennedy Creek**

Cause Location: Kennedy Creek and tributaries from the headwaters downstream to its confluence with South River. (Start Mile: 15.47 End Mile: 0.00 Total Impaired Size: 15.47 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA VT39 (12 excursions of 12 samples for pH in 2010, 24 excursions of 24 samples in 2018 with Level II data indicate continued impairment, the impairment carries forward). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_KND01A00 / Kennedy Creek / Kennedy Creek and tributaries from the headwaters downstream to its confluence with South River.	5A	pH	2006	M	15.47

Kennedy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**15.47**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B31R-07-PH** **Orebank Creek**

Cause Location: Orebank Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 3.55 End Mile: 0.00 Total Impaired Size: 3.55 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA OB01 (12 excursions of 12 samples for pH in 2010, no new data are available in 2018; AU35-UVA (1 excursion of 1 sample Level II data indicate continued impairment, the impairment carries forward). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_ORE01A02 / Orebank Creek / Orebank Creek from the headwaters downstream to its confluence with Back Creek.	5A	pH	2006	M	3.55

Orebank Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.55**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B32R-01-BEN** **South River**

Cause Location: South River from its confluence with Back Creek downstream to its confluence with the North River. (Start Mile: 29.32 End Mile: 0.00 Total Impaired Size 29.32) (Impaired was lengthened in 2012.

City / County: Augusta Co. Rockingham Co. Waynesboro City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BSTH02.14 (Impaired for VSCI); 1BSTH0019.52 (Impaired for VSCI); 1BSTH021.59 (Impaired for VSCI) and 1BSTH027.08 (Impaired for VSCI). Initial Listing Date: 1996. This impairment is included in the EPA approved South River benthic TMDL. Federal TMDL ID # 38138 & 38139.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River.	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	5.37
VAV-B32R_STH02A04 / South River / South River from its confluence with Porterfield Run downstream to its confluence with Stull Run.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	11.55
VAV-B32R_STH03A04 / South River / South River from the INVISTA discharge downstream to its confluence with Porterfield Run.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	7.44
VAV-B32R_STH04A04 / South River / South River from its confluence with Coiner Spring intermittent run downstream to the INVISTA discharge.	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.11
VAV-B32R_STH05A04 / South River / South River from its confluence with Back Creek downstream to its confluence with Coiner Spring intermittent run.	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.82

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**29.29**

Sources:

Municipal (Urbanized High Density Area)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B32R-02-BAC** **South River**

Cause Location: South River from its confluence with Stony Creek downstream to its confluence with the North River. (Start Mile: 40.11 End Mile: 0.00 Total Impaired Size: 40.11 Miles) Impairment lengthened in 2012 with additional upstream assessment unit.

City / County: Augusta Co. Rockingham Co. Waynesboro City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BSTH002.14 (2 exceedences of 12 samples for e-coli); 1BSTH007.80 (5 exceedences of 47 samples for e-coli); 1BSTH020.85 (7 exceedences of 59 samples for e-coli); 1BSTH027.85 (11 exceedences of 71 samples for e-coli) and 1BSTH031.45 (4 exceedences of 12 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 1996. This impairment is included in the EPA approved South River bacteria TMDL. Federal TMDL ID # 38140.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B31R_STH01A00 / South River / South River from its confluence with Stony Creek downstream to its confluence with Back Creek.	4A	Escherichia coli	2012	L	10.78
VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River.	4A	Escherichia coli	2014	L	5.37
VAV-B32R_STH02A04 / South River / South River from its confluence with Porterfield Run downstream to its confluence with Stull Run.	4A	Escherichia coli	2006	L	11.55
VAV-B32R_STH03A04 / South River / South River from the INVISTA discharge downstream to its confluence with Porterfield Run.	4A	Escherichia coli	2012	L	7.44
VAV-B32R_STH04A04 / South River / South River from its confluence with Coiner Spring intermittent run downstream to the INVISTA discharge.	4A	Escherichia coli	2010	L	2.11
VAV-B32R_STH05A04 / South River / South River from its confluence with Back Creek downstream to its confluence with Coiner Spring intermittent run.	4A	Escherichia coli	2006	L	2.82

South River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**40.07**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River.	4A	Fecal Coliform	1996	L	5.37
VAV-B32R_STH02A04 / South River / South River from its confluence with Porterfield Run downstream to its confluence with Stull Run.	4A	Fecal Coliform	1996	L	11.55
VAV-B32R_STH03A04 / South River / South River from the INVISTA discharge downstream to its confluence with Porterfield Run.	4A	Fecal Coliform	1996	L	7.44

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

South River

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**24.36**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B32R-02-HG** **South River/South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River**

Cause Location: South River from the INVISTA discharge downstream to its confluence with the South Fork Shenandoah River: Start Mile 24.37 End Mile 0.00 Total Miles 24.37; the entire South Fork Shenandoah River Start Mile 101.19 End Mile 0.00 Total Miles 101.19; North Fork Shenandoah River from old Riverton Dam (removed) downstream to its confluence with the South Fork Shenandoah River Start Mile .71 End Mile 0.00 Total Miles: .71 and the Shenandoah River to its confluence with Craig Run. Start Mile 56.23 End Mile 28.2 Total Miles 28.03 Miles (Total Miles of Impairment 154.3)

City / County: Augusta Co. Clarke Co. Page Co. Rockingham Co. Warren Co.
Waynesboro City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 4A

This segment is impaired due to the presence of Hg in fish tissue at stations: 1BSTH004.21 (4 samples of Hg (Redbreast Sunfish, Lmouth Bass (2) & Wh. Sucker) 2005); 1BSTH020.44 (2 samples of Hg (Lmouth Bass & Wh. Sucker) 2005); 1BSTH022.75 (3 samples of Hg (Lmouth Bass (2) and White Sucker) 2005); 1BSTH023.73 (5 samples of Hg in Redbreast Sunfish, 3 samples in Largemouth Bass and 1 sample in Smallmouth Bass 2005); 1BSTH025.10 (2 samples of Hg (Redbreast Sunfish & Largemouth Bass) 2005); 1BSSF063.17 (2 samples of Hg in Redbreast Sunfish and Lmouth Bass); 1BSSF000.19 (01 Hg Sed, 05 Hg in 2 species); 1BSHN053.63 (3 samples of Hg in Bluegill, Smouth & Lmouth Bass); 1BSHN028.15 (2 samples below VDH threshold for Hg); 1BSHN038.27 (3 samples of Hg in Lmouth Bass (2) & Channel Catfish). Initial Listing Date: 1998. This segment was lengthened in 2008 as the presence of Hg was found further downstream than in the 2006 cycle. (128.82 miles to 155.11 miles) VDH Fish Consumption Advisory Federal TMDL ID #'s 38683, 38684, 38685, 38698, 38699 38700, 38701, 38702, 38703, 38704, 38705, 38706, 38707, 38708 and 38709

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River.	4A	Mercury in Fish Tissue	1998	L	5.37
VAV-B32R_STH02A04 / South River / South River from its confluence with Porterfield Run downstream to its confluence with Stull Run.	4A	Mercury in Fish Tissue	1998	L	11.55
VAV-B32R_STH03A04 / South River / South River from the INVISTA discharge downstream to its confluence with Porterfield Run.	4A	Mercury in Fish Tissue	1998	L	7.44
VAV-B33R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run.	4A	Mercury in Fish Tissue	1998	L	7.88
VAV-B35R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Dry Run downstream to its confluence with Naked Creek.	4A	Mercury in Fish Tissue	1998	L	3.55
VAV-B35R_SSF01B14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Hawksbill Creek downstream to its confluence with Dry Run.	4A	Mercury in Fish Tissue	1998	L	4.04
VAV-B35R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Big Run downstream to its confluence with Hawksbill Creek.	4A	Mercury in Fish Tissue	1998	L	7.08
VAV-B37R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cub Run downstream to its confluence with Stony Run just below the Route 340 bridge at	4A	Mercury in Fish Tissue	1998	L	4.98
VAV-B37R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from the Shenandoah STP outfall	4A	Mercury in Fish Tissue	1998	L	12.16

downstream to its confluence with Cub Run.					
VAV-B37R_SSF02B14 / South Fork Shenandoah River / South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall.	4A	Mercury in Fish Tissue	1998	L	1.98
VAV-B38R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Whitehouse Landing downstream to its confluence with Hawksbill Creek.	4A	Mercury in Fish Tissue	1998	L	10.46
VAV-B38R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Stony Run downstream to the Whitehouse Landing.	4A	Mercury in Fish Tissue	1998	L	5.98
VAV-B40R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Andy Guest State Park STP outfall downstream to its confluence with Gooney Run.	4A	Mercury in Fish Tissue	2006	L	6.60
VAV-B40R_SSF01B14 / South Fork Shenandoah River / South Fork Shenandoah River from the Bentonville Landing Bridge downstream to the Andy Guest State Park STP outfall.	4A	Mercury in Fish Tissue	1998	L	2.17
VAV-B40R_SSF01C14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Dry Mine Run downstream to the Bentonville Landing Bridge.	4A	Mercury in Fish Tissue	1998	L	10.35
VAV-B40R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from Seekford's Ford downstream to its confluence with Dry Mine Run.	4A	Mercury in Fish Tissue	1998	L	1.22
VAV-B40R_SSF03A14 / South Fork Shenandoah River / South Fork Shenandoah River from the Foster's Landing Rapids downstream to Seekford's Ford.	4A	Mercury in Fish Tissue	1998	L	5.39
VAV-B40R_SSF04A14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Hawksbill Creek downstream to the Foster's Landing Rapids	4A	Mercury in Fish Tissue	1998	L	6.96
VAV-B41R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cabin Run downstream to its confluence with the North Fork Shenandoah River.	4A	Mercury in Fish Tissue	2002	L	1.85
VAV-B41R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Rivermont Drive Bridge downstream to its confluence with Cabin Run.	4A	Mercury in Fish Tissue	2002	L	2.45
VAV-B41R_SSF03A00 / South Fork Shenandoah River / South Fork Shenandoah River from the 5 mile upper limit of the PWS designation for the Front Royal Public Water Intake downstream to the Rivermont Drive Bridge.	4A	Mercury in Fish Tissue	1998	L	1.54
VAV-B41R_SSF04A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Gooney Run downstream to the 5 mile upper limit of the PWS designation for the Front Royal Public Water Intake.	4A	Mercury in Fish Tissue	1998	L	4.47
VAV-B51R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from the old dam site at the boat ramp downstream to its confluence with the South Fork Shenandoah River.	4A	Mercury in Fish Tissue	2002	L	0.71
VAV-B55R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Oregon Hollow downstream to its confluence with Long Branch.	4A	Mercury in Fish Tissue	2008	L	8.51
VAV-B55R_SHN01B10 / Shenandoah River / Shenandoah River from the power plant dam near Front Royal downstream to its confluence with Oregon Hollow.	4A	Mercury in Fish Tissue	2008	L	4.42

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VAV-B55R_SHN02A00 / Shenandoah River / Shenandoah River from the confluence of the North and South Fork's downstream to the power plant dam near Front Royal.	4A	Mercury in Fish Tissue	1998	L	3.66
VAV-B57R_SHN01A00 / Shenandoah River / Shenandoah River from the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake downstream to its confluence with Craig Run.	4A	Mercury in Fish Tissue	2008	L	2.72
VAV-B57R_SHN02A00 / Shenandoah River / Shenandoah River from its confluence with Spout Run downstream to the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake.	4A	Mercury in Fish Tissue	2008	L	3.31
VAV-B57R_SHN03A00 / Shenandoah River / Shenandoah River from its confluence with Long Branch downstream to its confluence with Spout Run.	4A	Mercury in Fish Tissue	2008	L	5.40

South River/South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**154.20**

Sources:

Contaminated Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B32R-02-PCB** **South River**

Cause Location: South River from its confluence with Stull Run downstream to its confluence with North River. (Start Mile: 5.37 End Mile: 0.00 Total Impaired Size: 5.37 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to the presence of PCB's in fish tissue at station: 1BSTH000.19 (2 samples of PCB's (Carp and Redhorse Sucker (2005). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River.	5A	PCB in Fish Tissue	2008	L	5.37

South River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**5.37**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B32R-03-PH** **Paine Run**

Cause Location: Paine Run from the headwaters downstream to its confluence with South River. (Start Mile: 6.75 End Mile: 0.00 Total Impaired Size: 6.75 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at stations: UVA PAIN (12 excursions of 12 samples for pH, old data, however 681 excursions of 681 samples for pH in 2018 Level II data) and 1BPAN000.20 (3 excursions of 12 samples for pH) and 1BPAN-2.77-SNP (6 excursions of 6 samples for pH). Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B32R_PAN01A00 / Paine Run / Paine Run from a point 1.7 miles upstream of South River downstream to its confluence with South River.	5A	pH	2004	M	1.90
VAV-B32R_PAN02A10 / Paine Run / Paine Run from the headwaters downstream to a point 1.7 miles upstream of South River.	5A	pH	2004	M	4.83

Paine Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.73**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B32R-04-PH** **Meadow Run**

Cause Location: Meadow Run from the headwaters downstream its confluence with South River. (Start Mile: 8.82 End Mile: 0.00 Total Impaired Size: 8.82 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA VT36 (12 excursions of 12 samples for pH in 2010 cycle, 24 excursions of 24 samples in 2018 with Level II data) and 1BMDW-3.32-SNP (6 excursions of 6 samples for pH). Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B32R_MDW01A00 / Meadow Run / Meadow Run and tributary from the headwaters downstream to its confluence with South River.	5A	pH	2004	M	8.82

Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**8.82**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B32R-05-BAC** **Steele Run**

Cause Location: Steele Run from the headwaters downstream to its confluence with South River. (Start Mile: 3.78 End Mile: 0.00 Total Impaired Size: 3.78 Miles)

City / County: Augusta Co. Waynesboro City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BSTL002.14 (8 exceedences of 12 samples for e-coli). Initial Listing Date: 2016. This segment is included in the South River Bacteria TMDL. Federal TMDL ID# 38140.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B32R_STL01A16 / Steele Run / Steele Run from the headwaters downstream to its confluence with South River.	4A	Escherichia coli	2016	L	3.78

Steele Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.78**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B33R-01-BAC** **South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run. (Start Mile: 101.19 End Mile: 93.31 Total Impaired Size: 7.88 Miles) This impairment is a re-listing of an upstream segment that was delisted in 2014. The remaining downstream impaired segment that remained following 2014 was de-listed in 2018.

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BSSF0100.10 (9 exceedences of 72 samples for e-coli). Initial Listing Date: 2002. This impairment is included in the EPA approved South Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 38140.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B33R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run.	4A	Escherichia coli	2008	L	7.88

South Fork Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.88**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B33R-01-BEN** **South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with North and South Rivers downstream to its confluence with Hawksbill Creek. (Start Mile: 101.19 End Mile: 43.02 Total Impaired Size: 58.17 Miles)

City / County: Page Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BSSF100.10 (Reserve Judgement for VSCI),1BSSF078.18 (Impaired for VSCI) and 1BSSF053.05 (Impaired for VSCI). Initial Listing Date: 1998. Federal TMDL ID # 9509, 9510, 24511

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B33R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	7.88
VAV-B35R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Dry Run downstream to its confluence with Naked Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	3.55
VAV-B35R_SSF01B14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Hawksbill Creek downstream to its confluence with Dry Run.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.04
VAV-B35R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Big Run downstream to its confluence with Hawksbill Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	7.08
VAV-B37R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cub Run downstream to its confluence with Stony Run just below the Route 340 bridge at	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.98
VAV-B37R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from the Shenandoah STP outfall downstream to its confluence with Cub Run.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	12.16
VAV-B37R_SSF02B14 / South Fork Shenandoah River / South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	1.98
VAV-B38R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Whitehouse Landing downstream to its confluence with Hawksbill Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	10.46
VAV-B38R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Stony Run downstream to the Whitehouse Landing.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	5.98

South Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**58.11**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B33R-02-PH** **Deep Run**

Cause Location: Deep Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.49 End Mile: 0.00 Total Impaired Size: 4.49 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA DR01 (12 excursions of 12 samples for pH) (This data is now outside the assessment data window, Level II data in 2016 are 41 excursions of 41 samples); 1BDPR002.09 (12 excursions of 12 samples for pH). Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B33R_DPR01A00 / Deep Run / Deep Run from a point 1.8 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River.	5A	pH	2004	M	1.87
VAV-B33R_DPR02A10 / Deep Run / Deep Run from the headwaters downstream to point 1.8 miles upstream of the South Fork Shenandoah River.	5A	pH	2004	M	2.62

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.49**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B33R-03-PH** **Lower Lewis Run**

Cause Location: Lower Lewis Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 3.94 End Mile: 0.00 Total Impaired Size: 3.94 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA RH47 (12 excursions of 12 samples for pH) (This data is now outside the assessment data window); 1BLLW000.62 (1 excursion of 1 samples for pH); 1BLLW-2-SNP (2 excursions of 2 samples for pH). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B33R_LLW01A00 / Lower Lewis Run / Lower Lewis Run from the Shenandoah National Park boundary downstream to its confluence with the South Fork Shenandoah River.	5A	pH	2006	M	1.90
VAV-B33R_LLW02A10 / Lower Lewis Run / Lower Lewis Run from the headwaters downstream to the Shenandoah National Park boundary.	5A	pH	2006	M	2.03

Lower Lewis Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.93**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B34R-01-BAC** **Cub Run**

Cause Location: Cub Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 14.89 End Mile: 0.00 Total Impaired Size: 14.89 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BCBR000.80 (3 exceedences of 10 samples for e-coli) and 1BCBR007.42 (4 exceedences of 12 samples for e-coli). Initial Listing Date: 1998; This segment is included in the EPA approved Cub Run bacteria TMDL. Federal TMDL ID # 18237

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B34R_CBR01A00 / Cub Run / Cub Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.	4A	Escherichia coli	2004	L	14.89

Cub Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.89**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B34R_CBR01A00 / Cub Run / Cub Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.	4A	Fecal Coliform	1998	L	14.89

Cub Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**14.89**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B35R-01-BAC** **Boone Run**

Cause Location: Boone Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 13.82 End Mile: 0.00 Total Impaired Size: 13.82 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment remains impaired for recreational use due to exceedences of the e-coli bacteria WQS at station: 1BBON000.60 (24 exceedences of 47 samples for e-coli) and 1BBON001.46 (5 exceedences of 6 samples for e-coli). Initial Listing Date: 2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B35R_BON01A00 / Boone Run / Boone Run from the vicinity of Route 637 at East Point and tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River.	5A	Escherichia coli	2010	L	6.52
VAV-B35R_BON02A10 / Boone Run / Boone Run and tributaries from the headwaters downstream to its confluence with an unnamed tributary in the vicinity of Route 637 at East Point.	5A	Escherichia coli	2010	L	7.29

Boone Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.81**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B35R_BON01A00 / Boone Run / Boone Run from the vicinity of Route 637 at East Point and tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River.	5A	Fecal Coliform	2002	L	6.52
VAV-B35R_BON02A10 / Boone Run / Boone Run and tributaries from the headwaters downstream to its confluence with an unnamed tributary in the vicinity of Route 637 at East Point.	5A	Fecal Coliform	2002	L	7.29

Boone Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**13.81**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B35R-02-BAC** **Quail Run**

Cause Location: Quail Run from the headwaters downstream to the Massanutten STP discharge. (Start Mile: 6.60 End Mile: 5.14 Total Impaired Size: 1.46 Miles). This impairment was shortened in 2018 with the delisting of two downstream segments that were fully supporting.

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BQAL005.29 (11 exceedences of 48 samples for e-coli). Initial Listing Date: 2004 (shortened 2018).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B35R_QAL03A00 / Quail Run / Quail Run from the headwaters downstream to the Massanutten STP discharge.	5A	Escherichia coli	2010	L	1.46

Quail Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.46**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B35R-02-BEN** **Quail Run**

Cause Location: Quail Run from the Massanutten STP discharge downstream to its confluence with Boone Run. (Start Mile: 5.14 End Mile: 0.00 Total Impaired Size: 5.14 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BQAL004.30 (Impaired for VSCI). Initial Listing Date: 1998; This segment is included in the EPA approved Quail Run benthic TMDL. Federal TMDL ID # 20863 & 20864

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B35R_QAL01A00 / Quail Run / Quail Run from the Bloomer Springs Road bridge downstream to its confluence with Boone Run.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.39
VAV-B35R_QAL02A00 / Quail Run / Quail Run from the Massanutten STP discharge downstream to the Bloomer Springs Road bridge.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	0.73

Quail Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.12**

Sources:

Municipal Point Source Discharges

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B35R-03-BEN** **Quail Run**

Cause Location: Quail Run from the headwaters downstream to the Massanutten STP discharge. (Start Mile: 6.60 End Mile: 5.14 Total Impaired Size: 1.46 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BQAL005.04 (Impaired for VSCI) and 1BQAL005.09 (Impaired for VSCI). Initial Listing Date: 2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B35R_QAL03A00 / Quail Run / Quail Run from the headwaters downstream to the Massanutten STP discharge.	5C	Benthic-Macroinvertebrate Bioassessments	2002	L	1.46

Quail Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.46**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B35R-04-PH** **Two Mile Run**

Cause Location: Two Mile Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 5.06 End Mile: 0.00 Total Impaired Size: 5.06 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 1BTWO000.95 *8 excursions of 8 samples for pH); 1BTWO001.79 (8 excursions of 8 samples for pH); UVA VT53 (55 excursion of 55 samples for pH, Level II data). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B35R_TWO01A00 / Two Mile Run / Two Mile Run from a point approximately 1.4 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River.	5A	pH	2006	M	1.53
VAV-B35R_TWO02A10 / Two Mile Run / Two Mile Run from the headwaters downstream to a point approximately 1.4 miles upstream of the South Fork Shenandoah River.	5A	pH	2006	M	3.52

Two Mile Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.05**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B35R-05-PH** **One Mile Run**

Cause Location: One Mile Run from the headwaters downstream to its confluence with the South Fork Shenandoah River (Start Mile: 9.17 End Mile: 0.00, Total Impaired Size: 9.17 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 1BONE000.71 (5 excursions of 5 samples for pH); UVA RH52 (6 excursions of 6 samples for pH) This data is now outside the assessment window for 2018. Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B35R_ONE01A00 / One Mile Run / One Mile Run from a point approximately 1.5 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River.	5A	pH	2010	M	1.62
VAV-B35R_ONE02A10 / One Mile Run / One Mile Run and tributaries from the headwaters downstream to a point approximately 1.5 miles upstream of the South Fork Shenandoah River.	5A	pH	2010	M	7.54

One Mile Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**9.16**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B36R-01-BEN** **Naked Creek**

Cause Location: Naked Creek including the East Branch from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 12.82 End Mile: 0.00 Total Impaired Size: 12.82 Miles)

City / County: Page Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BNAK001.24 (Impaired for VSCI). Initial Listing Date: 1998. This impairment has been determined to be natural and is considered 4C by letter received from EPA TMDL Program Manager Helene Drago dated July 13, 2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B36R_NAK01A00 / Naked Creek / Naked Creek from its confluence with the East Branch Naked Creek downstream to its confluence with the South Fork Shenandoah River.	4C	Benthic-Macroinvertebrate Bioassessments			6.66
VAV-B36R_NKE01A10 / East Branch Naked Creek / East Branch Naked Creek from its headwaters downstream to its confluence with Naked Creek.	4C	Benthic-Macroinvertebrate Bioassessments			6.15

Naked Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.81**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B37R-01-PCB** **South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with Naked Creek downstream to its confluence with Stony Creek just above the Route 340 bridge at Alma. (Start Mile: 78.23 End Mile: 59.46 Total Impaired Size: 18.77)

City / County: Page Co. Rockingham Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to exceedences of the fish tissues screening value for PCB at stations: 1BSSF063.17 (2 samples of PCB in Lmouth Bass & Redbreast Sunfish) and 1BSSF078.24 (3 samples of PCB in White Sucker, Redbreast Sunfish & Smouth Bass). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B37R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cub Run downstream to its confluence with Stony Run just below the Route 340 bridge at	5A	PCB in Fish Tissue	2010	L	4.98
VAV-B37R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from the Shenandoah STP outfall downstream to its confluence with Cub Run.	5A	PCB in Fish Tissue	2010	L	12.16
VAV-B37R_SSF02B14 / South Fork Shenandoah River / South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall.	5A	PCB in Fish Tissue	2010	L	1.98

South Fork Shenandoah River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**19.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B37R-02-BAC** **Line Run**

Cause Location: Line Run from the headwaters downstream to its confluence with Honey Run. (Start Mile: 4.94 End Mile: 0.00 Total Impaired Size: 4.94 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BLIN001.60 (4 exceedences of 36 samples for e-coli in 2010, 2 of 33 in 2012, 1 of 24 in 2014, no data in 2016/18) Segment remains impaired in 2018. Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B37R_LIN01A06 / Line Run / Line Run from the headwaters downstream to its confluence with Honey Run.	5A	Escherichia coli	2006	L	4.93

Line Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.93**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B37R-03-BAC** **Honey Run**

Cause Location: Honey Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 5.11 End Mile: 0.00 Total Impaired Size: 5.11 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BHDY000.91 (2 exceedences of 12 samples for e-coli). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B37R_HDY01A00 / Honey Run / Honey Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.	5A	Escherichia coli	2008	L	5.10

Honey Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.10**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B37R-04-TEMP** **Cub Run**

Cause Location: Cub Run in Page County from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 9.81 End Mile: 0.00 Total Impaired Size: 9.81 Miles)

City / County: Page Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 1BCUB-FP12-FOSR (6 exceedences of 65 samples for temperature). Initial Listing Date: 2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B37R_CUB01A00 / Cub Run / Cub Run from its confluence with Pitt Spring Run downstream to its confluence with the South Fork Shenandoah River.	5A	Temperature, water	2012	L	2.87
VAV-B37R_CUB02A10 / Cub Run / Cub Run from the headwaters downstream to its confluence with Pitt Spring Run.	5A	Temperature, water	2012	L	6.92

Cub Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**9.79**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B38R-01-BAC** **Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 7.07 End Mile: 0.00 Total Impaired Size: 7.07 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BMLC000.40 (21 exceedences of 60 samples for e-coli). Initial Listing Date: 1998; This segment is included in the EPA approved Mill Creek bacteria TMDL. Federal TMDL ID # 19994

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B38R_MLC01A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with South Fork Shenandoah River.	4A	Escherichia coli	2008	L	7.06

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.06**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B38R_MLC01A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with South Fork Shenandoah River.	4A	Fecal Coliform	1998	L	7.06

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**7.06**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B38R-02-BAC** **Big Run**

Cause Location: Big Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 6.41 End Mile: 0.00 Total Impaired Size: 6.41 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BBIG000.48 (21 exceedences of 23 samples for e-coli in 2014, no data in 2016/18). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B38R_BIG01A00 / Big Run / Big Run from the headwaters downstream to its confluence with South Fork Shenandoah River.	5A	Escherichia coli	2006	L	6.40

Big Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.40**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B39R-01-BAC** **Pass Run**

Cause Location: Pass Run from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.48 End Mile: 0.00 Total Impaired Size: 9.48 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BPSS000.64 (2 exceedences of 12 samples for e-coli in 2014, no data in 2016/18). Initial Listing Date: 2002; The segment is included in the EPA approved Hawksbill Creek bacteria TMDL. Federal TMDL ID # 19344

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_PSS01A00 / Pass Run / Pass Run from the headwaters downstream to its confluence with Hawksbill Creek.	4A	Escherichia coli	2004	L	9.47

Pass Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.47**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_PSS01A00 / Pass Run / Pass Run from the headwaters downstream to its confluence with Hawksbill Creek.	4A	Fecal Coliform	2002	L	9.47

Pass Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**9.47**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B39R-02-BAC** **Hawksbill Creek**

Cause Location: Hawksbill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 19.89 End Mile: 0.00 Total Impaired Size: 19.89 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BHKS000.96 (25 exceedences of 60 samples for e-coli); 1BHKS007.77 (10 exceedences of 12 samples for e-coli); 1BHKS009.58 (3 exceedences of 12 samples for e-coli in 2016, no new data in 2018). Initial Listing Date: 2002. This segment is included in the EPA approved Hawksbill Creek bacteria TMDL. Federal TMDL ID # 19344

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_HKS01A00 / Hawksbill Creek / Hawksbill Creek from the Route 211 bypass downstream to its confluence with the South Fork Shenandoah River.	4A	Escherichia coli	2006	L	6.04
VAV-B39R_HKS01B10 / Hawksbill Creek / Hawksbill Creek from its confluence with East Hawksbill Creek downstream to the Route 211 bypass.	4A	Escherichia coli	2006	L	1.31
VAV-B39R_HKS02A00 / Hawksbill Creek / Hawksbill Creek from a point near the Route 340 and Route 624 intersection downstream to its confluence with East Hawksbill Creek.	4A	Escherichia coli	2004	L	5.91
VAV-B39R_HKS03A10 / Hawksbill Creek / Hawksbill Creek from a point near the St. Georges Church at Pine Grove downstream to a point near the intersection of Route 340 and Route 624.	4A	Escherichia coli	2004	L	3.84
VAV-B39R_HKS04A10 / Hawksbill Creek / Hawksbill Creek from the headwaters downstream to a point near the St. Georges Church at Pine Grove.	4A	Escherichia coli	2004	L	2.78

Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**19.88**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_HKS02A00 / Hawksbill Creek / Hawksbill Creek from a point near the Route 340 and Route 624 intersection downstream to its confluence with East Hawksbill Creek.	4A	Fecal Coliform	2002	L	5.91
VAV-B39R_HKS03A10 / Hawksbill Creek / Hawksbill Creek from a point near the St. Georges Church at Pine Grove downstream to a point near the intersection of Route 340 and Route 624.	4A	Fecal Coliform	2002	L	3.84
VAV-B39R_HKS04A10 / Hawksbill Creek / Hawksbill Creek from the headwaters downstream to a point near the St. Georges Church at Pine Grove.	4A	Fecal Coliform	2002	L	2.78

Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**12.53**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B39R-03-BAC** **East Hawksbill Creek**

Cause Location: East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.38 End Mile: 0.00 Total Impaired Size: 9.38 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BEHC001.18 (18 exceedences of 60 samples for e-coli). Initial Listing Date: 2006; This segment is included in the EPA approved Hawksbill Creek bacteria TMDL. Federal TMDL ID # 19344

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_EHC01A00 / East Hawksbill Creek / East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek.	4A	Escherichia coli	2006	L	9.38

East Hawksbill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.38**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B39R-03-BEN** **East Hawksbill Creek**

Cause Location: East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.38 End Mile: 0.00 Total Impaired Size: 9.38 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BEHC001.18 (Impaired for VSCI). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_EHC01A00 / East Hawksbill Creek / East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	9.38

East Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.38**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B39R-03-PH** **Rocky Branch**

Cause Location: Rocky Branch from the headwaters downstream to its confluence with Pass Run . (Start Mile: 4.25 End Mile: 0.00 Total Impaired Size: 4.25 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: USGS 163054325. Initial Listing Date: 2004; This segment is impaired for aquatic life use based on excursions of the pH WQS at station: USGS 163054325. This use support carries forward from the 2016 assessment as no new data are available for assessment in 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_RKB01A00 / Rocky Branch / Rocky Branch from the headwaters downstream to its confluence with Pass Run.	5A	pH	2004	L	4.25

Rocky Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.25**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B39R-03-TEMP Pass Run**

Cause Location: Pass Run from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.48 End Mile: 0.00 Total Impaired Size: 9.48 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 1BPSS-FP17-FOSR (14 exceedences of 39 samples for temperature). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_PSS01A00 / Pass Run / Pass Run from the headwaters downstream to its confluence with Hawksbill Creek.	5A	Temperature, water	2010	L	9.47

Pass Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**9.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B39R-04-BEN** **Dry Run**

Cause Location: Dry Run from the outfall of Lake Arrowhead downstream to its confluence with Hawksbill Creek. (Start Mile: 5.52 End Mile: 0.00 Total Impaired Size: 5.52 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BDRI000.21 (Impaired for VSCI). Initial Listing Date: 2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B39R_DRI01A00 / Dry Run / Dry Run from the Lake Arrowhead outfall downstream to its confluence with Hawksbill Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	5.52

Dry Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.52**

Sources:

Agriculture Dam or Impoundment Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B40R-01-BAC** **Jeremys Run**

Cause Location: Jeremys Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 11.70 End Mile: 0.00 Total Impaired Size: 11.70 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BJER000.62 (14 exceedences of 36 samples for e-coli). Initial Listing Date: 2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B40R_JER01A00 / Jeremy's Run / Jeremy's Run from the Shenandoah National Park boundary downstream to its confluence with the South Fork Shenandoah River.	5A	Escherichia coli	2012	H	4.54
VAV-B40R_JER02A10 / Jeremy's Run / Jeremy's Run from the headwaters downstream to the Shenandoah National Park boundary.	5A	Escherichia coli	2012	H	7.15

Jeremys Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.69**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B40R-02-BAC** **Flint Run**

Cause Location: Flint Run and tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 12.59 End Mile: 0.00 Total Impaired Size: 12.59 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment remains impaired due to exceedences of the e-coli WQS at station: 1BFNT002.16. (23 exceedences of 36 samples for e-coli). Initial Listing Date: 2004

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B40R_FNT01A00 / Flint Run / Flint Run from a point 4 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River.	5A	Escherichia coli	2016	H	4.10
VAV-B40R_FNT02A10 / Flint Run / Flint Run from the headwaters downstream to a point 4 miles upstream of the South Fork Shenandoah River.	5A	Escherichia coli	2016	H	3.35
VAV-B40R_XFT01A10 / Flint Run X-trib / Flint Run X-trib from the headwaters downstream to its confluence with Flint Run.	5A	Escherichia coli	2016	H	5.13

Flint Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.58**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B40R_FNT01A00 / Flint Run / Flint Run from a point 4 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River.	5A	Fecal Coliform	2004	H	4.10
VAV-B40R_FNT02A10 / Flint Run / Flint Run from the headwaters downstream to a point 4 miles upstream of the South Fork Shenandoah River.	5A	Fecal Coliform	2004	H	3.35
VAV-B40R_XFT01A10 / Flint Run X-trib / Flint Run X-trib from the headwaters downstream to its confluence with Flint Run.	5A	Fecal Coliform	2004	H	5.13

Flint Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**12.58**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B40R-03-BAC** **Gooney Run**

Cause Location: Gooney Run and tributaries (Greasy Run, Lands Run, Smith Creek) from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 20.18 End Mile: 0.00 Total Impaired Size: 20.18 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BGNY000.04 (4 exceedences of 36 samples for e-coli). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B40R_GNY01A00 / Gooney Run / Gooney Run from its confluence with Broad Run downstream to its confluence with the South Fork Shenandoah River.	5A	Escherichia coli	2010	H	6.73
VAV-B40R_GNY02A10 / Gooney Run / Gooney Run from its headwaters downstream to its confluence with Broad Run.	5A	Escherichia coli	2010	H	3.39
VAV-B40R_GRS01A10 / Greasy Run / Greasy Run from the headwaters downstream to its confluence with Gooney Run.	5A	Escherichia coli	2010	H	3.64
VAV-B40R_LND01A10 / Lands Run / Lands Run from its headwaters downstream to its confluence with Gooney Run.	5A	Escherichia coli	2010	H	3.97
VAV-B40R_SMC02A10 / Smith Creek / Smith Creek from the headwaters downstream to its confluence with Gooney Run.	5A	Escherichia coli	2010	H	2.44

Gooney Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.17**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B40R-03-TEMP** **Gooney Run**

Cause Location: Gooney Run and tributary (Lands Run) from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 14.09 End Mile: 0.00 Total Impaired Size: 14.09 Miles.

City / County: Warren Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 1BGNY000.04 (4 exceedences of 36 samples for temperature). Initial Listing Date: 2018 (re-listing from 2016 of Stockable and Natural Trout waters)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B40R_GNY01A00 / Gooney Run / Gooney Run from its confluence with Broad Run downstream to its confluence with the South Fork Shenandoah River.	5A	Temperature, water	2006	L	6.73
VAV-B40R_GNY02A10 / Gooney Run / Gooney Run from its headwaters downstream to its confluence with Broad Run.	5A	Temperature, water	2008	L	3.39
VAV-B40R_LND01A10 / Lands Run / Lands Run from its headwaters downstream to its confluence with Gooney Run.	5A	Temperature, water	2008	L	3.97

Gooney Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**14.09**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B40R-04-TEMP** **Flint Run**

Cause Location: Flint Run from a point 4 miles upstream of its confluence with the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.10 End Mile: 0.00 Total Impaired Size: 4.10 Miles)

City / County: Warren Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS standard at station: 1BFNT-FW21-FOSR (9 exceedences of 38 samples for temperature in 2014, 2 of 16 samples in 2016, no new data in 2018). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B40R_FNT01A00 / Flint Run / Flint Run from a point 4 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River.	5A	Temperature, water	2010	L	4.10

Flint Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**4.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B41R-01-BAC** **Happy Creek**

Cause Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 8.55 End Mile: 0.00 Total Impaired Size: 8.55 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli WQS at station: 1BHPY001.29. (3 exceedences of 12 samples for e-coli) Initial Listing Date: 2004. This segment is included in the EPA Approved Happy Creek Bacteria TMDL Federal TMDL ID# 65527.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B41R_HPY01A00 / Happy Creek / Happy Creek from the Front Royal Public Water Intake downstream to its confluence with the South Fork Shenandoah River.	4A	Escherichia coli	2014	L	5.70
VAV-B41R_HPY02A00 / Happy Creek / Happy Creek from the headwaters downstream to the Front Royal Public Water Intake.	4A	Escherichia coli	2014	L	2.84

Happy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.54**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B41R_HPY01A00 / Happy Creek / Happy Creek from the Front Royal Public Water Intake downstream to its confluence with the South Fork Shenandoah River.	4A	Fecal Coliform	2004	L	5.70
VAV-B41R_HPY02A00 / Happy Creek / Happy Creek from the headwaters downstream to the Front Royal Public Water Intake.	4A	Fecal Coliform	2004	L	2.84

Happy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.54**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B41R-02-PCB** **South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River**

Cause Location: South Fork Shenandoah River from the Rivermont Drive Bridge downstream to the VA/WV state line on the Shenandoah River (inclusive of the North Fork Shenandoah River from its confluence with Passage Creek downstream to its confluence with the South Fork Shenandoah River). (Start Mile: 45.69 End Mile: 0.00 Total Impaired Size: 45.69 Miles)

City / County: Clarke Co. Warren Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 4A

This segment is impaired due to the presence of PCB's in fish tissue at stations: 1BSSF000.19 (14 samples of PCB in Largemouth Bass (3), Redbreast Sunfish, Channel Catfish (5), Carp (5)); 1BSHN053.63 (9 samples of PCB in Carp (5), Lmouth Bass (1) & Channel Catfish (1), Smouth Bass (1) & Green Sunfish (1)); 1BSHN028.15 (10 samples with PCB in Carp (3), Channel Catfish (4), Shorthead Redhorse Sucker (1), Redbreast Sunfish (1) & Smouth Bass (1); 1BSHN038.27 (11 samples of PCB in Carp (6), Channel Catfish (1), Lmouth Bass (2) & Shorthead Redhorse Sucker (1) & Redbreast Sunfish (1). Initial Listing Date: 1998; This segment is included in the EPA approved Shenandoah River PCB TMDL. Federal TMDL ID # 7715 VDH Fish Consumption Advisory

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B41R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cabin Run downstream to its confluence with the North Fork Shenandoah River.	4A	PCB in Fish Tissue	1998	L	1.85
VAV-B41R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Rivermont Drive Bridge downstream to its confluence with Cabin Run.	4A	PCB in Fish Tissue	1998	L	2.45
VAV-B51R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from the old dam site at the boat ramp downstream to its confluence with the South Fork Shenandoah River.	4A	PCB in Fish Tissue	1998	L	0.71
VAV-B51R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Passage Creek downstream to the old dam site at the boat ramp.	4A	PCB in Fish Tissue	1998	L	4.71
VAV-B55R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Oregon Hollow downstream to its confluence with Long Branch.	4A	PCB in Fish Tissue	1998	L	8.51
VAV-B55R_SHN01B10 / Shenandoah River / Shenandoah River from the power plant dam near Front Royal downstream to its confluence with Oregon Hollow.	4A	PCB in Fish Tissue	1998	L	4.42
VAV-B55R_SHN02A00 / Shenandoah River / Shenandoah River from the confluence of the North and South Fork's downstream to the power plant dam near Front Royal.	4A	PCB in Fish Tissue	1998	L	3.66
VAV-B57R_SHN01A00 / Shenandoah River / Shenandoah River from the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake downstream to its confluence with Craig Run.	4A	PCB in Fish Tissue	1998	L	2.72
VAV-B57R_SHN02A00 / Shenandoah River / Shenandoah River from its confluence with Spout Run downstream to the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake.	4A	PCB in Fish Tissue	1998	L	3.31
VAV-B57R_SHN03A00 / Shenandoah River / Shenandoah River from its confluence with Long Branch downstream to its confluence with Spout Run.	4A	PCB in Fish Tissue	1998	L	5.40

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Potomac and Shenandoah River Basins

VAV-B58R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Dog Run downstream to the VA/WVA State Line.	4A	PCB in Fish Tissue	1998	L	5.10
VAV-B58R_SHN02A00 / Shenandoah River / Shenandoah River from its confluence with Craig Run downstream to its confluence with Dog Run.	4A	PCB in Fish Tissue	1998	L	2.80

South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			**45.64**

Sources:

Contaminated Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B41R-03-BEN** **Happy Creek**

Cause Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 8.55 End Mile: 0.00 Total Impaired Size: 8.55 Miles)

City / County: Warren Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BHPY001.29 (Impaired for VSCI) and 1BHPY002.67 (Impaired for VSCI). Initial Listing Date: 2008. This segment is included in the EPA Approved Happy Creek Benthic TMDL. Federal TMDL ID# 65532.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B41R_HPY01A00 / Happy Creek / Happy Creek from the Front Royal Public Water Intake downstream to its confluence with the South Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	5.70
VAV-B41R_HPY02A00 / Happy Creek / Happy Creek from the headwaters downstream to the Front Royal Public Water Intake.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.84

Happy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.54**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B41R-04-BAC** **South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with Gooney Run downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 10.32 End Mile: 0.00 Total Impaired Size: 10.32 Miles) This segment was lengthened in 2012.

City / County: Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BSSF000.19 (5 exceedences of 12 samples for e-coli); 1BSSF003.56 (3 exceedences of 56 samples for e-coli) and 1BSSF009.58 (2 exceedences of 13 samples for e-coli in 2014, no new data in 2018). While one station is fully supporting this cycle, upstream and downstream stations continue to be impaired, thus the Best Professional Judgement leaves the entire segment impaired in 2018. Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B41R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cabin Run downstream to its confluence with the North Fork Shenandoah River.	5A	Escherichia coli	2012	H	1.85
VAV-B41R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Rivermont Drive Bridge downstream to its confluence with Cabin Run.	5A	Escherichia coli	2012	H	2.45
VAV-B41R_SSF03A00 / South Fork Shenandoah River / South Fork Shenandoah River from the 5 mile upper limit of the PWS designation for the Front Royal Public Water Intake downstream to the Rivermont Drive Bridge.	5A	Escherichia coli	2012	H	1.54
VAV-B41R_SSF04A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Gooney Run downstream to the 5 mile upper limit of the PWS designation for the Front Royal Public Water Intake.	5A	Escherichia coli	2010	H	4.47

South Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**10.31**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B42R-01-BAC** **Crab Run**

Cause Location: Crab Run from the VA/WVA line downstream to its confluence with the German River. (Start Mile: 3.93 End Mile: 0.00 Total Impaired Size: 3.93 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BCRB000.18 (2 exceedences of 11 samples for e-coli). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B42R_CRB01A00 / Crab Run / Crab Run from the VA/WVA state line downstream to its confluence with the German River.	5A	Escherichia coli	2010	L	3.93

Crab Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.93**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B42R-01-BEN** **North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with the German River downstream to its confluence with Capon Run (Start Mile: 107.67 End Mile: 105.08 Total Impaired Size: 2.59 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BNFS107.86 (Impaired for VSCI) This site is improving with two fall samples fully supporting. Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B42R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with the German River downstream to its confluence with Capon Run.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.59

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.59**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B42R-02-BAC** **North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with the German River downstream to its confluence with Capon Run (Start Mile: 107.67 End Mile: 105.08 Total Impaired Size: 2.59 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BNFS-EC01-FOSR (2 exceedences of 9 samples for e-coli). Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B42R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with the German River downstream to its confluence with Capon Run.	5A	Escherichia coli	2018	L	2.59

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.59**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B44R-01-BAC** **Runions Creek**

Cause Location: Runions Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 14.8 End Mile: 0.00 Total Impaired Size: 14.8 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BRUN001.09 (4 exceedences of 12 samples for e-coli in 2014, no new data available in 2016/18). Initial Listing Date: 2010 This segment is included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B44R_RUN01A00 / Runion Creek / Runion Creek and tributary from the headwaters downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2010	L	14.80

Runions Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.80**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-01-BAC** **Long Meadow Run**

Cause Location: Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 9.85 End Mile: 0.00 Total Impaired Size: 9.85 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BLOM001.45 (25 exceedences of 30 samples for e-coli). Initial Listing Date: 2002; This segment was included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_LOM01A00 / Long Meadow Run / Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2008	L	9.85

Long Meadow Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.85**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-01-BEN** **Long Meadow Run**

Cause Location: Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 9.85 End Mile: 0.00 Total Impaired Size: 9.85 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BLOM000.24 (Impaired for VSCI). Initial Listing Date 2008. This segment is included in the EPA Approved Long Meadow Run Benthic TMDL. Federal TMDL ID # 66026/66027.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_LOM01A00 / Long Meadow Run / Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	9.85

Long Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-02-BAC** **Turley Creek**

Cause Location: Turley Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 4.04 End Mile: 0.00 Total Impaired Size: 4.04 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at station: 1BTRL000.02 (13 exceedences of 30 samples for e-coli). Initial Listing Date: 2002. This segment is included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_TRL01A00 / Turley Creek / Turley Creek from just above its confluence with an unnamed tributary originating near Turleytown downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2010	L	2.20
VAV-B45R_TRL02A00 / Turley Creek / Turley Creek from the headwaters downstream to just above an unnamed tributary originating near Turleytown.	4A	Escherichia coli	2010	L	1.83

Turley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.03**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_TRL01A00 / Turley Creek / Turley Creek from just above its confluence with an unnamed tributary originating near Turleytown downstream to its confluence with the North Fork Shenandoah River.	4A	Fecal Coliform	2002	L	2.20
VAV-B45R_TRL02A00 / Turley Creek / Turley Creek from the headwaters downstream to just above an unnamed tributary originating near Turleytown.	4A	Fecal Coliform	2002	L	1.83

Turley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.03**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-02-BEN** **Turley Creek**

Cause Location: Turley Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 4.04 End Mile: 0.00 Total Impaired Size: 4.04 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BTRL000.02 (Impaired for VSCI). Initial Listing Date: 2002. This segment is included in the EPA Approved Turley Creek Benthic TMDL. Federal TMDL ID # 66025.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_TRL01A00 / Turley Creek / Turley Creek from just above its confluence with an unnamed tributary originating near Turleytown downstream to its confluence with the North Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	2.20
VAV-B45R_TRL02A00 / Turley Creek / Turley Creek from the headwaters downstream to just above an unnamed tributary originating near Turleytown.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	1.83

Turley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.03**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-03-BAC** **Holmans Creek**

Cause Location: Holmans Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 11.10 End Mile: 0.00 Total Impaired Size: 11.10 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BHMN002.09 (13 exceedences of 24 samples for e-coli in 2014, no data in 2016/18). Initial Listing Date: 1996; This impairment is included in the EPA approved Holmans Creek bacteria TMDL. Federal TMDL ID # 24527/9577

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_HMN01A00 / Holmans Creek / Holmans Creek from its confluence with an unnamed tributary at the Quicksburg Road bridge downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2008	L	5.22
VAV-B45R_HMN02A00 / Holmans Creek / Holmans Creek from the Flat Rock Road bridge near Moores Store downstream to its confluence with an unnamed tributary at the Quicksburg Road bridge crossing.	4A	Escherichia coli	2008	L	2.65
VAV-B45R_HMN03A00 / Holmans Creek / Holmans Creek from the headwaters downstream to the Flat Rock Road bridge crossing near Moores Store.	4A	Escherichia coli	2008	L	3.22

Holmans Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.09**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_HMN01A00 / Holmans Creek / Holmans Creek from its confluence with an unnamed tributary at the Quicksburg Road bridge downstream to its confluence with the North Fork Shenandoah River.	4A	Fecal Coliform	1996	L	5.22
VAV-B45R_HMN02A00 / Holmans Creek / Holmans Creek from the Flat Rock Road bridge near Moores Store downstream to its confluence with an unnamed tributary at the Quicksburg Road bridge crossing.	4A	Fecal Coliform	1996	L	2.65
VAV-B45R_HMN03A00 / Holmans Creek / Holmans Creek from the headwaters downstream to the Flat Rock Road bridge crossing near Moores Store.	4A	Fecal Coliform	1996	L	3.22

Holmans Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**11.09**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-03-BEN** **Holmans Creek**

Cause Location: Holmans Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 11.10 End Mile: 0.00 Total Impaired Size: 11.10 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BHMN002.09 Impaired for VSCI) and 1BHMN007.59 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Holmans Creek benthic TMDL. Federal TMDL ID # 19410

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_HMN01A00 / Holmans Creek / Holmans Creek from its confluence with an unnamed tributary at the Quicksburg Road bridge downstream to its confluence with the North Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	5.22
VAV-B45R_HMN02A00 / Holmans Creek / Holmans Creek from the Flat Rock Road bridge near Moores Store downstream to its confluence with an unnamed tributary at the Quicksburg Road bridge crossing.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	2.65
VAV-B45R_HMN03A00 / Holmans Creek / Holmans Creek from the headwaters downstream to the Flat Rock Road bridge crossing near Moores Store.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	3.22

Holmans Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.09**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-04-BAC** **North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with Turley Creek downstream to the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake. (Start Mile: 92.19 End Mile: 55.58 Total Impaired Size: 36.61 Miles) This impairment lengthened in 2012.

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BNFS073.75 (2 exceedences of 11 samples for e-coli); 1BNFS076.56 (3 exceedences of 11 samples for e-coli); 1BNFS081.42 (2 exceedences of 6 samples for e-coli in 2016, no data in 2018); 1BNFS070.67 (9 exceedences of 36 samples for e-coli); 1BNFS-EC03-FOSR (4 exceedences of 10 samples for e-coli) and 1BNFS-NS10-FOSR (2 exceedences of 18 samples for e-coli in 2016, no data in 2018) . Initial Listing Date: 1996; This assessment unit was included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Holmans Creek downstream to its confluence with Smith Creek.	4A	Escherichia coli	2012	L	3.59
VAV-B45R_NFS01B14 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Plains Mill Spring Run downstream to its confluence with Holmans Creek.	4A	Escherichia coli	2008	L	7.07
VAV-B45R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Fort Run downstream to its confluence with Plains Mill Spring Run.	4A	Escherichia coli	2008	L	4.47
VAV-B45R_NFS03A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Turley Creek downstream to its confluence with Linville Creek.	4A	Escherichia coli	2012	L	2.93
VAV-B48R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Smith Creek downstream to its confluence with Stony Creek.	4A	Escherichia coli	2008	L	12.25
VAV-B50R_NFS04A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Stony Creek downstream to the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake.	4A	Escherichia coli	2012	L	4.29

North Fork Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**34.60**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Holmans Creek downstream to its confluence with Smith Creek.	4A	Fecal Coliform	1996	L	3.59
VAV-B45R_NFS01B14 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Plains Mill Spring Run downstream to its confluence with Holmans Creek.	4A	Fecal Coliform	1996	L	7.07

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Potomac and Shenandoah River Basins

VAV-B45R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Fort Run downstream to its confluence with Plains Mill Spring Run.	4A	Fecal Coliform	1996	L	4.47
VAV-B45R_NFS02B08 / North Fork Shenandoah River / North Fork Shenandoah River from the dam near Timberville downstream to the confluence with Fort Run.	4A	Fecal Coliform	2008	L	1.05
VAV-B45R_NFS02C10 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Linville Creek downstream to the dam near Timberville.	4A	Fecal Coliform	2008	L	0.93
VAV-B45R_NFS03A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Turley Creek downstream to its confluence with Linville Creek.	4A	Fecal Coliform	1996	L	2.93
VAV-B48R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Smith Creek downstream to its confluence with Stony Creek.	4A	Fecal Coliform	1996	L	12.25

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**32.29**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B45R-05-BEN** **North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with Linville Creek downstream to its confluence with Holmans Creek. (Start Mile: 89.24 End Mile: 75.71 Total Impaired Size: 13.53 Miles).

City / County: Rockingham Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BNFS087.35 (Impaired for VSCI) and 1BNFS088.81 (Impaired for VSCI (improving)). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B45R_NFS01B14 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Plains Mill Spring Run downstream to its confluence with Holmans Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	7.07
VAV-B45R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Fort Run downstream to its confluence with Plains Mill Spring Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.47
VAV-B45R_NFS02B08 / North Fork Shenandoah River / North Fork Shenandoah River from the dam near Timberville downstream to the confluence with Fort Run.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	1.05
VAV-B45R_NFS02C10 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Linville Creek downstream to the dam near Timberville.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	0.93

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.52**

Sources:

Industrial Point Source Discharge

Municipal (Urbanized High Density Area)

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B46R-01-BAC** **Linville Creek**

Cause Location: Linville Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 14.38 End Mile: 0.00 Total Impaired Size: 14.38 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BLNV001.22 (25 exceedences of 60 samples for e-coli) and 1BLNV006.49 (31 exceedences of 48 samples for e-coli). Initial Listing Date: 1996; This impairment was included in the EPA approved Linville Creek bacteria TMDL. Federal TMDL ID # 19713.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B46R_LNV01A00 / Linville Creek / Linville Creek from the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2004	L	5.38
VAV-B46R_LNV02A04 / Linville Creek / Linville Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake.	4A	Escherichia coli	2004	L	9.00

Linville Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.38**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B46R_LNV01A00 / Linville Creek / Linville Creek from the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake downstream to its confluence with the North Fork Shenandoah River.	4A	Fecal Coliform	1996	L	5.38
VAV-B46R_LNV02A04 / Linville Creek / Linville Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake.	4A	Fecal Coliform	1996	L	9.00

Linville Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**14.38**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B46R-01-BEN** **Linville Creek**

Cause Location: Linville Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 14.38 End Mile: 0.00 Total Impaired Size: 14.38 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BLNV000.16 (Impaired for VSCI) and 1BLNV000.71 (Impaired for VSCI). Initial Listing Date: 1996; This impairment was included in the EPA approved Linville Creek benthic TMDL. Federal TMDL ID # 19713.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B46R_LNV01A00 / Linville Creek / Linville Creek from the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake downstream to its confluence with the North Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	5.38
VAV-B46R_LNV02A04 / Linville Creek / Linville Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	9.00

Linville Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.38**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B46R-02-BAC** **Daphna Creek**

Cause Location: Daphna Creek from the headwaters downstream to its confluence with Linville Creek. (Start Mile: 3.24 End Mile: 0.00 Total Impaired Size: 3.24 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BDPH-LC05-FOSR (4 exceedences of 4 samples for e-coli). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL. Federal TMDL ID # 19713.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B46R_DPH01A00 / Daphna Creek / Daphna Creek from the headwaters downstream to its confluence with Linville Creek.	4A	Escherichia coli	2018	L	3.24

Daphna Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.24**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B46R-03-BAC** **Joes Creek**

Cause Location: Joes Creek from the headwaters downstream to its confluence with Linville Creek. (Start Mile: 7.05 End Mile: 0.00 Total Impaired Size: 7.05 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BJOE-LC004-FOSR (4 exceedences of 4 samples for e-coli). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL. Federal TMDL ID # 19713.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B46R_JOE01A00 / Joe's Creek / Joes Creek from the headwaters downstream to its confluence with Linville Creek.	4A	Escherichia coli	2018	L	7.05

Joes Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.05**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B46R-04-BAC** **West Fork Linville Creek**

Cause Location: West Fork Linville Creek from the headwaters downstream to its confluence with Linville Creek. (Start Mile: 5.62 End Mile: 0.00 Total Impaired Size: 5.62 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BLVW-LC01-FOSR (4 exceedences of 4 samples for e-coli). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL. Federal TMDL ID # 19713.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B46R_LVW01A18 / West Fork Linville Creek. / West Fork Linville Creek from the headwaters downstream to its confluence with Linville Creek.	4A	Escherichia coli	2018	L	5.61

West Fork Linville Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.61**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B46R-05-BAC** **Tide Spring Branch**

Cause Location: Tide Spring Branch from the headwaters downstream to its confluence with Linville Creek. (Start Mile: 2.88 End Mile: 0.00 Total Impaired Size: 2.88 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BTSB-LC03-FOSR (4 exceedences of 4 samples for e-coli). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL. Federal TMDL ID # 19713.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B46R_TSB01A00 / Tide Spring Branch / Tide Spring Branch from the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake downstream to its confluence with Linville Creek.	4A	Escherichia coli	2018	L	0.68
VAV-B46R_TSB02A04 / Tide Spring Branch / Tide Spring Branch from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake.	4A	Escherichia coli	2018	L	2.20

Tide Spring Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.88**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-01-BEN** **Fridley Run**

Cause Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run. (Start Mile: 2.38 End Mile: 0.00 Total Impaired Size: 2.38 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BFDY000.02 (Impaired for VSCI). Initial Listing Date: 2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_FDY01A02 / Fridley Run / Fridley Run from the headwaters downstream to its confluence with Mountain Run.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	2.38

Fridley Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.38**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-01-PH** **Fridley Run**

Cause Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run. (Start Mile: 2.38 End Mile: 0.00 Total Impaired Size: 2.38 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 1BFDY000.02 (25 excursions of 44 samples for pH). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_FDY01A02 / Fridley Run / Fridley Run from the headwaters downstream to its confluence with Mountain Run.	5A	pH	2006	L	2.38

Fridley Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.38**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-02-BAC** **Mountain Run/Smith Creek/War Branch**

Cause Location: Mountain Run from the headwaters downstream to its confluence with Smith Creek; Smith Creek from the headwaters (including x-trib) downstream to its confluence with the North Fork Shenandoah River; War Branch from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 6.93, 35.65, 7.11 End Mile: 0.00, 0.00, 0.00 Total Impaired Size: 6.93 Miles, 35.65 Miles, 7.11 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

These segments are impaired due to exceedences of the e-coli bacteria WQS at stations: 1BMTR000.93 (25 exceedences of 72 samples for e-coli); 1BSMT004.60 (32 exceedences of 71 samples for e-coli); 1BSMT023.18 (37 exceedences of 72 samples for e-coli); 1BSMT026.41 (8 exceedences of 12 samples for e-coli); 1BXSG-SC-2-FOSR (7 exceedences of 7 samples for e-coli); 1BWAR003.88 (20 exceedences of 47 samples for e-coli), 1BWAR-SCW1-FOSR (12 exceedences of 21 samples for e-coli); 1BWAR-SCW2-FOSR (8 exceedences of 21 samples for e-coli) and 1BWAR-SCW3-FOSR (7 exceedences of 21 samples for e-coli). Initial Listing Dates: 2006 (Mountain Run), 1996 (Smith Creek), 2012 (Smith Creek X-trib), 2008 War Branch); These segments are included in the EPA approved Smith Creek bacteria TMDL. Federal TMDL ID # 21281

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_MTN01A00 / Mountain Run / Mountain Run and tributary from its confluence with Fridley Run downstream to its confluence with Smith Creek.	4A	Escherichia coli	2006	L	5.69
VAV-B47R_MTN02A00 / Mountain Run / Mountain Run from the headwaters downstream to its confluence with Fridley Run.	4A	Escherichia coli	2006	L	0.94
VAV-B47R_SMT01A00 / Smith Creek / Smith Creek from the New Market Public Water Intake downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2008	L	14.09
VAV-B47R_SMT02A00 / Smith Creek / Smith Creek from its confluence with War Branch downstream to the New Market Public Water Intake.	4A	Escherichia coli	2008	L	5.44
VAV-B47R_SMT03A00 / Smith Creek / Smith Creek from its confluence with Dry Fork downstream to its confluence with War Branch.	4A	Escherichia coli	2008	L	6.88
VAV-B47R_SMT04A00 / Smith Creek / Smith Creek from the headwaters downstream to its confluence with Dry Fork.	4A	Escherichia coli	2012	L	9.22
VAV-B47R_WAR01A00 / War Branch / War Branch from the headwaters downstream to its confluence with Smith Creek.	4A	Escherichia coli	2008	L	7.10
VAV-B47R_XSG01A12 / X-trib to Smith Creek / X-trib to Smith Creek from the headwaters downstream to its confluence with Smith Creek.	4A	Escherichia coli	2012	L	1.16

Mountain Run/Smith Creek/War Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**50.52**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_SMT01A00 / Smith Creek / Smith Creek from the New Market Public Water Intake downstream to its confluence with the	4A	Fecal Coliform	1996	L	14.09

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

North Fork Shenandoah River.

VAV-B47R_SMT02A00 / Smith Creek / Smith Creek from its confluence with War Branch downstream to the New Market Public Water Intake.	4A	Fecal Coliform	1996	L	5.44
VAV-B47R_SMT03A00 / Smith Creek / Smith Creek from its confluence with Dry Fork downstream to its confluence with War Branch.	4A	Fecal Coliform	1996	L	6.88
VAV-B47R_SMT04A00 / Smith Creek / Smith Creek from the headwaters downstream to its confluence with Dry Fork.	4A	Fecal Coliform	1996	L	9.22

Mountain Run/Smith Creek/War Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**35.63**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-03-BAC** **Lacey Spring Branch**

Cause Location: Lacey Spring Branch from the spring downstream to its confluence with Smith Creek. (Start Mile: .60 End Mile: 0.00 Total Impaired Size: .60 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment remains impaired due to exceedences of the e-coli WQS at station: 1BLAC-SCL-FOSR (9 exceedences of 24 samples for e-coli). Initial Listing Date: 2014; This impairment is included in the EPA approved Smith Creek Bacteria TMDL Federal TMDL ID # 21281

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_LAC01A00 / Lacey Spring Branch / Lacey Spring Branch from the spring downstream to its confluence with Smith Creek.	4A	Escherichia coli	2014	L	0.59

Lacey Spring Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.59**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-03-BEN** **Lacey Spring Branch**

Cause Location: Lacey Spring Branch from the spring downstream to its confluence with Smith Creek. (Start Mile: .60 End Mile: 0.00 Total Impaired Size: .60 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment remains impaired due to severely impaired benthic ratings in previous assessment cycles. It was not visited during the 2018 cycle. Initial Listing Date: 1998; The aquatic life impairment is included in the EPA approved TMDL for Commercial Fish farms. Federal TMDL ID # 9496

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_LAC01A00 / Lacey Spring Branch / Lacey Spring Branch from the spring downstream to its confluence with Smith Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	0.59

Lacey Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.59**

Sources:

Aquaculture (Permitted)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-05-BEN** **Smith Creek**

Cause Location: Smith Creek from the Shenandoah Fisheries outfall downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 26.43 End Mile: 0.00 Total Impaired Size: 26.43 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BSMT06.62 (Impaired for VSCI) and 1BSMT009.08 (Impaired for VSCI in 2016, no data in 2018). Initial Listing Date: 1998; This segment is included in the EPA approved Smith Creek benthic TMDL. Federal TMDL ID # 21280

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_SMT01A00 / Smith Creek / Smith Creek from the New Market Public Water Intake downstream to its confluence with the North Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	14.09
VAV-B47R_SMT02A00 / Smith Creek / Smith Creek from its confluence with War Branch downstream to the New Market Public Water Intake.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	5.44
VAV-B47R_SMT03A00 / Smith Creek / Smith Creek from its confluence with Dry Fork downstream to its confluence with War Branch.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	6.88

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**26.41**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-06-BAC** **Dry Fork**

Cause Location: Dry Fork from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 10.85 End Mile: 0.00 Total Impaired Size: 10.85 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at station: 1BDFK000.76 (37 exceedences of 72 samples for e-coli). Initial Listing Date: 2004. This impairment is addressed in the EPA approved Smith Creek bacteria TMDL. Federal TMDL ID # 21281

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_DFK01A00 / Dry Fork / Dry Fork and tributary from the headwaters downstream to its confluence with Smith Creek.	4A	Escherichia coli	2012	L	10.85

Dry Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**10.85**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_DFK01A00 / Dry Fork / Dry Fork and tributary from the headwaters downstream to its confluence with Smith Creek.	4A	Fecal Coliform	2004	L	10.85

Dry Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**10.85**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B47R-07-BEN** **Dry Fork**

Cause Location: Dry Fork from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 10.85 End Mile: 0.00 Total Impaired Size: 10.85 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BDFK003.82 (Impaired for VSCI) and 1BDFK004.03 (Impaired for VSCI) in the 2010 cycle, no new data in 2018. Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B47R_DFK01A00 / Dry Fork / Dry Fork and tributary from the headwaters downstream to its confluence with Smith Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	10.85

Dry Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.85**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B48R-01-BAC** **Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 15.67 End Mile: 0.00 Total Impaired Size: 15.67 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at stations: 1BMIL002.20 (3 exceedences of 12 samples for e-coli in 2016, no data in 2018) Initial Listing Date: 2002; This segment is included in the EPA approved Mill Creek bacteria TMDL. Federal TMDL ID # 31235

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B48R_MIL01A00 / Mill Creek / Mill Creek from its confluence with Crooked Run downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2012	L	2.88
VAV-B48R_MIL02A04 / Mill Creek / Mill Creek from a point 3.5 miles above Mt. Jackson downstream to its confluence with Crooked Run.	4A	Escherichia coli	2012	L	1.66

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.54**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B48R_MIL01A00 / Mill Creek / Mill Creek from its confluence with Crooked Run downstream to its confluence with the North Fork Shenandoah River.	4A	Fecal Coliform	2002	L	2.88
VAV-B48R_MIL02A04 / Mill Creek / Mill Creek from a point 3.5 miles above Mt. Jackson downstream to its confluence with Crooked Run.	4A	Fecal Coliform	2002	L	1.66
VAV-B48R_MIL02B10 / Mill Creek / Mill Creek from its confluence with Straight Run downstream to a point 3.5 miles above Mt. Jackson.	4A	Fecal Coliform	2002	L	3.23
VAV-B48R_MIL03A04 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with Straight Run.	4A	Fecal Coliform	2002	L	7.88

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**15.65**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B48R-02-BEN** **Crooked Run**

Cause Location: Crooked Run from the headwaters downstream to its confluence with Mill Creek. (Start Mile: 4.08 End Mile: 0.00 Total Impaired Size: 4.08 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BCKD000.38 (Impaired for VSCI). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B48R_CKD01A00 / Crooked Run / Crooked Run from its headwaters downstream to its confluence with Mill Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.07

Crooked Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.07**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B49L-01-DO** **Lake Laura**

Cause Location: Lake Laura (Total Impaired Size: 46.25 Acres)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

The lake is impaired due to exceedences of the DO WQS. These exceedences have been determined to be a naturally occurring DO impairment in the Hypolimnion during the summer months when the lake is thermally stratified. TSI results indicate that this is naturally occurring. This lake will be added to the Virginia Lake Nutrient Criteria (187) in the future for nutrient evaluation. This assessment unit is considered 4C-No TMDL Needed due to natural conditions. Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49L_STY01A10 / Lake Laura / Lake Laura	4C	Oxygen, Dissolved			46.25

Lake Laura **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**46.25**	

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B49R-01-BAC** **Stony Creek**

Cause Location: Stony Creek from its confluence with Riles Run downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 13.99 End Mile: 0.00 Total Impaired Size: 13.99 Miles) Segmentation error corrected in 2012, impairment length shortened to align with assessment unit boundaries.

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BSTY001.22 (2 exceedences of 11 samples for e-coli) Initial Listing Date: 1998; This segment was included in the EPA approved Stony Creek bacteria TMDL. Federal TMDL ID # 31238

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49R_STY01A00 / Stony Creek / Stony Creek from the Route 682 (Wakemans Grove Road) bridge crossing downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2008	L	4.58
VAV-B49R_STY02A00 / Stony Creek / Stony Creek from the Georges Chicken discharge downstream to the Route 682 (Wakemans Grove Road) bridge crossing.	4A	Escherichia coli	2008	L	1.27
VAV-B49R_STY03A00 / Stony Creek / Stony Creek from its confluence with Yellow Spring Run downstream to the Georges Chicken discharge.	4A	Escherichia coli	2012	L	3.43
VAV-B49R_STY04A04 / Stony Creek / Stony Creek from its confluence with Riles Run downstream to its confluence with Yellow Spring Run.	4A	Escherichia coli	2008	L	4.68

Stony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**13.96**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49R_STY01A00 / Stony Creek / Stony Creek from the Route 682 (Wakemans Grove Road) bridge crossing downstream to its confluence with the North Fork Shenandoah River.	4A	Fecal Coliform	2002	L	4.58
VAV-B49R_STY02A00 / Stony Creek / Stony Creek from the Georges Chicken discharge downstream to the Route 682 (Wakemans Grove Road) bridge crossing.	4A	Fecal Coliform	1998	L	1.27
VAV-B49R_STY03A00 / Stony Creek / Stony Creek from its confluence with Yellow Spring Run downstream to the Georges Chicken discharge.	4A	Fecal Coliform	2006	L	3.43
VAV-B49R_STY04A04 / Stony Creek / Stony Creek from its confluence with Riles Run downstream to its confluence with Yellow Spring Run.	4A	Fecal Coliform	2004	L	4.68

Stony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**13.96**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B49R-01-BEN** **Stony Creek**

Cause Location: Stony Creek from its confluence with Yellow Spring Run downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 9.28 End Mile: 0.00 Total Impaired Size: 9.28 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BSTY004.24 (Impaired for VSCI); 1BSTY004.68 (Impaired for VSCI) and 1BSTY005.91 (Impaired for VSCI). Initial Listing Date: 2008. This impairment was lengthened (added upstream segment) in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49R_STY01A00 / Stony Creek / Stony Creek from the Route 682 (Wakemans Grove Road) bridge crossing downstream to its confluence with the North Fork Shenandoah River.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.58
VAV-B49R_STY02A00 / Stony Creek / Stony Creek from the Georges Chicken discharge downstream to the Route 682 (Wakemans Grove Road) bridge crossing.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.27
VAV-B49R_STY03A00 / Stony Creek / Stony Creek from its confluence with Yellow Spring Run downstream to the Georges Chicken discharge.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	3.43

Stony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.28**

Sources:

Agriculture	Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B49R-05-TEMP** **Little Stony Creek**

Cause Location: Little Stony Creek and tributary from the headwaters of the tributary and the confluence of the tributary with Little Stony Creek near USFS Road 92 downstream to the confluence with Stony Creek. (Start Mile: 4.91 End Mile: 0.00 Total Impaired Size: 4.91 Miles.

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 1BLSC000.50 (3 exceedences of 10 for temperature) Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49R_LSC01B08 / Little Stony Creek / Little Stony Creek and tributary from the headwaters of the tributary and the confluence of the tributary with Little Stony Creek near USFS Road 92 downstream to the confluence with Stony Creek.	5A	Temperature, water	2012	L	4.91

Little Stony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**4.91**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B49R-07-TEMP** **Stony Creek**

Cause Location: Stony Creek from the Lake Laura dam outfall downstream to the Route 682 bridge (Wakeman's Grove Road). (Start Mile: 23.44 End Mile: 4.59 Total Impaired Size: 18.85 Miles) This impairments downstream extents was modified in 2012 and the impairment lengthened based on additional data.

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 1BSTY013.85 (2 exceedences of 12 samples for temperature); 1BSTY-NS30-FOSR (9 exceedences of 71 samples for temperature); 1BSTY-NS58-FOSR (7 exceedences of 70 samples for temperature, remains impaired, no new additional data) and 1BSTY-NS29-FOSR (9 exceedences of 74 samples for temperature). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49R_STY02A00 / Stony Creek / Stony Creek from the Georges Chicken discharge downstream to the Route 682 (Wakemans Grove Road) bridge crossing.	5A	Temperature, water	2002	L	1.27
VAV-B49R_STY03A00 / Stony Creek / Stony Creek from its confluence with Yellow Spring Run downstream to the Georges Chicken discharge.	5A	Temperature, water	2002	L	3.43
VAV-B49R_STY04A04 / Stony Creek / Stony Creek from its confluence with Riles Run downstream to its confluence with Yellow Spring Run.	5A	Temperature, water	2004	L	4.68
VAV-B49R_STY05A04 / Stony Creek / Stony Creek from the Lake Laura Dam downstream to its confluence with Riles Run.	5A	Temperature, water	2006	L	9.46

Stony Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**18.84**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B49R-08-BAC** **Orkney Springs Run**

Cause Location: Orkney Springs Run from the headwaters downstream to its confluence with Stony Creek above Lake Laura. (Start Mile: 2.19 End Mile 0.00 Total Impaired Size: 2.19.

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BXBP-OS01-FNFSR (8 exceedences of 24 samples for e-coli in 2016, no data in 2018) and 1BXBP-OS03-FNFSR (3 exceedences of 7 samples for e-coli). Initial Listing Date: 2012. This segment was included in the EPA approved Stony Creek bacteria TMDL. Federal TMDL ID # 31238

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49R_XBP01A10 / Orkney Springs Run / Orkney Springs Run from the headwaters downstream to its confluence with Stony Creek.	4A	Escherichia coli	2012	L	2.19

Orkney Springs Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.19**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B49R-09-BAC** **Stony Creek**

Cause Location: Stony Creek from the headwaters downstream to the upper end of the normal pool of Lake Laura. (Start Mile: 26.94 End Mile: 23.44 Total Impaired Size: 3.5 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BSTY-STY-3-FNFSR (3 exceedences of 12 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2014. This segment was included in the EPA approved Stony Creek bacteria TMDL. Federal TMDL ID # 31238

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B49R_STY06A10 / Stony Creek / Stony Creek from the headwaters downstream to the upper end of the normal pool of Lake Laura.	4A	Escherichia coli	2014	L	3.50

Stony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.50**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B50R-01-BAC** **Toms Brook**

Cause Location: Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 9.51 End Mile: 0.00 Total Impaired Size: 9.51 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BTMB000.54 (3 exceedences of 12 samples for e-coli). Initial Listing Date; 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_TMB01A00 / Toms Brook / Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River.	5A	Escherichia coli	2018	L	9.51

Toms Brook **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.51**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B50R-01-BEN** **Toms Brook**

Cause Location: Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 9.51 End Mile: 0.00 Total Impaired Size: 9.51 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for benthics at station: 1BTMB000.70 (Impaired for VSCI). This is a re-list of a previous impairment that is included in the EPA Approved Toms Brook Benthic TMDL. Federal TMDL ID # 21697.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_TMB01A00 / Toms Brook / Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	9.51

Toms Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.51**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B50R-02-BAC** **Narrow Passage Creek**

Cause Location: Narrow Passage Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 11.62 End Mile: 0.00 Total Impaired Size: 11.62 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BNPC000.02 (13 exceedences of 36 samples for e-coli). Initial Listing Date: 2002. This segment is included in the North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_NPC01A00 / Narrow Passage Creek / Narrow Passage Creek from the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2008	L	0.55
VAV-B50R_NPC02A00 / Narrow Passage Creek / Narrow Passage Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake.	4A	Escherichia coli	2008	L	11.06

Narrow Passage Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.61**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_NPC01A00 / Narrow Passage Creek / Narrow Passage Creek from the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake downstream to its confluence with the North Fork Shenandoah River.	4A	Fecal Coliform	2002	L	0.55
VAV-B50R_NPC02A00 / Narrow Passage Creek / Narrow Passage Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake.	4A	Fecal Coliform	2002	L	11.06

Narrow Passage Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**11.61**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B50R-03-BAC** **Pughs Run**

Cause Location: Pughs Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 7.00 End Mile: 0.00 Total Impaired Size: 7.00 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BPGH000.60 (4 exceedences of 10 samples for e-coli in 2012, no data in 2016/18, impairment carried forward). Initial Listing Date: 2004

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_PGH01A00 / Pugh's Run / Pugh's Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.	5A	Escherichia coli	2008	L	7.00

Pughs Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.00**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_PGH01A00 / Pugh's Run / Pugh's Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.	5A	Fecal Coliform	2004	L	7.00

Pughs Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.00**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B50R-03-BEN** **Pughs Run**

Cause Location: Pughs Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 7.00 End Mile: 0.00 Total Impaired Size: 7.00 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station(s): 1BPGH000.29 (Impaired for VSCI in 2016, no data in 2018) and 1BPGH000.60 (Impaired for VSCI). Initial Listing Date: 2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_PGH01A00 / Pugh's Run / Pugh's Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	7.00

Pughs Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.00**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B50R-05-BAC** **Spring Hollow**

Cause Location: Spring Hollow from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 6.40 End Mile: 0.00 Total Impaired Size: 6.40 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BXSH-NS64-FOSR (13 exceedences of 18 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2012. This impairment is included in the EPA Approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B50R_XSH01A10 / Spring Hollow / Spring Hollow from the headwaters downstream to its confluence with the North Fork Shenandoah River.	4A	Escherichia coli	2012	L	6.39

Spring Hollow **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.39**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B51R-01-BAC** **Tumbling Run**

Cause Location: Tumbling Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake. (Start Mile: 5.20 End Mile: .95 Total Impaired Size: 4.25 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BTBL-NS44-FOSR (5 exceedences of 18 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2004

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B51R_TBL02A04 / Tumbling Run / Tumbling Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake.	5A	Escherichia coli	2008	H	4.24

Tumbling Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.24**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B51R_TBL02A04 / Tumbling Run / Tumbling Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake.	5A	Fecal Coliform	2004	H	4.24

Tumbling Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.24**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B51R-02-BAC** **North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from the Winchester Public Water intake downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 6.7 End Mile: 0.00 Total Impaired Size: 6.7 Miles) This impairment was shortened in 2018 as upstream assessment units became fully supporting..

City / County: Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BNFS000.57 (4 exceedences of 36 samples for e-coli). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B51R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from the old dam site at the boat ramp downstream to its confluence with the South Fork Shenandoah River.	5A	Escherichia coli	2008	H	0.71
VAV-B51R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Passage Creek downstream to the old dam site at the boat ramp.	5A	Escherichia coli	2008	H	4.71
VAV-B51R_NFS03A00 / North Fork Shenandoah River / North Fork Shenandoah River from the Winchester Public Water Intake downstream to its confluence with Passage Creek.	5A	Escherichia coli	2010	H	1.28

North Fork Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.70**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B52R-01-PH** **Cedar Creek**

Cause Location: Cedar Creek from the headwaters downstream to the U.S. Forest Service boundary. (Start Mile: 40.57 End Mile: 32.28 Total Impaired Area: 8.29 Miles.

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 1BCDR045.30 (5 excursions of 43 samples for e-coli. Initial Listing Date: 2014 (Upstream assessment unit added in 2016)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B52R_CDR03B10 / Cedar Creek / Cedar Creek from its confluence with a spring branch near Van Buren Furnace downstream to the U.S. Forest Service boundary.	5A	pH	2014	M	4.82
VAV-B52R_CDR04A02 / Cedar Creek / Cedar Creek from the headwaters downstream to its confluence with a spring branch near Van Buren Furnace.	5A	pH	2016	M	3.45

Cedar Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.27**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B52R-02-BEN** **Orndorff Spring Branch**

Cause Location: Orndorff Spring Branch from the spring downstream to its confluence with Cedar Creek. (Start Mile: .24 End Mile: 0.00 Total Impaired Size: .24 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment remains impaired for aquatic life use based on a severely impaired benthic status during the 1998 cycle. This site has not had a benthic survey since. Initial Listing Date: 1998; This segment is included in the EPA approved TMDL for Impairments from Commercial Fish Farming operations. Federal TMDL ID # 9460

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B52R_XOS01A00 / Orndorff Spring Branch / Orndorff Spring Branch from the spring down stream to its confluence with Cedar Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	0.23

Orndorff Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.23**

Sources:

Aquaculture (Permitted)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B52R-04-BAC** **Cedar Creek**

Cause Location: Cedar Creek from its confluence with a spring branch near Van Buren Furnace downstream to its confluence with Duck Run. (Start Mile: 37.11 End Mile: 20.29 Total Impaired Size: 16.82 Miles) This impairment was lengthened in 2014 adding two downstream segments.

City / County: Frederick Co. Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BCDR023.47 (2 exceedences of 12 samples for e-coli); 1BCDR027.00 (2 exceedences of 11 samples for e-coli); 1BCDR028.86 (2 exceedences of 12 samples for e-coli) 1BCDR-CC06-FOSR (9 exceedences of 17 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B52R_CDR02A00 / Cedar Creek / Cedar Creek from the Route 55 bridge crossing downstream to its confluence with Duck Run.	5A	Escherichia coli	2014	H	3.14
VAV-B52R_CDR02B10 / Cedar Creek / Cedar Creek from its confluence with Paddy Run downstream to the Route 55 bridge crossing.	5A	Escherichia coli	2014	H	6.08
VAV-B52R_CDR03A00 / Cedar Creek / Cedar Creek from the U.S. Forest Service boundary downstream to its confluence with Paddy Run.	5A	Escherichia coli	2012	H	2.76
VAV-B52R_CDR03B10 / Cedar Creek / Cedar Creek from its confluence with a spring branch near Van Buren Furnace downstream to the U.S. Forest Service boundary.	5A	Escherichia coli	2012	H	4.82

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.80**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B52R-05-BAC** **Fall Run**

Cause Location: Fall Run and its tributaries from the headwaters downstream to its confluence with Cedar Creek. (Start Mile: 15.17 End Mile: 0.00 Total Impaired Size: 15.17 Miles

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BFLR000.57 (2 exceedences of 12 samples for e-coli) Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B52R_FLR01A14 / Fall Run / Fall Run and its tributaries from the headwaters downstream to its confluence with Cedar Creek.	5A	Escherichia coli	2014	H	15.17

Fall Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.17**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B52R-06-BAC** **Gravel Springs**

Cause Location: Gravel Springs from the headwaters downstream to its confluence with Cedar Creek. (Start Mile: 3.29 End Mile: 0.00 Total Impaired Size: 3.29 Miles

City / County: Frederick Co. Shenandoah Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BGSR000.40 (3 exceedences of 10 samples for e-coli) Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B52R_GSR01A16 / Gravel Springs / Gravel Springs from the headwaters downstream to its confluence with Cedar Creek.	5A	Escherichia coli	2016	L	3.29

Gravel Springs **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.29**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B53R-01-BAC** **Cedar Creek**

Cause Location: Cedar Creek from its confluence with Fall Run downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 18.11 End Mile: 0.00 Total Impaired Size: 18.11 Miles) This impairment was lengthened in 2018 re-listing two upstream segments.

City / County: Frederick Co. Shenandoah Co. Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BCDR000.81 (2 exceedences of 12 samples for e-coli) and 1BCDR013.29 (4 exceedences of 36 samples for e-coli). Initial Listing Date: 2008. Upper segments re-listed and impairment lengthened in 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B53R_CDR01A00 / Cedar Creek / Cedar Creek from its confluence with Stickley Run downstream to its confluence with the North Fork Shenandoah River.	5A	Escherichia coli	2014	H	3.75
VAV-B53R_CDR02A00 / Cedar Creek / Cedar Creek from its confluence with Fawcett Run downstream to its confluence with Stickley Run.	5A	Escherichia coli	2008	H	9.77
VAV-B53R_CDR03A10 / Cedar Creek / Cedar Creek from its confluence with Fall Run downstream to its confluence with Fawcett Run.	5A	Escherichia coli	2008	H	4.57

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.09**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B54R-01-BAC** **Passage Creek**

Cause Location: Passage Creek from its confluence with Peters Mill Run downstream to a point 4.6 miles upstream of the U.S. Forest Service boundary. (Start Mile: 19.08 End Mile: 8.66 Total Impaired Size: 10.42 Miles)

City / County: Shenandoah Co. Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 1BPSG018.13 (9 exceedences of 36 samples for e-coli). Initial Listing Date: 2006. Lower segments were de-listed in 2016 and impairment length shortened.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B54R_PSG01C10 / Passage Creek / Passage Creek from its confluence with Peters Mill Run downstream to a point 4.6 miles upstream of the U. S. Forest Service boundary.	5A	Escherichia coli	2008	H	10.42

Passage Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.42**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B54R_PSG01C10 / Passage Creek / Passage Creek from its confluence with Peters Mill Run downstream to a point 4.6 miles upstream of the U. S. Forest Service boundary.	5A	Fecal Coliform	2006	H	10.42

Passage Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**10.42**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B54R-01-PH** **Passage Creek**

Cause Location: Passage Creek from the headwaters downstream to the Route 675 bridge crossing. (Start Mile: 37.38 End Mile: 31.93 Total Impaired Size: 5.45 Miles)

City / County: Page Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 1BPSG031.99 (2 excursions of 5 samples for pH in 2010, no new data in 2016/18). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B54R_PSG03A10 / Passage Creek / Passage Creek from the headwaters downstream to the Route 675 bridge crossing at Big Spring.	5A	pH	2010	L	5.44

Passage Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.44**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B55R-01-BAC** **Manassas Run**

Cause Location: Manassas Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 15.10 End Mile: 0.00 Total Impaired Size: 15.10 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at station: 1BMAN002.55 (4 exceedences of 35 samples for e-coli). Initial Listing Date: 2004. This segment is included in the EPA Approved Manassas Run Bacteria TMDL. Federal TMDL ID # 65525.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B55R_MAN01A00 / Manassas Run / Manassas Run from the Apple House WWTP discharge downstream to its confluence with the Shenandoah River.	4A	Escherichia coli	2014	L	5.01
VAV-B55R_MAN02A04 / Manassas Run / Manassas Run and tributaries from the headwaters downstream to the Apply House WWTP discharge.	4A	Escherichia coli	2014	L	10.08

Manassas Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**15.09**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B55R_MAN01A00 / Manassas Run / Manassas Run from the Apple House WWTP discharge downstream to its confluence with the Shenandoah River.	4A	Fecal Coliform	2004	L	5.01
VAV-B55R_MAN02A04 / Manassas Run / Manassas Run and tributaries from the headwaters downstream to the Apply House WWTP discharge.	4A	Fecal Coliform	2004	L	10.08

Manassas Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**15.09**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B55R-02-BAC** **Borden Marsh Run**

Cause Location: Borden Marsh Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 15.68 End Mile: 0.00 Total Impaired Size: 15.68 Miles)

City / County: Clarke Co. Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BBMR000.20 (16 exceedences of 41 samples for e-coli). Initial Listing Date: 2006. This segment is included in the EPA Approved Bordon Marsh Run Bacteria TMDL. Federal TMDL ID # 65530.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B55R_BMR01A00 / Borden Marsh Run / Borden Marsh Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River.	4A	Escherichia coli	2006	L	15.68

Borden Marsh Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.68**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B55R-03-BAC** **Willow Brook**

Cause Location: Willow Brook from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 4.10 End Mile: 0.00 Total Impaired Size: 4.10 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BWLO000.71 (10 exceedences of 36 samples for e-coli). Initial Listing Date: 2006. This segment is included in the EPA Approved Willow Brook Bacteria TMDL. Federal TMDL ID # 65520.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B55R_WLO01A06 / Willow Brook / Willow Brook from the headwaters downstream to its confluence with the Shenandoah River.	4A	Escherichia coli	2006	L	4.09

Willow Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.09**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B56R-01-BAC** **Crooked Run**

Cause Location: Crooked Run from the Lake Frederick dam downstream to its confluence with the Shenandoah River. (Start Mile: 9.23 End Mile: 0.00 Total Impaired Size: 9.23 Miles)

City / County: Frederick Co. Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BCRO002.75 (12 exceedences of 72 samples for e-coli). Initial Listing Date: 2008. This segment is included in the EPA approved Crooked Run Bacteria TMDL Federal TMDL ID# 65528.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B56R_CRO01A00 / Crooked Run / Crooked Run from the Nineveh Spring outfall downstream to its confluence with the Shenandoah River.	4A	Escherichia coli	2008	L	6.90
VAV-B56R_CRO01B16 / Crooked Run / Crooked Run from the Lake Frederick dam downstream to its confluence with the Nineveh Spring outfall.	4A	Escherichia coli	2008	L	2.32

Crooked Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.22**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B56R_CRO01A00 / Crooked Run / Crooked Run from the Nineveh Spring outfall downstream to its confluence with the Shenandoah River.	4A	Fecal Coliform	2002	L	6.90
VAV-B56R_CRO01B16 / Crooked Run / Crooked Run from the Lake Frederick dam downstream to its confluence with the Nineveh Spring outfall.	4A	Fecal Coliform	2002	L	2.32

Crooked Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**9.22**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B56R-01-DO** **Crooked Run**

Cause Location: Crooked Run from the Lake Frederick dam downstream to its confluence with the Nineveh Spring outfall. (Start Mile: 9.23 End Mile: 6.90 Total Impaired Size: 2.33 Miles) Impairment length shortened in 2016 with delist of downstream assessment unit.

City / County: Frederick Co. Warren Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to excursions of the DO WQS at station: 1BCRO006.93 (11 excursions of 35 samples for DO). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B56R_CRO01B16 / Crooked Run / Crooked Run from the Lake Frederick dam downstream to its confluence with the Nineveh Spring outfall.	5A	Oxygen, Dissolved	2008	L	2.32

Crooked Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.32**

Sources:

Upstream Impoundments
(e.g., PI-566 NRCS
Structures)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B56R-02-BAC** **Stephens Run**

Cause Location: Stephens Run from an unnamed tributary 1 mile upstream of Crooked Run downstream to its confluence with Crooked Run. (Start Mile: 1.00 End Mile: 0.00 Total Impaired Size: 1.00 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BSTV000.20 (10 exceedences of 69 samples for e-coli). Initial Listing Date: 2010. This segment is included in the EPA Approved Stephens Run Bacteria TMDL. Federal TMDL ID # 65524.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B56R_STV01A00 / Stephens Run / Stephens Run from an unnamed tributary .99 miles upstream of Crooked Run downstream to its confluence with Crooked Run.	4A	Escherichia coli	2010	L	0.99

Stephens Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.99**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B56R-02-BEN** **Stephens Run**

Cause Location: Stephens Run from an unnamed tributary 1 mile upstream of Crooked Run downstream to its confluence with Crooked Run. (Start Mile: 1.00 End Mile: 0.00 Total Impaired Size: 1.00 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BSTV000.20 (Impaired for VSCI). Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B56R_STV01A00 / Stephens Run / Stephens Run from an unnamed tributary .99 miles upstream of Crooked Run downstream to its confluence with Crooked Run.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	0.99

Stephens Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.99**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B56R-03-BAC** **West Run**

Cause Location: West Run from the headwaters downstream to its confluence with Crooked Run (Start Mile: 8.08 End Mile: 0.00 Total Impaired Size: 8.08 Miles) This segment was lengthened in 2014 due to a segmentation error in the 2012 assessment cycle.

City / County: Frederick Co. Warren Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BWST000.20 (14 exceedences of 71 samples for e-coli) and 1BWST000.33 (3 exceedences of 13 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2010 This segment is included in the EPA Approved West Run Bacteria TMDL. Federal TMDL ID # 65523.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B56R_WST01A00 / West Run / West Run from the headwaters downstream to its confluence with Crooked Run.	4A	Escherichia coli	2010	L	8.08

West Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.08**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

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Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-01-BAC** **Page Brook Run/Spout Run**

Cause Location: Page Brook Run from the headwaters downstream to its confluence with Roseville Run; Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River. (Start Mile: 10.98, 4.12 End Mile: 0.00, 0.00 Total Impaired Size: 10.98 Miles, 4.12 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at stations: 1BPGE000.09 (35 exceedences of 59 samples for e-coli); 1BPGE-SRPFC09-FOSR (7 exceedences of 10 samples for e-coli); 1BSPR000.40 (14 exceedences of 66 samples for e-coli) and 1BSPR-SRPFC02-FOSR (6 exceedences of 22 samples for e-coli). Initial Listing Date: 2004 (Page Brook Run), 1998 (Spout Run). This impairment is included in the EPA Approved Page Brook Run/Spout Run bacteria TMDL. Federal TMDL ID # 38674 and 38686.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_PGE01A00 / Page Brook Run / Page Brook Run and tributary from a point 1 mile upstream of Spout Run downstream to its confluence with Spout Run.	4A	Escherichia coli	2004	L	1.31
VAV-B57R_PGE02A10 / Page Brook Run / Page Brook Run and tributaries from the headwaters downstream to a point 1 mile upstream of Spout Run.	4A	Escherichia coli	2004	L	9.66
VAV-B57R_SPR01A00 / Spout Run / Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River.	4A	Escherichia coli	2010	L	4.12

Page Brook Run/Spout Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.09**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_PGE01A00 / Page Brook Run / Page Brook Run and tributary from a point 1 mile upstream of Spout Run downstream to its confluence with Spout Run.	4A	Fecal Coliform	2004	L	1.31
VAV-B57R_PGE02A10 / Page Brook Run / Page Brook Run and tributaries from the headwaters downstream to a point 1 mile upstream of Spout Run.	4A	Fecal Coliform	2004	L	9.66
VAV-B57R_SPR01A00 / Spout Run / Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River.	4A	Fecal Coliform	1998	L	4.12

Page Brook Run/Spout Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**15.09**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-01-BEN** **Spout Run**

Cause Location: Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River. (Start Mile: 4.12 End Mile: 0.00 Total Impaired Size: 4.12 Miles)

City / County: Clarke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 1BSPR000.40 (Impaired for VSCI) and 1BSPR003.13 (Impaired for VSCI). Initial Listing Date: 1998. This impairment is included in the EPA Approved Spout Run benthic TMDL. Federal TMDL ID # 38673.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_SPR01A00 / Spout Run / Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.12

Spout Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-02-BAC** **Long Branch**

Cause Location: Long Branch from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 3.87 End Mile: 0.00 Total Impaired Size: 3.87 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BLNG000.24 (8 exceedences of 35 samples for e-coli). Initial Listing Date: 2004. This segment is included in the EPA Approved Long Branch Bacteria TMDL. Federal TMDL ID # 65526.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_LNG01A04 / Long Branch / Long Branch from the headwaters downstream to its confluence with the Shenandoah River.	4A	Escherichia coli	2008	L	3.87

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.87**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_LNG01A04 / Long Branch / Long Branch from the headwaters downstream to its confluence with the Shenandoah River.	4A	Fecal Coliform	2004	L	3.87

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.87**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-03-BAC** **Chapel Run**

Cause Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 11.75 End Mile: 0.00 Total Impaired Size: 11.75 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BCPL000.95 (5 exceedences of 35 samples for e-coli). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_CPL01A00 / Chapel Run / Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River.	5A	Escherichia coli	2008	H	11.74

Chapel Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.74**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-03-BEN** **Chapel Run**

Cause Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 11.75 End Mile: 0.00 Total Impaired Size: 11.75 Miles)

City / County: Clarke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 1BCPL000.95 (Impaired for VSCI). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_CPL01A00 / Chapel Run / Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	11.74

Chapel Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.74**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-04-BAC** **Roseville Run**

Cause Location: Roseville Run from the headwaters downstream to its confluence with Page Brook Run. (Start Mile: 6.4 End Mile: 0.00 Total Impaired Size: 6.4 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BRSC001.42 (28 exceedences of 60 samples for e-coli). Initial Listing Date: 2010 This impairment is included in the EPA Approved Roseville Run bacteria TMDL. Federal TMDL ID # 39303.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_RSC01A00 / Roseville Run / Roseville Run from the headwaters downstream to its confluence with Page Brook Run.	4A	Escherichia coli	2010	L	6.39

Roseville Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.39**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-05-BAC** **Shenandoah River**

Cause Location: Shenandoah River from its confluence with Long Branch downstream to its confluence with Spout Run. (Start Mile: 39.63 End Mile: 34.23 Total Impaired Size: 5.4 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BSHN038.48 (5 exceedences of 24 samples for e-coli). Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_SHN03A00 / Shenandoah River / Shenandoah River from its confluence with Long Branch downstream to its confluence with Spout Run.	5A	Escherichia coli	2014	L	5.40

Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.40**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B57R-06-BAC** **Westbrook Run**

Cause Location: Westbrook Run and tributaries from the headwaters downstream to its confluence with Roseville Run. (Start Mile: 9.16 End Mile: 0.00 Total Impaired Size: 9.16 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station 1BWBK-SRPFC43-FOSR (15 exceedences of 22 samples for e-coli). Initial Listing Date: 2018 This impairment is included in the EPA Approved Roseville Run Bacteria TMDL. Federal TMDL ID # 39303.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B57R_WBK01A00 / Westbrook Run / Westbrook Run and tributaries from the headwaters downstream to its confluence with Roseville Run.	4A	Escherichia coli	2018	L	9.16

Westbrook Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.16**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B58R-02-BAC** **Dog Run**

Cause Location: Dog Run from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 6.13 End Mile: 0.00 Total Impaired Size: 6.13 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BDGR000.23 (9 exceedences of 23 samples for e-coli). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B58R_DGR01A00 / Dog Run / Dog Run from the headwaters downstream to its confluence with the Shenandoah River.	5A	Escherichia coli	2008	H	6.13

Dog Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.13**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B58R-03-BAC** **Wheat Spring Branch**

Cause Location: Wheat Spring Branch from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 4.69 End Mile: 0.00 Total Impaired Size: 4.69 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 1BWSB000.22 (18 exceedences of 18 samples for e-coli). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B58R_WSB01A00 / Wheat Spring Branch / Wheat Spring Branch from the headwaters downstream to its confluence with the Shenandoah River.	5A	Escherichia coli	2008	H	4.69

Wheat Spring Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.69**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B58R-04-BAC** **Long Marsh Run**

Cause Location: Long Marsh Run from the headwaters downstream to the VA/WVA State Line. (Start Mile: 7.09 End Mile: 0.00 Total Impaired Size: 7.09 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1ALMR001.82 (8 exceedences of 12 samples for e-coli). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B58R_LSR01A00 / Long Marsh Run / Long Marsh Run from the headwaters downstream to the VA/WVA State Line.	5A	Escherichia coli	2012	L	7.09

Long Marsh Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.09**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B58R-05-BAC** **Shenandoah River**

Cause Location: Shenandoah River from its confluence with Craig Run downstream to the VA/WVA State Line. (Start Mile: 28.20 End Mile: 20.29 Total Impaired Size 7.91 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 1BSHN022.63 (4 exceedences of 36 samples for e-coli) and 1BSHN-EC10-FOSR (3 exceedences of 8 samples for e-coli). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B58R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Dog Run downstream to the VA/WVA State Line.	5A	Escherichia coli	2012	L	5.10
VAV-B58R_SHN02A00 / Shenandoah River / Shenandoah River from its confluence with Craig Run downstream to its confluence with Dog Run.	5A	Escherichia coli	2012	L	2.80

Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.90**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* B58R-06-BAC** **Craig Run**

Cause Location: Craig Run from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 4.40 End Mile 0.00 Total Impaired Size: 4.40 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at stations: 1BCRG-EC10TRIB-FOSR (5 exceedences of 6 samples for e-coli) and 1BCRG-FS340-FOSR (7 exceedences of 18 samples for e-coli). Initial Listing Date: 2018 1BCRG-EC10TRIB-FOSR (5 exceedences of 6 samples for e-coli) and 1BCRG-FS340-FOSR (7 exceedences of 18 samples for e-coli). Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-B58R_CRG01A16 / Craig Run / Craig Run from the 5 mile upper limit of the Mt. Weather PWS designation downstream to its confluence with the Shenandoah River.	5A	Escherichia coli	2018	L	2.72
VAV-B58R_CRG02A16 / Craig Run / Craig Run from the headwaters downstream to the 5 mile upper limit of the Mt. Weather PWS designation.	5A	Escherichia coli	2018	L	1.68

Craig Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.40**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* CB5MH-DO-BAY Chesapeake Bay segment CB5MH**

Cause Location: This cause encompasses the complete CBP segment CB5MH.

City / County: Chesapeake Bay - County Not Applicable. Lancaster Co. Northumberland Co.

Use(s): Aquatic Life Deep-Water Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The 30-day dissolved oxygen criteria for open water use (summer) and the 30-day dissolved oxygen criteria for deep water use failed for the 2018 assessment in segment CB5MH. There are insufficient data to assess remaining shorter-term dissolved oxygen criteria for the open water and deep water uses. The instantaneous oxygen criteria for deep channel use was met.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_LIS02A00 / Little Wicomico River / Boundary of VDH-DSS Condemnation Notice 010-105, 6/14/2016 downstream to Sunnybank Ferry. Expanded in the 2018 cycle. CB5MH	4A	Oxygen, Dissolved	2016	L	0.704
VAP-A34E_LIS03A98 / Little Wicomico River / Confined to approximately the Sunnybank Ferry Route. CB5MH	4A	Oxygen, Dissolved	2016	L	0.025
VAP-A34E_LIS04A00 / Little Wicomico River / Downstream of the Sunnybank Ferry Route, except as otherwise segmented. CB5MH	4A	Oxygen, Dissolved	2016	L	0.971

Chesapeake Bay segment CB5MH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**1.700**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* CB5MH-SAV-BAY Chesapeake Bay segment CB5MH**

Cause Location: This cause encompasses the complete CBP segment CB5MH.

City / County: Chesapeake Bay - County Not Applicable. Northumberland Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

Submerged Aquatic Vegetation acres goal is 7,633 acres but only 16% was attained found in the most recent 3 years according to aerial analysis of SAV. Only 69% of water clarity goal met according to 2013 and 2014 Dataflow surveys.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-A34E_BAC01A12 / Back Creek / Described in VDH SFC 010-105F, 6/14/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.038
CB5MH					
VAP-A34E_BBC01A08 / Bridgemans Back Creek / Described in VDH Shellfish Condemnation 010-105E, 6/9/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.055
CB5MH					
VAP-A34E_BRI01C98 / Bridge Creek / VDH condemnation 010-105B and portion of 010-105D, 6/14/2016 not otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2006	L	0.129
CB5MH					
VAP-A34E_BRI02C98 / Bridge Creek / Described in the condemnation notice 010-105D, 9/15/2004	4A	Aquatic Plants (Macrophytes)	2006	L	0.089
CB5MH					
VAP-A34E_COO01A98 / Cod Creek, Trib to Little Wicomico / Described in VDH condemnation notice 105A, 06/10/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.078
CB5MH					
VAP-A34E_COO02A14 / Little Wicomico River / Cod Creek / Portion of VDH condemnation 010-105G, 6/9/2014 open on 6/10/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.012
CB5MH					
VAP-A34E_ELL01A06 / Ellyson Creek / Described in VDH-DSS condemnation 010-105C, 6/9/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.098
CB5MH					
VAP-A34E_LIS01A02 / Little Wicomico River / Portion of VDH-DSS Condemnation 010-105A, 6/14/2016 open on 6/10/1997 as well as sections 010-105E and -105C. Segment shortened and split in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.179
CB5MH					
VAP-A34E_LIS01A98 / Little Wicomico River / Described in the VDH-DSS Condemnation Notice 105B, 6/10/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.203
CB5MH					

Potomac and Shenandoah River Basins

VAP-A34E_LIS01B12 / Little Wicomico River / Described in VDH-DSS condemnation 010-105M3, 6/9/2014. Adjusted slightly in the 2018 cycle. CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
VAP-A34E_LIS01C18 / Little Wicomico River / Described in VDH-DSS Condemnation 010-105M4. CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.016
VAP-A34E_LIS02A00 / Little Wicomico River / Boundary of VDH-DSS Condemnation Notice 010-105, 6/14/2016 downstream to Sunnybank Ferry. Expanded in the 2018 cycle. CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.704
VAP-A34E_LIS02B08 / Little Wicomico River / Described in VDH condemnation 010-105M2, 6/14/2016 CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.006
VAP-A34E_LIS03A98 / Little Wicomico River / Confined to approximately the Sunnybank Ferry Route. CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
VAP-A34E_LIS04A00 / Little Wicomico River / Downstream of the Sunnybank Ferry Route, except as otherwise segmented. CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.971
VAP-A34E_LIS04B12 / Little Wicomico River, UT / Described in VDH condemnation 010-105H, 6/14/2016. CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.024
VAP-A34E_SLO05A98 / Little Wicomico River: Slough Creek / Described in the condemnation notice 010-105E, 5/15/2012. CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.032
VAP-A34E_SLO06A06 / Slough Creek / Described in VDH-DSS condemnation 010-105M1, 5/15/2012 CB5MH	4A	Aquatic Plants (Macrophytes)	2006	L	0.028

Chesapeake Bay segment CB5MH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**2.708**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* POTMH-DO-BAY Potomac Mesohaline Embayments**

Cause Location: Includes all waters in the mesohaline portion of the Potomac River (POTMH).

City / County: King George Co. Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life Deep-Water Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

An open-water assessment of dissolved oxygen values during the summer season showed that the POTMH was not supporting.

2016 Assessment: A deep-water assessment of dissolved oxygen values during the summer season showed that the POTMH was not supporting. The POTMH was 4.01 percent above CFD. (Applies to areas noted as impaired for deep-water subuse in 2016IR. Because the deep-water subuse does not apply in 2018IR, the impairment remains applicable.)

The Chesapeake Bay TMDL was established by the EPA on 12/29/2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_DEE01A00 / Deep Creek / Segment includes the downstream portion of Deep Creek to the confluence with Upper Machodoc Creek within the boundaries described in the VDH Shellfish Area Condemnation Number 001A-036, Section D, effective 05/07/13. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.019
VAN-A30E_GAM01A02 / Gambo Creek / The Gambo Creek portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.163
VAN-A30E_UMC01A02 / Upper Machodoc Creek / The boundaries of the condemned (prohibited) area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section F, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.022
VAN-A30E_UMC01B06 / Upper Machodoc Creek / The Upper Machodoc Creek portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.064
VAN-A30E_UMC02A04 / Upper Machodoc Creek / The boundaries of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section B, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.028
VAN-A30E_UMC03A04 / Upper Machodoc Creek / A portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section E, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.043
VAN-A30E_UMC03B10 / Upper Machodoc Creek / Segment includes the area of UMC described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section M1, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.049
VAN-A30E_UMC04A10 / Upper Machodoc Creek / Segment	4A	Oxygen, Dissolved	2006	L	0.419

includes main body of tidal Upper Machodoc Creek not included in segment VAN-A30E_UMC04B06 or the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 7, 2013. Portion of CBP segment POTMH.					
VAN-A30E_UMC04B06 / Upper Machodoc Creek / Segment includes main body of tidal Upper Machodoc Creek not included in segment VAN-A30E_UMC04A10 or the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.418
VAN-A30E_UMC04C06 / Upper Machodoc Creek / Segment includes the downstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, dated 05/07/13, and continuing until the open embayment of Upper Machodoc Creek. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2014	L	0.184
VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 07, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2006	L	0.705
VAN-A30E_WLL01A02 / Williams Creek / The boundaries of the condemned (prohibited) area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section G, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2002	L	0.041
VAN-A30E_WLL01B10 / Williams Creek / The downstream portion of the boundary of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2002	L	0.113
VAN-A30E_WLL02A02 / Williams Creek / The upstream portion of the boundary of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Oxygen, Dissolved	2002	L	0.022
VAP-A30E_ZZZ01A10 / Unsegmented estuaries in PRO's portion of A30 / Unsegmented portion of watershed.	4A	Oxygen, Dissolved	2014	L	0.034
POTMH					
VAP-A31E_BRG01A04 / Bridges Creek / Tidal limit to mouth	4A	Oxygen, Dissolved	2014	L	0.182
POTMH					
VAP-A31E_GLD01A00 / Goldman Creek / Described in VDH-DSS condemnation notice 001-088B, 8/20/2015	4A	Oxygen, Dissolved	2014	L	0.043
Slight adjustment in the 2018 cycle					
POTMH					
VAP-A31E_MAO01A98 / Mattox Creek / Portion of the condemnation notice 002-001B, 6/17/2016 that is not administratively condemned	4A	Oxygen, Dissolved	2014	L	0.429
Segment extended in the 2018 cycle.					
POTMH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

VAP-A31E_MAO01B10 / Mattox Creek / Upper portion of the condemnation notice 002-001B, 6/17/2016 which is administratively condemned. Segment merged in the 2018 cycle. POTMH	4A	Oxygen, Dissolved	2014	L	0.366
VAP-A31E_MAO02A00 / Mattox Creek / Downstream of VDH-DSS condemnation area 002-001B 6/17/2016. Segment shrunk in the 2018 cycle. POTMH	4A	Oxygen, Dissolved	2014	L	0.338
VAP-A31E_MAO05A08 / Mattox Creek / VDH-DSS condemnation 002-001M1, 6/17/2016	4A	Oxygen, Dissolved	2014	L	0.007
VAP-A31E_MON01A00 / Monroe Creek/Monroe Bay / Prohibited area around STP outfall as described in VDH shellfish condemnation 002-001D, 6/7/2016	4A	Oxygen, Dissolved	2014	L	0.176
VAP-A31E_MON02A98 / Monroe Bay / Administratively condemned portion of VDH condemnation notice 002-001A, 6/17/2016 POTMH	4A	Oxygen, Dissolved	2014	L	0.355
VAP-A31E_MON03A98 / Monroe Bay / Portion of VDH condemnation notice 002-001A, 6/17/2016 POTMH	4A	Oxygen, Dissolved	2014	L	0.172
VAP-A31E_MON03B16 / Monroe Bay / Described in VDH condemnation notice 002-001M2, 6/17/2016 POTMH	4A	Oxygen, Dissolved	2014	L	0.063
VAP-A31E_MON04A00 / Monroe Bay / Downstream of VDH-DSS condemnation area 002-001A, 6/17/2016 POTMH	4A	Oxygen, Dissolved	2014	L	0.221
VAP-A31E_MON05A04 / Monroe Bay / Described in VDH Condemnation 002-001C, 6/7/2016 POTMH	4A	Oxygen, Dissolved	2014	L	0.002
VAP-A31E_POP01A98 / Popes Creek / Described in condemnation notice 003-146, 9/23/2008.	4A	Oxygen, Dissolved	2014	L	0.576
VAP-A31E_ROS01A08 / Rosier Creek / Portion of VDH condemnation notice 001-088A, 8/20/2015 not included in the 2006 TMDL. Segment shrunk and split in 2018 cycle. POTMH	4A	Oxygen, Dissolved	2014	L	0.149
VAP-A31E_ROS01A98 / Rosier Creek / Described in VDH condemnation notice 088A, 7/1/1998.	4A	Oxygen, Dissolved	2014	L	0.206
VAP-A31E_ROS02A00 / Rosier Creek / From the downstream limit of segment ROS01A08 to its mouth at the Potomac River Expanded in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.242

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

POTMH VAP-A31E_ROS02B18 / Rosier Creek / Described in VDH condemnation notice 001-088M1, 8/20/2015	4A	Oxygen, Dissolved	2014	L	0.008
POTMH VAP-A31E_XFF01A04 / XFF - Mattox Creek, UT / As described in VDH Condemnation 002-001E, 6/17/2016	4A	Oxygen, Dissolved	2014	L	0.010
POTMH VAP-A31E_ZZZ01A14 / Unsegmented estuaries in A31 / Unsegmented portion of watershed PL66.	4A	Oxygen, Dissolved	2014	L	0.006
POTMH VAP-A31E_ZZZ01B14 / Unsegmented estuaries in A31 / Unsegmented portion of watershed PL67.	4A	Oxygen, Dissolved	2014	L	0.317
POTMH VAP-A32E_BAN01A00 / Barnes Creek / Downstream of VDH Shellfish Condemnation 082C, 2/10/1997 Merged in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.027
POTMH VAP-A32E_BAN02A08 / Barnes Creek / Described in VDH Shellfish Condemnation 082C, 2/10/1997	4A	Oxygen, Dissolved	2014	L	0.057
POTMH VAP-A32E_BRA01A98 / Branson Cove / Described in the condemnation notice 005-083C, 7/14/2016	4A	Oxygen, Dissolved	2014	L	0.020
POTMH VAP-A32E_BUB01B16 / Buckner Creek / Described in VDH Condemnation 004-082D, 2/10/1997 Merged in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.183
POTMH VAP-A32E_BUB02A06 / Buckner Creek / Downstream of condemnation 004-082B, 2/1/2016	4A	Oxygen, Dissolved	2014	L	0.372
POTMH VAP-A32E_BUB02B14 / Buckner Creek / Portion of condemnation 004-082B, 2/1/2016 not included in 082D, 2/10/1997	4A	Oxygen, Dissolved	2014	L	0.065
POTMH VAP-A32E_CAP01A04 / Cabin Point Creek / As described in the condemnation notice 005-083B, 7/14/2016	4A	Oxygen, Dissolved	2014	L	0.123
POTMH VAP-A32E_CHB01A98 / Cold Harbor Bay / Described in the condemnation notice 004-184A, 2/1/2016	4A	Oxygen, Dissolved	2014	L	0.083
POTMH					

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Potomac and Shenandoah River Basins

VAP-A32E_CHB02A06 / Cold Harbor Creek / Currioman Bay / Described in VDH condemnation 004-184M1, 2/1/2016	4A	Oxygen, Dissolved	2014	L	0.044
POTMH					
VAP-A32E_CRB02A00 / Currioman Bay / Downstream of Currioman Creek.	4A	Oxygen, Dissolved	2014	L	0.729
POTMH					
VAP-A32E_CRB03A14 / Currioman Bay / Upstream of Currioman Creek	4A	Oxygen, Dissolved	2014	L	0.923
POTMH					
VAP-A32E_CUR01A98 / Currioman Creek / Described in the condemnation notice 004-184, 2/10/1997	4A	Oxygen, Dissolved	2014	L	0.052
POTMH					
VAP-A32E_CUR01B08 / Currioman Creek / From the limit of VDH condemnation 004-184, 2/10/1997 downstream to the limit of 004-184B, 2/1/2016.	4A	Oxygen, Dissolved	2014	L	0.020
POTMH					
VAP-A32E_DAV01A08 / Davis Creek / Described in VDH condemnation 004-082G, 2/1/2016	4A	Oxygen, Dissolved	2014	L	0.026
POTMH					
VAP-A32E_GLB01A00 / Glebe Creek / Downstream of condemnation 005-083A, 12/28/2007	4A	Oxygen, Dissolved	2014	L	0.039
POTMH					
VAP-A32E_GLB02A08 / Aimes and Glebe Creeks / As described in VDH Shellfish Condemnation 005-083E and -083F, 7/14/2016. Split in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.120
POTMH Mileage adjusted in 2006 and 2008 cycles.					
VAP-A32E_GLB02B18 / Aimes and Glebe Creeks / Portion of VDH Shellfish Condemnation 005-083A, 12/28/2007 open 7/14/2016	4A	Oxygen, Dissolved	2014	L	0.015
POTMH Mileage adjusted in 2006 and 2008 cycles.					
VAP-A32E_JUL01A08 / Jules Creek / Described in VDH Shellfish Condemnation 004-082C, 2/1/2016	4A	Oxygen, Dissolved	2014	L	0.045
POTMH					
VAP-A32E_LOW01A04 / Lower Machodoc Creek / As described in VDH condemnation notice 005-083B, 12/28/2007 Merged in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.536
POTMH					
VAP-A32E_LOW01B18 / Lower Machodoc Creek / Boundary of	4A	Oxygen, Dissolved	2014	L	0.626

condemned area 005-083B, 12/28/2007 downstream to limit of 005-083A, 7/14/2016

POTMH

VAP-A32E_LOW02A00 / Lower Machodoc Creek / Boundary of condemned area 005-083A, 7/14/2016 downstream to approximately rivermile 2.68	4A	Oxygen, Dissolved	2014	L	0.205

Split in the 2018 cycle.

POTMH

VAP-A32E_LOW02B16 / Lower Machodoc Creek / One-half mile upstream and downstream of station 1ALOW002.18.	4A	Oxygen, Dissolved	2014	L	0.687

POTMH

VAP-A32E_LOW02C12 / Lower Machodoc Creek, UT / Described in VDH condemnation 005-083C, 12/21/2010	4A	Oxygen, Dissolved	2014	L	0.059

POTMH

VAP-A32E_LOW02D16 / Lower Machodoc Creek / Approximately river mile 1.68 downstream to mouth.	4A	Oxygen, Dissolved	2014	L	2.145

POTMH

VAP-A32E_MAT01A08 / Matthews Cove / Described in VDH Shellfish Condemnation 004-082E, 2/1/2016	4A	Oxygen, Dissolved	2014	L	0.019

POTMH

VAP-A32E_NOM01A04 / Nomini Creek, Pierce Creek / Portion of VDH Shellfish Condemnation 004-082D, 2/1/2016 downstream of 082B, 7/3/1997 and portion upstream of 082A, 7/3/1997.	4A	Oxygen, Dissolved	2014	L	0.247

Segment shortened in 2018 cycle

POTMH

VAP-A32E_NOM01A98 / Nomini Creek / As described in VDH Shellfish Condemnation 082B, 7/3/1997.	4A	Oxygen, Dissolved	2014	L	0.540

POTMH

VAP-A32E_NOM02A00 / Nomini Creek / Downstream condemnation boundary to approximately river mile 1.	4A	Oxygen, Dissolved	2014	L	2.249

POTMH

VAP-A32E_NOM04A00 / Nomini Bay / Downstream of approx. river mile 1.0.	4A	Oxygen, Dissolved	2014	L	2.500

POTMH

VAP-A32E_NOP01A02 / North Prong Buckner Creek / Described in the condemnation notice 082E, 2/10/1997.	4A	Oxygen, Dissolved	2014	L	0.023

POTMH

VAP-A32E_NOP02A08 / North Prong Buckner Creek / Portion of VDH condemnation 004-082A, 2/1/2016 that was not included in 082E, 2/10/1997	4A	Oxygen, Dissolved	2014	L	0.060

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Expanded in the 2018 cycle.

POTMH VAP-A32E_PEI01A98 / Peirce Creek / As described in VDH Shellfish Condemnation 082A, 7/3/1997.	A	Oxygen, Dissolved	2014	L	0.142
POTMH VAP-A32E_POO01A08 / Poor Jack Creek / Described in VDH Shellfish Condemnation 004-184C, 2/1/2016	A	Oxygen, Dissolved	2014	L	0.147
POTMH VAP-A32E_WEA02A04 / Weatherall Creek / As described in VDH condemnation 005-083D, 7/14/2016	4A	Oxygen, Dissolved	2014	L	0.055
POTMH VAP-A32E_ZZZ01A14 / Unsegmented estuaries in A32 / Unsegmented portion of watershed PL68.	4A	Oxygen, Dissolved	2014	L	0.009
POTMH VAP-A32E_ZZZ01B14 / Unsegmented estuaries in A32 / Unsegmented portion of watershed PL69.	4A	Oxygen, Dissolved	2014	L	0.053
POTMH VAP-A33E_BOM01A98 / Bonum Creek / Described in the condemnation notice 006-143C, 8/4/2016.	4A	Oxygen, Dissolved	2014	L	0.180

Shortened in the 2018 cycle.

POTMH VAP-A33E_BOM01B10 / Bonum Creek / Portion of condemnation notice 143C, 5/5/2005 in 006-143S3, 8/4/2016.	4A	Oxygen, Dissolved	2014	L	0.030

Expanded in the 2018 cycle.

POTMH VAP-A33E_DUA01A04 / Dungan Cove / As described in VDH Shellfish Condemnation 007-028G, 5/12/1997	4A	Oxygen, Dissolved	2014	L	0.024
POTMH VAP-A33E_DUA01B08 / Dungan Cove / Downstream of VDH condemnation 028G, 5/12/1997 to limit of condemnation 007-028G, 11/1/2010	4A	Oxygen, Dissolved	2014	L	0.005
POTMH VAP-A33E_GAD01A98 / Gardner Creek / Described in condemnations 006-143A and -E, 8/4/2016.	4A	Oxygen, Dissolved	2014	L	0.008

Size reduced in the 2018 cycle.

POTMH VAP-A33E_GAD01B14 / Gardner Creek / Portion of condemnation notice 006-143A, 5/5/2005 seasonally condemned on 8/4/2016	4A	Oxygen, Dissolved	2014	L	0.104

Expanded in the 2018 cycle.

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Potomac and Shenandoah River Basins

POTMH VAP-A33E_GAD02A00 / Gardner Creek / Downstream of VDH condemnation 006-143A, 5/5/2005	4A	Oxygen, Dissolved	2014	L	0.013
POTMH VAP-A33E_HAM01A02 / Hampton Hall Branch / Tidal Hampton Hall Branch	4A	Oxygen, Dissolved	2014	L	0.274
POTMH VAP-A33E_JCK01A98 / Jackson Creek / Described in VDH condemnation notice 006-143B and -D, 8/4/2016 Segment split in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.096
POTMH VAP-A33E_JCK01B18 / Jackson Creek / Portion of VDH condemnation notice 006-143B, 5/5/2005 seasonally condemned in 006-143S2, 8/4/2016	4A	Oxygen, Dissolved	2014	L	0.042
POTMH VAP-A33E_KIN01A12 / Kinsale Branch / Tidal limit to mouth	4A	Oxygen, Dissolved	2014	L	0.108
POTMH VAP-A33E_LOG01A98 / Lodge Creek / Described in the condemnation notice 007-225C, 9/26/2016.	4A	Oxygen, Dissolved	2014	L	0.030
POTMH VAP-A33E_LOG02A98 / Lodge Creek / Portion of condemnation notice 007-225A, 9/26/2016 that is not administratively condemned. Shrank in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.138
POTMH VAP-A33E_LOG02B10 / Lodge Creek / Portion of condemnation notice 007-225A, 9/26/2016 that is administratively condemned.	4A	Oxygen, Dissolved	2014	L	0.074
POTMH VAP-A33E_LOG02C12 / Lodge Creek / Portion of condemnation notice 007-028F, 5/12/1997 that is within 007-225M2, 9/26/2016. Expanded in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.058
POTMH VAP-A33E_LOG03A08 / Lodge Creek / Downstream boundary of 028F 5/12/1997 to downstream boundary of VDH condemnation 007-225M2, 9/26/2016	4A	Oxygen, Dissolved	2014	L	0.019
POTMH VAP-A33E_MIA01A98 / Mill Creek / Described in the condemnation notice 007-225B, 9/26/2016 Expanded in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.149

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Potomac and Shenandoah River Basins

POTMH VAP-A33E_MIA01B10 / Mill Creek / Portion of condemnation notice 028E, 5/12/1997 open on 9/26/2016. Shrunk in the 2018 cycle.	A	Oxygen, Dissolved	2014	L	0.064
POTMH VAP-A33E_RAG01A06 / Ragged Point Bay / Described in VDH-DSS condemnation 006-143M1, 8/4/2016	A	Oxygen, Dissolved	2014	L	0.226
POTMH VAP-A33E_SHA01A98 / Shannon Branch / Described in the condemnation notice 007-028A, 9/26/2016.	A	Oxygen, Dissolved	2014	L	0.036
POTMH VAP-A33E_SHA03A06 / Shannon Branch / Described in VDH-DSS condemnation 007-028M1, 9/26/2016.	A	Oxygen, Dissolved	2014	L	0.035
POTMH VAP-A33E_SOV01A02 / South Yeocomico River / South Yeocomico River excluding condemnation 007-225M1, 9/26/2016	A	Oxygen, Dissolved	2014	L	0.594
POTMH VAP-A33E_SOV02A06 / South Yeocomico River / Described in VDH-DSS condemnation 007-225M1, 9/26/2016	A	Oxygen, Dissolved	2014	L	0.048
POTMH VAP-A33E_WES01A06 / West Yeocomico River / Described in VDH-DSS condemnation 007-028M3, 9/26/2016	A	Oxygen, Dissolved	2014	L	0.030
POTMH VAP-A33E_WES01B12 / West Yeocomico River / Portion of the West Yeocomico River mainstem within condemnation notice 007-028C, 5/12/1997	A	Oxygen, Dissolved	2014	L	0.052
POTMH VAP-A33E_WES02A06 / West Yeocomico River / Downstream of condemnations	A	Oxygen, Dissolved	2014	L	0.394
POTMH VAP-A33E_WHP01A98 / White Point Creek / Described in the condemnation notice 007-028C, 9/28/2016	A	Oxygen, Dissolved	2014	L	0.044
POTMH VAP-A33E_WHP01B18 / White Point Creek / Portion of condemnation notice 007-028B, 5/12/1997 open in 007-082C, 9/26/2016	A	Oxygen, Dissolved	2014	L	0.035
POTMH VAP-A33E_WHP03A06 / NW Yeocomico (White Point Creek/Shannon Branch) / Described in VDH-DSS condemnation 007-028M2, 9/26/2016	A	Oxygen, Dissolved	2014	L	0.033
POTMH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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VAP-A33E_YEO01A02 / Yeocomico River and Tributaries / Yeocomico River	4A	Oxygen, Dissolved	2014	L	1.878
POTMH					
VAP-A33E_ZZZ01A14 / Unsegmented estuaries in A33 / Unsegmented portion of watershed PL71.	4A	Oxygen, Dissolved	2014	L	1.376
POTMH					
VAP-A33E_ZZZ01C14 / Unsegmented estuaries in A33 / Unsegmented portion of watershed PL70.	4A	Oxygen, Dissolved	2014	L	0.120
POTMH					
VAP-A34E_BOT01A04 / Boathouse Creek / As described in VDH Shellfish Condemnation 008-214D, 2/23/2012	4A	Oxygen, Dissolved	2014	L	0.067
POTMH					
VAP-A34E_BRD01A98 / Bridgeman Creek / Described in the condemnation notice 009-142A, 3/20/2012.	4A	Oxygen, Dissolved	2014	L	0.045
POTMH					
VAP-A34E_COA01A02 / Coan River / Portion of VDH-DSS Condemnation Notice 008-214B, 2/23/2012 not included on SFC 145, 2/23/1997.	4A	Oxygen, Dissolved	2014	L	0.009
POTMH					
VAP-A34E_COA01A98 / Coan River / Described in the VDH-DSS Condemnation Notice 008-214B, 2/19/2016, excluding Mill Creek.	4A	Oxygen, Dissolved	2014	L	0.330
POTMH					
VAP-A34E_COA01B16 / Coan River / Portion of VDH-DSS Condemnation Notice 145I, 2/25/1997 open in 008-214, 2/19/2016.	4A	Oxygen, Dissolved	2014	L	0.028
POTMH					
VAP-A34E_COA02A02 / Coan River / From SFC 008-214B, 2/23/2012 to its mouth at the Potomac, excluding otherwise segmented waterbodies.	4A	Oxygen, Dissolved	2014	L	2.756
POTMH					
VAP-A34E_COC01A98 / Cod Creek / Described in the condemnation notice 009-141A, 3/26/2014.	4A	Oxygen, Dissolved	2014	L	0.049
POTMH					
VAP-A34E_COC01B02 / Cod Creek, UT / Described in the condemnation notice 009-141B, 3/26/2014	4A	Oxygen, Dissolved	2014	L	0.054
POTMH					
VAP-A34E_COC02A14 / Cod Creek / Portion of 141, 1/31/1997 open in 009-141, 3/26/2014.	4A	Oxygen, Dissolved	2014	L	0.066
POTMH					
VAP-A34E_COC02B14 / Cod Creek, UT / Portion of condemnation notice 141B, 1/31/1997 open in 009-141, 3/26/2014	4A	Oxygen, Dissolved	2014	L	0.025

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Potomac and Shenandoah River Basins

POTMH VAP-A34E_CUT01A98 / Cubitt Creek / Described in the condemnation notice 009-161A, 3/26/2014	4A	Oxygen, Dissolved	2014	L	0.225
POTMH VAP-A34E_FLP01A10 / Flag Pond / Described in VDH-DSS condemnation 009-161C, 3/26/2014	4A	Oxygen, Dissolved	2014	L	0.035
POTMH VAP-A34E_FTN01A06 / Fountain Cove / As described in VDH condemnation 009-142E, 3/30/2009	4A	Oxygen, Dissolved	2014	L	0.069
POTMH VAP-A34E_GLE01A04 / The Glebe / Portion of VDH-DSS notice 008-213B, 3/5/2015 open on 145D, 2/25/1997	4A	Oxygen, Dissolved	2014	L	0.045
POTMH VAP-A34E_GLE01A98 / The Glebe / Described in the condemnation notice 145D, 2/25/1997.	4A	Oxygen, Dissolved	2014	L	0.132
POTMH VAP-A34E_GLE03A00 / The Glebe / Glebe Creek downstream of condemnations.	4A	Oxygen, Dissolved	2014	L	0.770
POTMH VAP-A34E_GLE04A04 / Wrights Cove, UT / Described in the VDH-DSS Shellfish Condemnation 08-213C, 3/10/2014	4A	Oxygen, Dissolved	2014	L	0.046
POTMH VAP-A34E_HAC01A00 / Hack Creek / Tidal limit to mouth at Potomac River.	4A	Oxygen, Dissolved	2014	L	0.224
POTMH VAP-A34E_HEA01A98 / Headly Cove / Described in the VDH-DSS Condemnation Notice 008-214D, 2/19/2016	4A	Oxygen, Dissolved	2014	L	0.026
POTMH VAP-A34E_HUL01A02 / Hull Creek and Floyd Cove / Described in VDH condemnations 009-142A and -E, 4/12/2016, excluding Spring Cove. Expanded slightly in the 2018 cycle..	4A	Oxygen, Dissolved	2014	L	0.252
POTMH VAP-A34E_HUL01B12 / Hull Creek / Portion of VDH condemnation 142B, 8/21/2000 open in 009-142, 4/12/2016, excluding Spring Cove and Fountain Cove. Shrunk slightly in the 2018 cycle.	4A	Oxygen, Dissolved	2014	L	0.273
POTMH VAP-A34E_HUL01C12 / Fleets Cove (Hull Creek, UT) / Described in VDH condemnation 009-142B, 4/12/2016	4A	Oxygen, Dissolved	2014	L	0.024

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Potomac and Shenandoah River Basins

POTMH VAP-A34E_KIN01A00 / Kingscote Creek / Downstream of condemnations 008-213, 3/5/2015 to the Coan River.	4A	Oxygen, Dissolved	2014	L	0.349
POTMH VAP-A34E_KIN02A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213M1, 3/5/2015	4A	Oxygen, Dissolved	2014	L	0.007
POTMH VAP-A34E_KIN03A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213M2, 3/5/2015	4A	Oxygen, Dissolved	2014	L	0.006
POTMH VAP-A34E_KIN04A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213A, 3/5/2015	4A	Oxygen, Dissolved	2014	L	0.009
POTMH VAP-A34E_KNC01A98 / Killneck Creek / Described in the condemnation notice 008-214A, 2/19/2016.	4A	Oxygen, Dissolved	2014	L	0.027
POTMH VAP-A34E_KNC01B06 / Killneck Creek, UT / Described in VDH-DSS condemnation 008-214M2, 2/19/2016	4A	Oxygen, Dissolved	2014	L	0.014
POTMH VAP-A34E_KNC02A10 / Killneck Creek / Portion of condemnation notice 145E, 2/25/1997 open on 2/19/2016.	4A	Oxygen, Dissolved	2014	L	0.021
POTMH VAP-A34E_MII01A06 / Mill Creek / Tidal limit to mouth at Coan River	4A	Oxygen, Dissolved	2014	L	0.104
POTMH VAP-A34E_PRE01A98 / Presley Creek / Described in the condemnation notice 009-141C, 3/26/2014.	4A	Oxygen, Dissolved	2014	L	0.332
POTMH VAP-A34E_ROG01A98 / Rogers Creek / Described in the condemnation notice 009-142C, 4/12/2016.	4A	Oxygen, Dissolved	2014	L	0.035
POTMH VAP-A34E_ROG01B16 / Rogers Creek / Portion of VDH-DSS Condemnation 009-142C, 3/17/2008 open for harvest on 4/12/2016.	4A	Oxygen, Dissolved	2014	L	0.023
POTMH VAP-A34E_SPN01A04 / Spring Cove / Tidal limit to mouth at Hull Creek	4A	Oxygen, Dissolved	2014	L	0.010
POTMH VAP-A34E_XFI01A98 / Coan River, UT - Stevens Point / Described in the condemnation notice 008-214M1, 2/19/2016	4A	Oxygen, Dissolved	2014	L	0.038
POTMH VAP-A34E_XFJ01A98 / XFJ - Coan River, UT (Cellars Cove) /	4A	Oxygen, Dissolved	2014	L	0.032

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Described in the condemnation notice 008-214C, 2/19/2016.

POTMH

VAP-A34E_XLV01A10 / XLV - Potomac River, UT (aka Corbin Pond) / As described in VDH-DSS condemnation 009-142D, 4/12/2016	4A	Oxygen, Dissolved	2014	L	0.043

POTMH

VAP-A34E_ZZZ01A00 / Unsegmented estuaries in A34 / Unsegmented portion of the watershed.	4A	Oxygen, Dissolved	2014	L	0.291

POTMH

Potomac Mesohaline Embayments	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**32.636**		

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* POTMH-SAV-BAY Potomac Mesohaline Embayments**

Cause Location: Includes all waters in the mesohaline portion of the Potomac River (POTMH).

City / County: King George Co. Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

Submerged aquatic vegetation evaluation determined that the POTMH was below the segment goal. The Chesapeake Bay TMDL was established by the EPA on 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A30E_DEE01A00 / Deep Creek / Segment includes the downstream portion of Deep Creek to the confluence with Upper Machodoc Creek within the boundaries described in the VDH Shellfish Area Condemnation Number 001A-036, Section D, effective 05/07/13. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.019
VAN-A30E_GAM01A02 / Gambo Creek / The Gambo Creek portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.163
VAN-A30E_UMC01A02 / Upper Machodoc Creek / The boundaries of the condemned (prohibited) area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section F, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.022
VAN-A30E_UMC01B06 / Upper Machodoc Creek / The Upper Machodoc Creek portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.064
VAN-A30E_UMC02A04 / Upper Machodoc Creek / The boundaries of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section B, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.028
VAN-A30E_UMC03A04 / Upper Machodoc Creek / A portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section E, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.043
VAN-A30E_UMC03B10 / Upper Machodoc Creek / Segment includes the area of UMC described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section M1, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.049
VAN-A30E_UMC04A10 / Upper Machodoc Creek / Segment includes main body of tidal Upper Machodoc Creek not included in segment VAN-A30E_UMC04B06 or the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.419

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

VAN-A30E_UMC04B06 / Upper Machodoc Creek / Segment includes main body of tidal Upper Machodoc Creek not included in segment VAN-A30E_UMC04A10 or the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.418
VAN-A30E_UMC04C06 / Upper Machodoc Creek / Segment includes the downstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, dated 05/07/13, and continuing until the open embayment of Upper Machodoc Creek. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.184
VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 07, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.705
VAN-A30E_WLL01A02 / Williams Creek / The boundaries of the condemned (prohibited) area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section G, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.041
VAN-A30E_WLL01B10 / Williams Creek / The downstream portion of the boundary of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.113
VAN-A30E_WLL02A02 / Williams Creek / The upstream portion of the boundary of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 7, 2013. Portion of CBP segment POTMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.022
VAP-A30E_ZZZ01A10 / Unsegmented estuaries in PRO's portion of A30 / Unsegmented portion of watershed. POTMH	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
VAP-A31E_BRG01A04 / Bridges Creek / Tidal limit to mouth POTMH	4A	Aquatic Plants (Macrophytes)	2006	L	0.182
VAP-A31E_GLD01A00 / Goldman Creek / Described in VDH-DSS condemnation notice 001-088B, 8/20/2015 Slight adjustment in the 2018 cycle POTMH	4A	Aquatic Plants (Macrophytes)	2006	L	0.043
VAP-A31E_MAO01A98 / Mattox Creek / Portion of the condemnation notice 002-001B, 6/17/2016 that is not administratively condemned Segment extended in the 2018 cycle. POTMH	4A	Aquatic Plants (Macrophytes)	2006	L	0.429
VAP-A31E_MAO01B10 / Mattox Creek / Upper portion of the condemnation notice 002-001B, 6/17/2016 which is administratively condemned.	4A	Aquatic Plants (Macrophytes)	2006	L	0.366

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Segment merged in the 2018 cycle.

POTMH

VAP-A31E_MAO02A00 / Mattox Creek / Downstream of VDH-DSS condemnation area 002-001B 6/17/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.338

Segment shrunk in the 2018 cycle.

POTMH

VAP-A31E_MAO05A08 / Mattox Creek / VDH-DSS condemnation 002-001M1, 6/17/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.007
VAP-A31E_MON01A00 / Monroe Creek/Monroe Bay / Prohibited area around STP outfall as described in VDH shellfish condemnation 002-001D, 6/7/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.176
VAP-A31E_MON02A98 / Monroe Bay / Administratively condemned portion of VDH condemnation notice 002-001A, 6/17/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.355

POTMH

VAP-A31E_MON03A98 / Monroe Bay / Portion of VDH condemnation notice 002-001A, 6/17/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.172

POTMH

VAP-A31E_MON03B16 / Monroe Bay / Described in VDH condemnation notice 002-001M2, 6/17/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.063

POTMH

VAP-A31E_MON04A00 / Monroe Bay / Downstream of VDH-DSS condemnation area 002-001A, 6/17/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.221

POTMH

VAP-A31E_MON05A04 / Monroe Bay / Described in VDH Condemnation 002-001C, 6/7/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.002

POTMH

VAP-A31E_POP01A98 / Popes Creek / Described in condemnation notice 003-146, 9/23/2008.	A	Aquatic Plants (Macrophytes)	2006	L	0.576
VAP-A31E_ROS01A08 / Rosier Creek / Portion of VDH condemnation notice 001-088A, 8/20/2015 not included in the 2006 TMDL.	A	Aquatic Plants (Macrophytes)	2006	L	0.149

Segment shrunk and split in 2018 cycle.

POTMH

VAP-A31E_ROS01A98 / Rosier Creek / Described in VDH condemnation notice 088A, 7/1/1998.	A	Aquatic Plants (Macrophytes)	2006	L	0.206
VAP-A31E_ROS02A00 / Rosier Creek / From the downstream limit of segment ROS01A08 to its mouth at the Potomac River	A	Aquatic Plants (Macrophytes)	2006	L	0.242

Expanded in the 2018 cycle.

POTMH

VAP-A31E_ROS02B18 / Rosier Creek / Described in VDH	A	Aquatic Plants (Macrophytes)	2006	L	0.008

condemnation notice 001-088M1, 8/20/2015

POTMH VAP-A31E_XFF01A04 / XFF - Mattox Creek, UT / As described in VDH Condemnation 002-001E, 6/17/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.010
POTMH VAP-A31E_ZZZ01A14 / Unsegmented estuaries in A31 / Unsegmented portion of watershed PL66.	4A	Aquatic Plants (Macrophytes)	2006	L	0.006
POTMH VAP-A31E_ZZZ01B14 / Unsegmented estuaries in A31 / Unsegmented portion of watershed PL67.	4A	Aquatic Plants (Macrophytes)	2006	L	0.317
POTMH VAP-A32E_BAN01A00 / Barnes Creek / Downstream of VDH Shellfish Condemnation 082C, 2/10/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.027

Merged in the 2018 cycle.

POTMH VAP-A32E_BAN02A08 / Barnes Creek / Described in VDH Shellfish Condemnation 082C, 2/10/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.057
POTMH VAP-A32E_BRA01A98 / Branson Cove / Described in the condemnation notice 005-083C, 7/14/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.020
POTMH VAP-A32E_BUB01B16 / Buckner Creek / Described in VDH Condemnation 004-082D, 2/10/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.183

Merged in the 2018 cycle.

POTMH VAP-A32E_BUB02A06 / Buckner Creek / Downstream of condemnation 004-082B, 2/1/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.372
POTMH VAP-A32E_BUB02B14 / Buckner Creek / Portion of condemnation 004-082B, 2/1/2016 not included in 082D, 2/10/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.065
POTMH VAP-A32E_CAP01A04 / Cabin Point Creek / As described in the condemnation notice 005-083B, 7/14/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.123
POTMH VAP-A32E_CHB01A98 / Cold Harbor Bay / Described in the condemnation notice 004-184A, 2/1/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.083
POTMH VAP-A32E_CHB02A06 / Cold Harbor Creek / Currioman Bay / Described in VDH condemnation 004-184M1, 2/1/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.044

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Potomac and Shenandoah River Basins

POTMH VAP-A32E_CRB02A00 / Currioman Bay / Downstream of Currioman Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	0.729
POTMH VAP-A32E_CRB03A14 / Currioman Bay / Upstream of Currioman Creek	4A	Aquatic Plants (Macrophytes)	2006	L	0.923
POTMH VAP-A32E_CUR01A98 / Currioman Creek / Described in the condemnation notice 004-184, 2/10/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.052
POTMH VAP-A32E_CUR01B08 / Currioman Creek / From the limit of VDH condemnation 004-184, 2/10/1997 downstream to the limit of 004-184B, 2/1/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.020
POTMH VAP-A32E_DAV01A08 / Davis Creek / Described in VDH condemnation 004-082G, 2/1/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.026
POTMH VAP-A32E_GLB01A00 / Glebe Creek / Downstream of condemnation 005-083A, 12/28/2007	4A	Aquatic Plants (Macrophytes)	2006	L	0.039
POTMH VAP-A32E_GLB02A08 / Aimes and Glebe Creeks / As described in VDH Shellfish Condemnation 005-083E and -083F, 7/14/2016. Split in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.120
POTMH Mileage adjusted in 2006 and 2008 cycles. VAP-A32E_GLB02B18 / Aimes and Glebe Creeks / Portion of VDH Shellfish Condemnation 005-083A, 12/28/2007 open 7/14/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.015
POTMH Mileage adjusted in 2006 and 2008 cycles. VAP-A32E_JUL01A08 / Jules Creek / Described in VDH Shellfish Condemnation 004-082C, 2/1/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.045
POTMH VAP-A32E_LOW01A04 / Lower Machodoc Creek / As described in VDH condemnation notice 005-083B, 12/28/2007 Merged in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.536
POTMH VAP-A32E_LOW01B18 / Lower Machodoc Creek / Boundary of condemned area 005-083B, 12/28/2007 downstream to limit of 005-083A, 7/14/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.626

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

POTMH VAP-A32E_LOW02A00 / Lower Machodoc Creek / Boundary of condemned area 005-083A, 7/14/2016 downstream to approximately rivermile 2.68 Split in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.205
POTMH VAP-A32E_LOW02B16 / Lower Machodoc Creek / One-half mile upstream and downstream of station 1ALOW002.18.	4A	Aquatic Plants (Macrophytes)	2006	L	0.687
POTMH VAP-A32E_LOW02C12 / Lower Machodoc Creek, UT / Described in VDH condemnation 005-083C, 12/21/2010	4A	Aquatic Plants (Macrophytes)	2006	L	0.059
POTMH VAP-A32E_LOW02D16 / Lower Machodoc Creek / Approximately river mile 1.68 downstream to mouth.	4A	Aquatic Plants (Macrophytes)	2006	L	2.145
POTMH VAP-A32E_MAT01A08 / Matthews Cove / Described in VDH Shellfish Condemnation 004-082E, 2/1/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.019
POTMH VAP-A32E_NOM01A04 / Nomini Creek, Pierce Creek / Portion of VDH Shellfish Condemnation 004-082D, 2/1/2016 downstream of 082B, 7/3/1997 and portion upstream of 082A, 7/3/1997. Segment shortened in 2018 cycle	4A	Aquatic Plants (Macrophytes)	2006	L	0.247
POTMH VAP-A32E_NOM01A98 / Nomini Creek / As described in VDH Shellfish Condemnation 082B, 7/3/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.540
POTMH VAP-A32E_NOM02A00 / Nomini Creek / Downstream condemnation boundary to approximately river mile 1.	4A	Aquatic Plants (Macrophytes)	2006	L	2.249
POTMH VAP-A32E_NOM04A00 / Nomini Bay / Downstream of approx. river mile 1.0.	4A	Aquatic Plants (Macrophytes)	2006	L	2.500
POTMH VAP-A32E_NOP01A02 / North Prong Buckner Creek / Described in the condemnation notice 082E, 2/10/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.023
POTMH VAP-A32E_NOP02A08 / North Prong Buckner Creek / Portion of VDH condemnation 004-082A, 2/1/2016 that was not included in 082E, 2/10/1997 Expanded in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.060
POTMH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

VAP-A32E_PEI01A98 / Peirce Creek / As described in VDH Shellfish Condemnation 082A, 7/3/1997.	A	Aquatic Plants (Macrophytes)	2006	L	0.142
POTMH					
VAP-A32E_POO01A08 / Poor Jack Creek / Described in VDH Shellfish Condemnation 004-184C, 2/1/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.147
POTMH					
VAP-A32E_WEA02A04 / Weatherall Creek / As described in VDH condemnation 005-083D, 7/14/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.055
POTMH					
VAP-A32E_ZZZ01A14 / Unsegmented estuaries in A32 / Unsegmented portion of watershed PL68.	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
POTMH					
VAP-A32E_ZZZ01B14 / Unsegmented estuaries in A32 / Unsegmented portion of watershed PL69.	4A	Aquatic Plants (Macrophytes)	2006	L	0.053
POTMH					
VAP-A33E_BOM01A98 / Bonum Creek / Described in the condemnation notice 006-143C, 8/4/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.180
Shortened in the 2018 cycle.					
POTMH					
VAP-A33E_BOM01B10 / Bonum Creek / Portion of condemnation notice 143C, 5/5/2005 in 006-143S3, 8/4/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.030
Expanded in the 2018 cycle.					
POTMH					
VAP-A33E_DUA01A04 / Dungan Cove / As described in VDH Shellfish Condemnation 007-028G, 5/12/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.024
POTMH					
VAP-A33E_DUA01B08 / Dungan Cove / Downstream of VDH condemnation 028G, 5/12/1997 to limit of condemnation 007-028G, 11/1/2010	4A	Aquatic Plants (Macrophytes)	2006	L	0.005
POTMH					
VAP-A33E_GAD01A98 / Gardner Creek / Described in condemnations 006-143A and -E, 8/4/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.008
Size reduced in the 2018 cycle.					
POTMH					
VAP-A33E_GAD01B14 / Gardner Creek / Portion of condemnation notice 006-143A, 5/5/2005 seasonally condemned on 8/4/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.104
Expanded in the 2018 cycle.					
POTMH					
VAP-A33E_GAD02A00 / Gardner Creek / Downstream of VDH	4A	Aquatic Plants (Macrophytes)	2006	L	0.013

condemnation 006-143A, 5/5/2005

POTMH					
VAP-A33E_HAM01A02 / Hampton Hall Branch / Tidal Hampton Hall Branch	4A	Aquatic Plants (Macrophytes)	2006	L	0.274
POTMH					
VAP-A33E_JCK01A98 / Jackson Creek / Described in VDH condemnation notice 006-143B and -D, 8/4/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.096
Segment split in the 2018 cycle.					
POTMH					
VAP-A33E_JCK01B18 / Jackson Creek / Portion of VDH condemnation notice 006-143B, 5/5/2005 seasonally condemned in 006-143S2, 8/4/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
POTMH					
VAP-A33E_KIN01A12 / Kinsale Branch / Tidal limit to mouth	4A	Aquatic Plants (Macrophytes)	2006	L	0.108
POTMH					
VAP-A33E_LOG01A98 / Lodge Creek / Described in the condemnation notice 007-225C, 9/26/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.030
POTMH					
VAP-A33E_LOG02A98 / Lodge Creek / Portion of condemnation notice 007-225A, 9/26/2016 that is not administratively condemned.	4A	Aquatic Plants (Macrophytes)	2006	L	0.138
Shrank in the 2018 cycle.					
POTMH					
VAP-A33E_LOG02B10 / Lodge Creek / Portion of condemnation notice 007-225A, 9/26/2016 that is administratively condemned.	4A	Aquatic Plants (Macrophytes)	2006	L	0.074
POTMH					
VAP-A33E_LOG02C12 / Lodge Creek / Portion of condemnation notice 007-028F, 5/12/1997 that is within 007-225M2, 9/26/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.058
Expanded in the 2018 cycle.					
POTMH					
VAP-A33E_LOG03A08 / Lodge Creek / Downstream boundary of 028F 5/12/1997 to downstream boundary of VDH condemnation 007-225M2, 9/26/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.019
POTMH					
VAP-A33E_MIA01A98 / Mill Creek / Described in the condemnation notice 007-225B, 9/26/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.149
Expanded in the 2018 cycle.					
POTMH					
VAP-A33E_MIA01B10 / Mill Creek / Portion of condemnation notice 028E, 5/12/1997 open on 9/26/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.064

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Shrunk in the 2018 cycle.

POTMH VAP-A33E_RAG01A06 / Ragged Point Bay / Described in VDH-DSS condemnation 006-143M1, 8/4/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.226
POTMH VAP-A33E_SHA01A98 / Shannon Branch / Described in the condemnation notice 007-028A, 9/26/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.036
POTMH VAP-A33E_SHA03A06 / Shannon Branch / Described in VDH-DSS condemnation 007-028M1, 9/26/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.035
POTMH VAP-A33E_SOV01A02 / South Yeocomico River / South Yeocomico River excluding condemnation 007-225M1, 9/26/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.594
POTMH VAP-A33E_SOV02A06 / South Yeocomico River / Described in VDH-DSS condemnation 007-225M1, 9/26/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.048
POTMH VAP-A33E_WES01A06 / West Yeocomico River / Described in VDH-DSS condemnation 007-028M3, 9/26/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.030
POTMH VAP-A33E_WES01B12 / West Yeocomico River / Portion of the West Yeocomico River mainstem within condemnation notice 007-028C, 5/12/1997	A	Aquatic Plants (Macrophytes)	2006	L	0.052
POTMH VAP-A33E_WES02A06 / West Yeocomico River / Downstream of condemnations	A	Aquatic Plants (Macrophytes)	2006	L	0.394
POTMH VAP-A33E_WHP01A98 / White Point Creek / Described in the condemnation notice 007-028C, 9/28/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.044
POTMH VAP-A33E_WHP01B18 / White Point Creek / Portion of condemnation notice 007-028B, 5/12/1997 open in 007-082C, 9/26/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.035
POTMH VAP-A33E_WHP03A06 / NW Yeocomico (White Point Creek/Shannon Branch) / Described in VDH-DSS condemnation 007-028M2, 9/26/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.033
POTMH VAP-A33E_YEO01A02 / Yeocomico River and Tributaries / Yeocomico River	A	Aquatic Plants (Macrophytes)	2006	L	1.878

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POTMH VAP-A33E_ZZZ01A14 / Unsegmented estuaries in A33 / Unsegmented portion of watershed PL71.	4A	Aquatic Plants (Macrophytes)	2006	L	1.376
POTMH VAP-A33E_ZZZ01C14 / Unsegmented estuaries in A33 / Unsegmented portion of watershed PL70.	4A	Aquatic Plants (Macrophytes)	2006	L	0.120
POTMH VAP-A34E_BOT01A04 / Boathouse Creek / As described in VDH Shellfish Condemnation 008-214D, 2/23/2012	4A	Aquatic Plants (Macrophytes)	2006	L	0.067
POTMH VAP-A34E_BRD01A98 / Bridgeman Creek / Described in the condemnation notice 009-142A, 3/20/2012.	4A	Aquatic Plants (Macrophytes)	2006	L	0.045
POTMH VAP-A34E_COA01A02 / Coan River / Portion of VDH-DSS Condemnation Notice 008-214B, 2/23/2012 not included on SFC 145, 2/23/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
POTMH VAP-A34E_COA01A98 / Coan River / Described in the VDH-DSS Condemnation Notice 008-214B, 2/19/2016, excluding Mill Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	0.330
POTMH VAP-A34E_COA01B16 / Coan River / Portion of VDH-DSS Condemnation Notice 145I, 2/25/1997 open in 008-214, 2/19/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.028
POTMH VAP-A34E_COA02A02 / Coan River / From SFC 008-214B, 2/23/2012 to its mouth at the Potomac, excluding otherwise segmented waterbodies.	4A	Aquatic Plants (Macrophytes)	2006	L	2.756
POTMH VAP-A34E_COC01A98 / Cod Creek / Described in the condemnation notice 009-141A, 3/26/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.049
POTMH VAP-A34E_COC01B02 / Cod Creek, UT / Described in the condemnation notice 009-141B, 3/26/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.054
POTMH VAP-A34E_COC02A14 / Cod Creek / Portion of 141, 1/31/1997 open in 009-141, 3/26/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.066
POTMH VAP-A34E_COC02B14 / Cod Creek, UT / Portion of condemnation notice 141B, 1/31/1997 open in 009-141, 3/26/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
POTMH VAP-A34E_CUT01A98 / Cubitt Creek / Described in the condemnation notice 009-161A, 3/26/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.225

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POTMH VAP-A34E_FLP01A10 / Flag Pond / Described in VDH-DSS condemnation 009-161C, 3/26/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.035
POTMH VAP-A34E_FTN01A06 / Fountain Cove / As described in VDH condemnation 009-142E, 3/30/2009	4A	Aquatic Plants (Macrophytes)	2006	L	0.069
POTMH VAP-A34E_GLE01A04 / The Glebe / Portion of VDH-DSS notice 008-213B, 3/5/2015 open on 145D, 2/25/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.045
POTMH VAP-A34E_GLE01A98 / The Glebe / Described in the condemnation notice 145D, 2/25/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.132
POTMH VAP-A34E_GLE03A00 / The Glebe / Glebe Creek downstream of condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	0.770
POTMH VAP-A34E_GLE04A04 / Wrights Cove, UT / Described in the VDH-DSS Shellfish Condemnation 08-213C, 3/10/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.046
POTMH VAP-A34E_HAC01A00 / Hack Creek / Tidal limit to mouth at Potomac River.	4A	Aquatic Plants (Macrophytes)	2006	L	0.224
POTMH VAP-A34E_HEA01A98 / Headly Cove / Described in the VDH-DSS Condemnation Notice 008-214D, 2/19/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.026
POTMH VAP-A34E_HUL01A02 / Hull Creek and Floyd Cove / Described in VDH condemnations 009-142A and -E, 4/12/2016, excluding Spring Cove. Expanded slightly in the 2018 cycle..	4A	Aquatic Plants (Macrophytes)	2006	L	0.252
POTMH VAP-A34E_HUL01B12 / Hull Creek / Portion of VDH condemnation 142B, 8/21/2000 open in 009-142, 4/12/2016, excluding Spring Cove and Fountain Cove. Shrunk slightly in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.273
POTMH VAP-A34E_HUL01C12 / Fleets Cove (Hull Creek, UT) / Described in VDH condemnation 009-142B, 4/12/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.024
POTMH VAP-A34E_KIN01A00 / Kingscote Creek / Downstream of condemnations 008-213, 3/5/2015 to the Coan River.	4A	Aquatic Plants (Macrophytes)	2006	L	0.349

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POTMH VAP-A34E_KIN02A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213M1, 3/5/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.007
POTMH VAP-A34E_KIN03A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213M2, 3/5/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.006
POTMH VAP-A34E_KIN04A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213A, 3/5/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
POTMH VAP-A34E_KNC01A98 / Killneck Creek / Described in the condemnation notice 008-214A, 2/19/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.027
POTMH VAP-A34E_KNC01B06 / Killneck Creek, UT / Described in VDH-DSS condemnation 008-214M2, 2/19/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.014
POTMH VAP-A34E_KNC02A10 / Killneck Creek / Portion of condemnation notice 145E, 2/25/1997 open on 2/19/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
POTMH VAP-A34E_MII01A06 / Mill Creek / Tidal limit to mouth at Coan River	4A	Aquatic Plants (Macrophytes)	2006	L	0.104
POTMH VAP-A34E_PRE01A98 / Presley Creek / Described in the condemnation notice 009-141C, 3/26/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.332
POTMH VAP-A34E_ROG01A98 / Rogers Creek / Described in the condemnation notice 009-142C, 4/12/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.035
POTMH VAP-A34E_ROG01B16 / Rogers Creek / Portion of VDH-DSS Condemnation 009-142C, 3/17/2008 open for harvest on 4/12/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.023
POTMH VAP-A34E_SPN01A04 / Spring Cove / Tidal limit to mouth at Hull Creek	4A	Aquatic Plants (Macrophytes)	2006	L	0.010
POTMH VAP-A34E_XFI01A98 / Coan River, UT - Stevens Point / Described in the condemnation notice 008-214M1, 2/19/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.038
POTMH VAP-A34E_XFJ01A98 / XFJ - Coan River, UT (Cellars Cove) / Described in the condemnation notice 008-214C, 2/19/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.032
POTMH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

VAP-A34E_XLV01A10 / XLV - Potomac River, UT (aka Corbin Pond) / As described in VDH-DSS condemnation 009-142D, 4/12/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.043
POTMH					
VAP-A34E_ZZZ01A00 / Unsegmented estuaries in A34 / Unsegmented portion of the watershed.	4A	Aquatic Plants (Macrophytes)	2006	L	0.291
POTMH					

Potomac Mesohaline Embayments	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**32.636**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

***Cause Group Code:* POTTF-DO-BAY Potomac Tidal Fresh Embayments**

Cause Location: Includes all waters in the tidal fresh portion of the Potomac River (POTTF).

City / County: Alexandria City Arlington Co. Fairfax Co. Prince William Co. Stafford Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

An open-water assessment of dissolved oxygen values during the summer season showed that the POTTF was not supporting. The Chesapeake Bay TMDL was established by the EPA on 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.050
VAN-A12E_POT01A16 / Potomac River / Segment includes all tidal Virginia water adjacent to Alexandria, from Second Street to King Street. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2016	L	0.047
VAN-A13E_HFF01A06 / Hooff Run / Segment contains the tidal portion of Hooff Run; begins at the Alexandria National Cemetery and continues downstream until the confluence with Hunting Creek. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.003
VAN-A13E_HUT01A02 / Hunting Creek / Segment includes all tidal waters of Hunting Creek; beginning at the Route 241 (Telegraph Road) bridge crossing and continuing downstream until the mouth of the embayment, at Jones Point and Belle View. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.529
VAN-A14E_DOU01A00 / Dogue Creek / Segment includes all tidal waters of Dogue Creek, extending from approximately rivermile 2.1 until the confluence with the Potomac River. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.736
VAN-A14E_LIF01A00 / Little Hunting Creek / Segment includes all tidal waters of Little Hunting Creek, extending from approximately rivermile 1.7 downstream until the confluence with the Potomac River. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.250
VAN-A14E_POT01A08 / Potomac River / Segment includes all tidal waters downstream of the mouth of the Hunting Creek embayment, at Jones Point and Belle View. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.848
VAN-A14E_POT02A16 / Potomac River / Segment includes all tidal Virginia water adjacent to Alexandria, from King Street to the DC/MD boundary. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2016	L	0.029
VAN-A15E_ACO01A06 / Accotink Bay / Segment includes tidal waters of Accotink Creek until the confluence with the tidal waters of Pohick Bay/Gunston Cove. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.395
VAN-A15E_POH01A00 / Gunston Cove / Segment extends from rivermile 1.31 in Gunston Cove until the confluence with the Potomac River.	4A	Oxygen, Dissolved	2014	L	1.504

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

Portion of CBP segment POTTF.					
VAN-A15E_POH02A00 / Pohick Bay / Segment includes tidal waters of Pohick Creek, from the boundary of watershed A15, and extends until rivermile 1.31 in Gunston Cove. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.450
VAN-A16E_POH01A06 / Pohick Bay / Segment includes tidal waters of Pohick Creek upstream from the boundary of watershed A16. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.461
VAN-A25E_MAE01A16 / Massey Creek / Segment extends from 0.29 rivermile upstream of monitoring station 1aMAE000.21 until the confluence with the tidal waters of Occoquan River within Occoquan Bay. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.065
VAN-A25E_MAU01A12 / Marumsco Creek / Segment includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.025
VAN-A25E_NEA01A00 / Neabsco Bay / Segment includes the tidal waters of Neabsco Bay, beginning at rivermile 1.37, downstream until the confluence with Occoquan Bay. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.545
VAN-A25E_NEA20A02 / Neabsco Creek / Segment begins at the upstream limit of the tidal waters on Neabsco Creek and continues downstream until the start of the open waters of Neabsco Bay, approximately 0.8 rivermile upstream from monitoring station 1aNEA000.57. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.182
VAN-A25E_OCC01A04 / Occoquan Bay / Segment extends 0.5 mile around the Coastal 2000 monitoring station 1aOCC000.77, just west of the Potomac Shoreline of Mason Neck State Park. The downstream limit is the state line at the Potomac River. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.720
VAN-A25E_OCC01A10 / Occoquan Bay / Segment includes waters of Occoquan Bay within a 0.5 mile radius of station 1aOCC001.29. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.598
VAN-A25E_OCC01A12 / Occoquan Bay/Belmont Bay / Segment includes waters of Occoquan Bay in a 0.5 mile radius around station 1aOCC000.01 down to the Virginia state line. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.412
VAN-A25E_OCC01B12 / Occoquan Bay / Segment includes waters of Occoquan Bay located approximately 0.5 mile radius around station 1aOCC001.69. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.709
VAN-A25E_OCC01C16 / Occoquan Bay/Belmont Bay / Segment includes waters of Occoquan Bay located approximately 0.5 mile radius around station 1aOCC001.04. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.438
VAN-A25E_OCC02A00 / Occoquan Bay / Segment extends 0.5 mile around the around monitoring station 1aOCC002.47. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.633
VAN-A25E_OCC03A04 / Belmont Bay (Occoquan River) / Segment extends 0.5 mile around Coastal 2000 monitoring station 1aOCC002.62 (coordinates 38.6382, -77.208). Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.286

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Potomac and Shenandoah River Basins

VAN-A25E_OCC04A02 / Belmont Bay / Segment extends 0.5 mile around the monitoring station 1AOCC-766-ALL (coordinates 38.647, -77.195). Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.412
VAN-A25E_OCC04B08 / Occoquan River / Segment extends from 0.5 rivermile upstream of monitoring station 1aOCC004.52 until 0.5 rivermile downstream of monitoring station 1aOCC003.82. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.561
VAN-A25E_OCC04C18 / Occoquan River / Segment extends from 0.5 rivermile upstream of monitoring station 1aOCC005.16 until 0.5 rivermile downstream of monitoring station 1aOCC005.16. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.104
VAN-A25E_OCC05A02 / Occoquan River / Segment extends from the end of the free-flowing waters to 0.5 rivermile upstream of monitoring station 1aOCC005.16. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.086
VAN-A25E_OCC20A02 / Occoquan Bay/Belmont Bay / Segment includes all waters of the Occoquan and Belmont Bays not included in other delineated segments. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	2.623
VAN-A25E_OCC30A02 / Occoquan Bay/Belmont Bay / Segment includes all tidal waters in the Occoquan watershed not included in other delineated stream segments. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.126
VAN-A25E_POT01A10 / Potomac River / Segment includes the Potomac River embayment located between Hallowing Point and Sycamore Point. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.633
VAN-A26E_POW01A02 / Powells Creek / Segment extends to a 0.5 mile radius around the ACB station 1aPOW-865-ALL (38.5862, -77.253). Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.229
VAN-A26E_POW02A02 / Powells Creek / Segment extends to a 0.5 mile radius around the ACB station 1aPOW-765-ALL (38.5842, -77.2647). Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.402
VAN-A26E_POW20A10 / Powells Creek / Segment includes all tidal waters in Powells Creek watershed not included in other delineated stream segments. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.663
VAN-A26E_QUA01A10 / Quantico Creek / Segment includes Quantico Creek approximately 0.2 miles upstream of station 1aQUA000.43 to the downstream limit of Quantico Creek at the state line at the Potomac River. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.187
VAN-A26E_QUA01B04 / Quantico Creek / Segment extends to a 0.5-mile radius around station 1aQUA001.09. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.419
VAN-A26E_QUA01C18 / Quantico Creek / Segment includes all tidal waters in Quantico Creek watershed not Segment extends from 0.5 mile downstream of station 1aQUA002.38 to 0.5 mile upstream of station 1aQUA001.09. Portion of CBP segment POTTF.	4A	Oxygen, Dissolved	2014	L	0.268
VAN-A26E_QUA02A06 / Quantico Creek / Segment extends to an	4A	Oxygen, Dissolved	2014	L	0.209

Potomac and Shenandoah River Basins

approximate 0.5 mile radius around station 1aQUA002.38.
Portion of CBP segment POTTF.

VAN-A26E_QUA20A10 / Quantico Creek / Segment includes all tidal waters in Quantico Creek watershed not included in other delineated segments. Portion of CBP segment POTTF.	A	Oxygen, Dissolved	2014	L	0.023

Potomac Tidal Fresh Embayments **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**16.859**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* APPTF-DO-BAY** **Appomattox River**

Cause Location: Tidal Appomattox River Estuary

City / County: Chesterfield Co. Colonial Heights City Hopewell City Petersburg City Prince George Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Chesapeake Bay Water Quality Standards were adopted during the 2006 cycle. During the 2018 cycle, the Appomattox River Tidal Fresh segment (APPTF) failed the Open Water DO requirements. But the Bay TMDL was Completed and is Cat 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15E_APP01A98 / Lower Appomattox River/Ashton Creek / The estuarine Appomattox River from the fall line to river mile 6.49. APPTF. Virginia Scenic River	4A	Oxygen, Dissolved	2018	L	0.507
VAP-J15E_APP02A98 / Appomattox River / The estuarine portion of the Appomattox River from The confluence of Walthall Channel to the end of APPTF. Virginia Scenic River	4A	Oxygen, Dissolved	2018	L	1.361
VAP-J15E_APP02B12 / Appomattox River / The estuarine portion of the Appomattox River from the start of PWS at river mile 6.49 to the confluence of Walthall Channel APPTF. Virginia Scenic River	4A	Oxygen, Dissolved	2018	L	0.703
VAP-J15E_ZZZ01A14 / Unsegmented portion of J15E / HUC: 02080207 JA45	4A	Oxygen, Dissolved	2018	L	0.032
VAP-J17E_SFT01D04 / Swift Creek / Tidal Swift Creek from the confluence with Timsbury Creek downstream to the mouth at the Appomattox River APPTF.	4A	Oxygen, Dissolved	2018	L	0.087
VAP-J17E_ZZZ02A02 / Unsegmented portion in J17E watershed / Unsegmented portion of J17E watershed HUC: 02080207 APPTF	4A	Oxygen, Dissolved	2018	L	0.051

Appomattox River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**2.740**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Non-Point Source
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* APPTF-SAV-BAY** **Appomattox River**

Cause Location: Tidal Appomattox River Estuary

City / County: Chesterfield Co. Colonial Heights City Hopewell City Petersburg City Prince George Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The Chesapeake Bay Water Quality Standards were adopted during the 2006 cycle. During the 2008 cycle, the Appomattox River Tidal Fresh segment (APPTF) failed the Submerged Aquatic Vegetation acreage requirements, and the water clarity Acreage criteria.

During the 2012 cycle, the Appomattox River Tidal Fresh segment (APPTF) failed the Submerged Aquatic Vegetation acreage requirements, and the water clarity Acreage criteria. But the Bay TMDL was Completed and is Cat 4A.

During the 2014 cycle, the Appomattox River Tidal Fresh segment (APPTF) failed the Submerged Aquatic Vegetation acreage requirements, and the water clarity Acreage criteria. But the Bay TMDL was Completed and is Cat 4A.

During the 2016 cycle, the Appomattox River Tidal Fresh segment (APPTF) failed the Submerged Aquatic Vegetation acreage requirements, and the water clarity Acreage criteria. But the Bay TMDL was Completed and is Cat 4A.

During the 2018 cycle, the Appomattox River Tidal Fresh segment (APPTF) failed the Submerged Aquatic Vegetation acreage requirements, and the water clarity Acreage remained impaired due to no new data. But the Bay TMDL was Completed and is Cat 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15E_APP01A98 / Lower Appomattox River/Ashton Creek / The estuarine Appomattox River from the fall line to river mile 6.49.	4A	Aquatic Plants (Macrophytes)	2006	L	0.507
APPTF. Virginia Scenic River					
VAP-J15E_APP02A98 / Appomattox River / The estuarine portion of the Appomattox River from The confluence of Walthall Channel to the end of APPTF.	4A	Aquatic Plants (Macrophytes)	2006	L	1.361
Virginia Scenic River					
VAP-J15E_APP02B12 / Appomattox River / The estuarine portion of the Appomattox River from the start of PWS at river mile 6.49 to the confluence of Walthall Channel	4A	Aquatic Plants (Macrophytes)	2006	L	0.703
APPTF.					
Virginia Scenic River					
VAP-J15E_ZZZ01A14 / Unsegmented portion of J15E / HUC: 02080207 JA45	4A	Aquatic Plants (Macrophytes)	2014	L	0.032
VAP-J17E_SFT01D04 / Swift Creek / Tidal Swift Creek from the confluence with Timsbury Creek downstream to the mouth at the Appomattox River	4A	Aquatic Plants (Macrophytes)	2006	L	0.087
APPTF.					
VAP-J17E_ZZZ02A02 / Unsegmented portion in J17E watershed / Unsegmented portion of J17E watershed	4A	Aquatic Plants (Macrophytes)	2006	L	0.051

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

HUC: 02080207

APPTF

Appomattox River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**2.740**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Source Unknown	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* CHKOH-DO-BAY Chickahominy River**

Cause Location: The oligohaline Chickahominy River and its tidal tributaries.

City / County: Charles City Co. James City Co. New Kent Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

During the 2006 cycle, the Chesapeake Bay Water Quality Standards were adopted. The oligohaline Chickahominy River estuary failed both the summer- and rest-of-year 30-day mean dissolved oxygen criteria in the 2018 cycle.

The Chesapeake Bay TMDL was approved on 12/29/2010; therefore, it is Cat. 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08E_CHK01A00 / Chickahominy River / The Chickahominy River from Walkers Dam to the confluence with Diascund Creek.	4A	Oxygen, Dissolved	2018	L	1.373
CHKOH					
VAP-G08E_CHK02A00 / Chickahominy River / The Chickahominy River from the confluence with Diascund Creek downstream to the James River, excluding 0.5 mile upstream and downstream of station 2CCHK002.40.	4A	Oxygen, Dissolved	2018	L	5.468
CHKOH					
VAP-G08E_CHK02B18 / Chickahominy River / Approximately 0.5 mile upstream and downstream of station 2CCHK002.40	4A	Oxygen, Dissolved	2018	L	0.452
CHKOH					
VAP-G08E_DSC01A00 / Diascund Creek / Diascund Creek from the Diascund Reservoir dam downstream to the mouth at the Chickahominy River.	4A	Oxygen, Dissolved	2018	L	0.271
CHKOH					
VAP-G08E_GOR01A06 / Gordon Creek / Tidal limit to mouth	4A	Oxygen, Dissolved	2018	L	0.203
CHKOH					
VAP-G08E_MOC01A02 / Morris Creek / The tidal portion of Morris Creek.	4A	Oxygen, Dissolved	2018	L	0.394
CHKOH					
VAP-G08E_THD01A16 / Tomahund Creek / Tidal Tomahund Creek	4A	Oxygen, Dissolved	2018	L	0.112
CHKOH					
VAP-G08E_XAC01A10 / XAC - Chickahominy River, UT / XAC in its entirety	4A	Oxygen, Dissolved	2018	L	0.017
CHKOH					
VAP-G08E_YRM01A04 / Yarmouth Creek / Headwaters to confluence with Little Creek	4A	Oxygen, Dissolved	2018	L	0.119
CHKOH					
VAP-G08E_ZZZ01A14 / Unsegmented estuaries in G08 /	4A	Oxygen, Dissolved	2018	L	0.121

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Unsegmented portion of watershed JL25

CHKOH

VAP-G08E_ZZZ01B14 / Unsegmented estuaries in G08 / Unsegmented portion of watershed JL27	A	Oxygen, Dissolved	2018	L	0.159

CHKOH

VAP-G08E_ZZZ01C14 / Unsegmented estuaries in G08 / Unsegmented portion of watershed JL28	A	Oxygen, Dissolved	2018	L	0.478

CHKOH

VAP-G08E_ZZZ01D14 / Unsegmented estuaries in G08 / Unsegmented portion of watershed JL29	A	Oxygen, Dissolved	2018	L	0.434

CHKOH

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**9.600**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* EBEMH-DO-BAY** **Eastern Branch, Elizabeth River and Indian River**

Cause Location: This cause encompasses the Eastern Branch of the Elizabeth River, from Broad Creek (RM 4.0) downstream to the confluence with Elizabeth River mainstem, and the entirety of Indian River. CBP segment EBEMH. Located between Tanglewood area to mouth.

City / County: Chesapeake City Norfolk City Virginia Beach City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life and Open-Water Aquatic Life Uses are impaired based on failure to meet the CBP dissolved oxygen criteria for Open Water - Summer. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_BRO01A02 / Broad Creek, Eastern Br. Elizabeth R. / Located between Ingleside and Thomas Corner areas. North shore tributary to Eastern Br. Elizabeth R. Entirety of Broad Creek. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 065-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.371
VAT-G15E_EBE01A00 / Eastern Branch, Elizabeth R. - Upper / Located between Carolanne Farms and Tanglewood areas. Upper Eastern Br., from headwaters to confluence of Broad Creek (RM 4.0). CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.377
VAT-G15E_EBE02A06 / Eastern Branch, Elizabeth R. - Lower Middle / From Broad Creek (RM 4.0) downstream to the Campestella Bridge. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.625
VAT-G15E_EBE03A18 / Eastern Branch, Elizabeth R. - Lower / From Campastella Bridge to mouth of Elizabeth River mainstem. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.390
VAT-G15E_IND01A02 / Indian River - Eastern Branch, Elizabeth R. / Located southwest of Broad Creek. Between Campostella Heights and Tanglewood. Entirety of creek including tribs. CBP segment EBEMH. Portion of the DSS (ADMINISTRATIVE) shellfish harvesting condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.268
VAT-G15E_ZZZ03A08 / Unsegmented estuaries in EBEMH / CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.261

Eastern Branch, Elizabeth River and Indian River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**2.292**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* ELIPH-DO-BAY** **Chesapeake Bay segment ELIPH (Elizabeth River Mainstem)**

Cause Location: This cause encompasses the complete CPB segment ELIPH.

City / County: Norfolk City Portsmouth City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The Aquatic Life and Open-Water Aquatic Life Use for "Rest of Year, ROY" is supporting. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_ELI01A06 / Elizabeth River Mainstem - Upper / From start of mainstem downstream to line between Hospital Pt and Smiths Cr. (Incl. Hague). BIBI segment ELIMHa (downstream Lamberts Pt.). CBP segment ELIPH. DSS (ADMIN) cond # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.468
VAT-G15E_ELI02A06 / Elizabeth River Mainstem - Middle / From a line between Hospital Pt and Smiths Cr down stream to the end of CBP-BIBI segment ELIMHa (downstream of Lamberts Pt.). BIBI segment ELIMHa. CBP segment ELIPH. DSS (ADMIN) condemnation # 056-007 E and A (effective 20120529).	4A	Oxygen, Dissolved	2006	L	4.005
VAT-G15E_ELI03A08 / Elizabeth River Mainstem - Mouth / From start BIBI segment ELIPHa (SE corner Craney Isl. line to east) downstream to mouth (NE corner Craney Isl. east to S Glenwood Pk). BIBI segment ELIPHa. CBP segment ELIPH. DSS (ADMIN) condemnation # 056-007 A (effective 20120529).	4A	Oxygen, Dissolved	2006	L	3.445
VAT-G15E_SCO01A06 / Scott Creek / South shore tributary of Elizabeth River mainstem. Upstream of Pinner Point. CBP segment ELIPH. BIBI segment ELIMHa. Portion of the DSS (ADMINISTRATIVE) shellfish harvesting condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.194

Chesapeake Bay segment ELIPH (Elizabeth River Mainstem)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**8.112**		

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01E-01-BAC** **James River**

Cause Location: Estuarine James River from the fall line at Mayos Bridge downstream to the Appomattox River.

City / County: Charles City Co. Chesterfield Co. Henrico Co. Hopewell City Prince George Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River from the fall line to the Appomattox River was initially assessed as not supporting of the Recreation Use based on the results of a summer special study in the fall zone. The special study was designed to monitor the effects of summertime rain and combined sewer overflow (CSO) events on water quality in the James River and to monitor the effects of Richmond's CSO abatement efforts. The segment has been included on the Impaired Waters list for fecal coliform since 1996.

During the 2004 and 2006 cycles, the bacteria standard changed to E.coli for those stations with enough data. During the 2008 cycle, the impairment was converted solely to E. coli.

Bacteria impairment is noted at multiple stations in the river during the 2018 cycle.

The James River and Tributaries - City of Richmond Bacterial TMDL was approved by the EPA on 11/4/2010. The river is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01E_JMS01A02 / James River / The James River from the fall line near Mayos Bridge to river mile 108.76.	4A	Escherichia coli	1996	L	0.239
State Scenic River					
JMSTFu					
VAP-G01E_JMS02A02 / James River / The James River from river mile 108.76 to river mile 108.63.	4A	Escherichia coli	1996	L	0.016
JMSTFu					
VAP-G01E_JMS03A02 / James River / The James River from river mile 108.63 to the confluence with Proctors Creek at river mile 2-JMS097.94.	4A	Escherichia coli	1996	L	1.229
JMSTFu					
VAP-G02E_JMS01A00 / James River / The James River from Proctors Creek to 5 miles above the old American Tobacco raw water intake.	4A	Escherichia coli	2008	L	0.078
JMSTFu					
VAP-G02E_JMS02A00 / James River / The James River from 5 miles above the old American Tobacco intake to 5 miles above City Point at Hopewell.	4A	Escherichia coli	2006	L	2.790
JMSTFu					
VAP-G02E_JMS02B18 / James River / The James River from 5 miles above City Point at Hopewell to the downstream extent of JMSTFu.	4A	Escherichia coli	2006	L	1.182
JMSTFu					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAP-G02E_JMS03A06 / James River / The James River from the upstream extent of JMSTFl to the downstream extent of PWS.	A	Escherichia coli	2006	L	0.633

JMSTFl

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	**6.167**		

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01E-02-CHLA** **James River**

Cause Location: Mainstem James River from the fall line at Mayos Bridge downstream to the JMSTFu/JMSTFl boundary at the Appomattox River.

City / County: Charles City Co. Chesterfield Co. Henrico Co. Richmond City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 4A

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a exceedances. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

A special site-specific chlorophyll standard for the mainstem James River was adopted during the 2008 cycle. In the 2018 cycle, the upper tidal freshwater segment exceeded the summer seasonal mean; however, it was in compliance with the spring mean criterion.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, the impairment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01E_JMS01A02 / James River / The James River from the fall line near Mayos Bridge to river mile 108.76. State Scenic River JMSTFu	4A	Chlorophyll-a	2008	L	0.239
VAP-G01E_JMS02A02 / James River / The James River from river mile 108.76 to river mile 108.63. JMSTFu	4A	Chlorophyll-a	2008	L	0.016
VAP-G01E_JMS03A02 / James River / The James River from river mile 108.63 to the confluence with Proctors Creek at river mile 2-JMS097.94. JMSTFu	4A	Chlorophyll-a	2008	L	1.229
VAP-G02E_JMS01A00 / James River / The James River from Proctors Creek to 5 miles above the old American Tobacco raw water intake. JMSTFu	4A	Chlorophyll-a	2008	L	0.078
VAP-G02E_JMS02A00 / James River / The James River from 5 miles above the old American Tobacco intake to 5 miles above City Point at Hopewell. JMSTFu	4A	Chlorophyll-a	2008	L	2.790
VAP-G02E_JMS02B18 / James River / The James River from 5 miles above City Point at Hopewell to the downstream extent of JMSTFu. JMSTFu	4A	Chlorophyll-a	2008	L	1.182

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

James River

Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:	**5.534**		

Sources:

- Industrial Point Source Discharge
- Municipal Point Source Discharges
- Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01E-02-EBEN** **James River**

Cause Location: Mainstem James River from the previous limit of PWS near Dutch Gap downstream to 5 miles above City Point Hopewell and from Buoy 74 at Brandon Point (rivermile 55.94) to the tidal freshwater/oligohaline boundary at approximately river mile 52.08.

City / County: Charles City Co. Chesterfield Co. Henrico Co. Prince George Co. Surry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

During the 2012-2016 cycles, the mainstem of the tidal freshwater James River was impaired of the Aquatic Life Use due to an inadequate benthic community based on the Chesapeake Bay Benthic Index of Biological Integrity.

In addition, there was benthic alteration at 2010 Coastal 2000 stations 2CJMS055.04 and 2CJMS084.70, which were considered Category 5A. The source is "possibly cumulative chronic effects of metals and PAHs in the sediment".

The JMSTFa B-IBI segment met the goal in the 2018 cycle. The impairment will be shortened to those areas around the two Coastal 2000 stations. The remainder will be partially delisted.

Continued monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02E_JMS02A00 / James River / The James River from 5 miles above the old American Tobacco intake to 5 miles above City Point at Hopewell.	5A	Estuarine Bioassessments	2012	L	2.790
JMSTFu					
VAP-G04E_JMS03A04 / James River / Buoy 74 at Brandon Point (rivermile 55.94) to the tidal freshwater/oligohaline boundary at approximately river mile 52.08.	5A	Estuarine Bioassessments	2012	L	3.756
JMSTFl					

James River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**6.547**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01E-03-PCB** **James River and Various Tributaries**

Cause Location: Estuarine James River from the fall line to the Hampton Roads Bridge Tunnel, including several tributaries listed below.

City / County:					
	Charles City Co.	Chesapeake City	Chesterfield Co.	Colonial Heights City	Dinwiddie Co.
	Hampton City	Henrico Co.	Hopewell City	Isle Of Wight Co.	James City Co.
	New Kent Co.	Newport News City	Norfolk City	Petersburg City	Portsmouth City
	Prince George Co.	Richmond City	Suffolk City	Surry Co.	Williamsburg City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

During the 2002 cycle, the James River from the fall line to Queens Creek was considered not supporting of the Fish Consumption Use due to PCBs in several fish species at multiple DEQ monitoring locations.

During the 2004 cycle, a VDH Fish Consumption Restriction was issued from the fall line to Flowerdew Hundred and the segment was adjusted slightly to match the restriction. In addition, in the 2004 cycle, the Chickahominy River from Walkers Dam to Diascund Creek was assessed as not supporting of the Fish Consumption Use because the DEQ screening value for PCBs was exceeded in 3 species during sampling in 2001.

The VDH restriction was extended on 12/13/2004 to stretch from the I-95 bridge downstream to the Hampton Roads Bridge Tunnel and include the tidal portions of the following tributaries:

Appomattox River up to Lake Chesdin Dam
Bailey Creek up to Route 630
Bailey Bay
Chickahominy River up to Walkers Dam
Skiffes Creek up to Skiffes Creek Dam
Pagan River and its tributary Jones Creek
Chuckatuck Creek
Nansemond River and its tributaries Bennett Creek and Star Creek
Hampton River
Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St. Julian Creek, Deep Creek, and Broad Creek

The advisory was modified again on 10/10/2006 to add Poythress Run.

The impairments were combined. The TMDL for the lower extended portion is due in 2018.

PCB sampling in 2012 showed exceedances in 4 species at 2-JMS087.01, 3 species at 2-JMS097.77, 4 species at 2-JMS110.00, 2 species at 2-PTH000.23, 2 species at 2-BLY000.65, 3 species at 2-JMS074.44, 2 species at 2-JMS066.88, 2 species at 2-JMS057.69, 3 species at 2-JMS052.67, among others.

Additional sampling occurred in 2016. The results are as follows:
2-JMS110.00 - 7 sp

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01E_JMS01A02 / James River / The James River from the fall line near Mayos Bridge to river mile 108.76.	5A	PCB in Fish Tissue	2002	H, 2yr	0.239
State Scenic River					
JMSTFu					
VAP-G01E_JMS02A02 / James River / The James River from river mile 108.76 to river mile 108.63.	5A	PCB in Fish Tissue	2002	H, 2yr	0.016

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

JMSTFu VAP-G01E_JMS03A02 / James River / The James River from river mile 108.63 to the confluence with Proctors Creek at river mile 2-JMS097.94.	5A	PCB in Fish Tissue	2002	H, 2yr	1.229
JMSTFu VAP-G02E_APP01A12 / Appomattox River / Portion of the Appomattox River within CB segment JMSTFl	5A	PCB in Fish Tissue	2002	H, 2yr	0.113
State Scenic River VAP-G02E_JMS01A00 / James River / The James River from Proctors Creek to 5 miles above the old American Tobacco raw water intake.	5A	PCB in Fish Tissue	2002	H, 2yr	0.078
JMSTFu VAP-G02E_JMS02A00 / James River / The James River from 5 miles above the old American Tobacco intake to 5 miles above City Point at Hopewell.	5A	PCB in Fish Tissue	2002	H, 2yr	2.790
JMSTFu VAP-G02E_JMS02B18 / James River / The James River from 5 miles above City Point at Hopewell to the downstream extent of JMSTFu.	5A	PCB in Fish Tissue	2002	H, 2yr	1.182
JMSTFu VAP-G02E_JMS03A06 / James River / The James River from the upstream extent of JMSTFl to the downstream extent of PWS.	5A	PCB in Fish Tissue	2002	H, 2yr	0.633
JMSTFl VAP-G03E_BLY01A98 / Bailey Creek/Cattail Creek / The tidal portions of Bailey Creek and Cattail Creek.	5A	PCB in Fish Tissue	2002	H, 2yr	0.114
JMSTFl VAP-G03E_JMS01A00 / James River / The mainstem of the James River from the confluence with the Appomattox River downstream to Powell Creek.	5A	PCB in Fish Tissue	2002	H, 2yr	10.194
JMSTFl VAP-G03E_JMS01B10 / James River / The mainstem of the James River from the confluence with Powell Creek downstream to Queen Creek.	5A	PCB in Fish Tissue	2002	H, 2yr	3.485
JMSTFl VAP-G03E_PTH01A00 / Poythress Run / The tidal portion of Poythress Run.	5A	PCB in Fish Tissue	2008	H, 2yr	0.002
JMSTFl VAP-G04E_JMS01A02 / James River / The James River from the confluence with Queens Creek downstream to Buoy 74 at Brandon Point	5A	PCB in Fish Tissue	2006	H, 2yr	7.756
JMSTFl VAP-G04E_JMS02A02 / James River / The James River from the	5A	PCB in Fish Tissue	2006	H, 2yr	20.409

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tidal freshwater/oligohaline boundary at approx. river mile 51.94 to the limit of the PRO watershed (approx. rm 42.7).

JMSOH

VAP-G04E_JMS03A04 / James River / Buoy 74 at Brandon Point (rivermile 55.94) to the tidal freshwater/oligohaline boundary at approximately river mile 52.08.	5A	PCB in Fish Tissue	2006	H, 2yr	3.756

JMSTFl

VAP-G08E_CHK01A00 / Chickahominy River / The Chickahominy River from Walkers Dam to the confluence with Diascund Creek.	5A	PCB in Fish Tissue	2004	H, 2yr	1.373

CHKOH

VAP-G08E_CHK02A00 / Chickahominy River / The Chickahominy River from the confluence with Diascund Creek downstream to the James River, excluding 0.5 mile upstream and downstream of station 2CCHK002.40.	5A	PCB in Fish Tissue	2006	H, 2yr	5.468

CHKOH

VAP-G08E_CHK02B18 / Chickahominy River / Approximately 0.5 mile upstream and downstream of station 2CCHK002.40	5A	PCB in Fish Tissue	2006	H, 2yr	0.452

CHKOH

VAP-J15E_APP01A98 / Lower Appomattox River/Ashton Creek / The estuarine Appomattox River from the fall line to river mile 6.49.	5A	PCB in Fish Tissue	2002	H, 2yr	0.507

APPTF.
Virginia Scenic River

VAP-J15E_APP02A98 / Appomattox River / The estuarine portion of the Appomattox River from The confluence of Walthall Channel to the end of APPTF.	5A	PCB in Fish Tissue	2002	H, 2yr	1.361

Virginia Scenic River

VAP-J15E_APP02B12 / Appomattox River / The estuarine portion of the Appomattox River from the start of PWS at river mile 6.49 to the confluence of Walthall Channel	5A	PCB in Fish Tissue	2002	H, 2yr	0.703

APPTF.

Virginia Scenic River

VAP-J15R_APP01A12 / Appomattox River / The Appomattox River from the Rohoic Creek to the fall line at the Route 1/301 bridge.	5A	PCB in Fish Tissue	2006	H, 2yr	1.94

Virginia Scenic River

VAP-J15R_APP01A98 / Appomattox River / The Appomattox River from the Lake Chesdin dam to the confluence of Rohoic Creek	5A	PCB in Fish Tissue	2006	H, 2yr	5.57

VAT-G10E_JMS01A06 / James River Mainstem - Chickahominy R. to Hog Point / From confluence with Chickahominy R. coincident with watershed line (RM 48.40) downstream to line between Hog Pt. and mouth College Cr. N shore James R. CBP segment JMSOH. DSS (ADMIN) shellfish condemn # 059-069 A (effective 20141219).	5A	PCB in Fish Tissue	2006	H, 2yr	17.843
VAT-G10E_JMS01B08 / James River - Carters Grove Area (G10) / Mainstem along north shore, Camp Wallace to Carters Grove. Area	5A	PCB in Fish Tissue	2006	H, 2yr	0.985

shoreline upstream of Skiffes Creek. Portion of CBP segment JMSOH. DSS (ADMIN PROHIB) shellfish direct harvesting condemnation # 059-067 A&B (effective 20100901).					
VAT-G10E_JMS02A06 / James River - Hog Point Area (Open Shellfish Area) / Triangular area in mainstem around Walnut Point, from Hog Pt. to G11 watershed line. CBP segment JMSOH. DSS (OPEN) shellfish direct harvesting condemnation # 057-069 (effective 20141219).	5A	PCB in Fish Tissue	2006	H, 2yr	2.240
VAT-G11E_CKT01A04 / Chuckatuck & Brewers Creeks / South shore trib to James R., confluence upstream of Nansemond R. From headwaters to end of SF condemnation at Johnson near tidal flat. Portion of CBP segment JMSMH. DSS shellfish harvesting condemnation # 062-080 A (effective 20161005).	5A	PCB in Fish Tissue	2006	H, 2yr	0.731
VAT-G11E_CKT02A12 / Chuckatuck Creek and Mouth in James / South shore trib to James R., after confluence with Brewers Creek to mouth. Portion of CBP segment JMSMH. DSS OPEN shellfish direct harvesting condemnation # 062-080 (effective 20161005).	5A	PCB in Fish Tissue	2006	H, 2yr	0.714
VAT-G11E_JMS01A06 / James River - Gravel Neck to Pagan River / From start of JMSMH salinity boundary (Hog Isl. Cr.) downstream to line between Jail Pt (Mulberry Isl) to Days Pt (mouth Pagan R). CBP segment JMSMH. DSS (OPEN) shellfish condemnation # 059-069 (effective 20141219).	5A	PCB in Fish Tissue	2002	H, 2yr	40.260
VAT-G11E_JMS01B08 / James River - Hog Island Area [JMSOH area] / From area of Homewood (G11 watershed line) downstream to start of JMSMH salinity boundary (Hog Isl. Cr.). CBP segment JMSOH. DSS (OPEN) shellfish direct harvesting condemnation # 059-069 (effective 20141219).	5A	PCB in Fish Tissue	2006	H, 2yr	3.846
VAT-G11E_JMS01C08 / James River - Carter Grove Area / Mainstem along north shore, from near Carter Grove. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 059-067 A (effective 20100901).	5A	PCB in Fish Tissue	2006	H, 2yr	0.404
VAT-G11E_JMS01D14 / James River - Carters Grove Area (G11) / Mainstem along north shore, Camp Wallace to Carters Grove. Area shoreline upstream of Skiffes Creek. Portion of CBP segment JMSOH. DSS (ADMIN PROHIB) shellfish direct harvesting condemnation # 059-067 A&B (effective 20100901.	5A	PCB in Fish Tissue	2006	H, 2yr	1.218
VAT-G11E_JMS02A06 / James River - Jail Point to Hilton Village / Mainstem from line between Jail Pt (Mulberry Isl) to Days Pt (Mouth Pagan R) downstream to line Hilton Village (Newport News)/Kings Creek (Isle of Wight). CBP segment JMSMH. DSS (OPEN) shellfish harvesting condemnation # 059-069 (effective 20141219).	5A	PCB in Fish Tissue	2006	H, 2yr	24.697
VAT-G11E_JMS03A06 / James River - Along Lower North Shore / Mainstem along north shore, from Jail Point (Mulberry Isl) downstream to line following Rt. 664. CBP segment JMSMH. Portions of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080518) & 057-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	3.943
VAT-G11E_JMS03B06 / James River - Hilton Beach Area / North shore James R. NW of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080518).	5A	PCB in Fish Tissue	2006	H, 2yr	0.110
VAT-G11E_JMS03C06 / James River - Huntington Beach Area / North shore James R. near foot of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH.	5A	PCB in Fish Tissue	2006	H, 2yr	0.008

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Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080508).					
VAT-G11E_JMS04A06 / James River - Hilton Village to Craney Island / Mainstem from a line between Hilton Village (Newport News)/Kings Creek (Isle of Wight) downstream to the end of DSS (OPEN) shellfish harvesting condemnation # 059-069 F (effective 20141219). CBP segment JMSMH.	5A	PCB in Fish Tissue	2006	H, 2yr	24.879
VAT-G11E_JMS06A10 / James River - Outside Mouth Streeter & Hoffler Creeks / Mainstem area at Mouth of Streeter & Hoffler Creeks @ SW corner Craney Island. CBP segment JMSMH. DSS (ADMIN) shellfish condemnation # 064-018 A (effective 20080530).	5A	PCB in Fish Tissue	2006	H, 2yr	0.156
VAT-G11E_JOG01A08 / Jones Creek - Tributary to Pagan River / South shore trib. to Pagan R. near confluence with James R. From headwaters to SR 669, including tidal tributaries. CBP segment JMSMH. Portion of DSS shellfish harvesting (Admin-PROHIBITED) # 061-064 B (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.229
VAT-G11E_JOG02A08 / Jones Creek - Tributary to Pagan River / South shore trib. to Pagan R. near confluence with James R. From SR 669 to mouth, including tidal tributaries. CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 B & M2 (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.102
VAT-G11E_PGN01A08 / Pagan River - Upper / Located in Smithfield area. South shore tributary to James R. From end of tidal water downstream to approx RM 7.00. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 201460502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.062
VAT-G11E_PGN01B18 / Pagan River - Upper Middle / Located in Smithfield area. South shore tributary to James R. From downstream of Crook Ln to UT N Trib.Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.065
VAT-G11E_PGN01C18 / Pagan River - Middle / Located in Smithfield area. South shore tributary to James R.N of Rt 10 downstrm N of Cupress Cr .Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.058
VAT-G11E_PGN02A08 / Pagan River - Middle Lower / Located in Smithfield area. South shore tributary to James R. North of Town of Smithfield downstream Azalea Dr. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	1.030
VAT-G11E_PGN02B14 / Pagan River - Lower / Located in Smithfield area. South shore tributary to James R. Lower portion from Moonefield Dr to Morris Cr. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.162
VAT-G11E_PGN02C18 / Pagan River - Lower SF Open / Located in Smithfield area. South shore tributary to James R. From Morris Creeek downstream to River Ave. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.084
VAT-G11E_PGN02D16 / Pagan River - Jones Cr / Located in Smithfield area. South shore tributary on the East shore to James R. Portion near Battery Park. Portion of CBP segment JMSMH. Portion of	5A	PCB in Fish Tissue	2006	H, 2yr	0.020

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DSS shellfish direct harvesting condemnation # 061-064 M2 (effective 20160502).					
VAT-G11E_PGN03A10 / Pagan River - Mouth / Located in Smithfield area. South shore tributary to James R. From the edge of shellfish condemnation #061-064A to. downstream to mouth. Portion of CBP segment JMSMH. DSS OPEN shellfish direct harvesting condemnation # 061-064 (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.889
VAT-G11E_SFF02A08 / Skiffes Creek System [Admin Cond] / Located west of Lee Hall area, flows along the James City Co./NN City boundary. From dam downstream to mouth, including tidal tribs. Portion of CBP segment JMSMH. DSS (ADMIN) shellfish direct harvesting condemnation # 059-023 A (effective 20081215).	5A	PCB in Fish Tissue	2006	H, 2yr	0.452
VAT-G11E_SFF03A10 / Skiffes Creek - Mouth / Located west of Lee Hall area, flows across the James City Co./NN City boundary. From Goose Island to point on opposite shore. Portion of CBP segment JMSMH. DSS (OPEN) shellfish direct harvesting condemnation # 059-069 (effective 20141219).	5A	PCB in Fish Tissue	2006	H, 2yr	0.060
VAT-G11E_WIL01A18 / Williams Creek / Located off of North shore tributary to Pagan River. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting ADMIN condemnation # 061-064 C (effective 20160502).	5A	PCB in Fish Tissue	2006	H, 2yr	0.060
VAT-G13E_BEN01A04 / Bennett Creek - Tributary to Nansemond R. / Eastern shore trib. to Nansemond R., near confluence with James R. Bennett Harbor area. From headwaters to mouth, including tidal tributaries. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 A (20140826).	5A	PCB in Fish Tissue	2004	H, 2yr	0.542
VAT-G13E_NAN01A00 / Nansemond River - Upper / Upper Nansemond River, within city of Suffolk. Extends from most upstream point in river at Lake Meade Dam (RM 19.8) downstream to Rt. 58/460 crossing (RM 15.2). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (effective 20160926).	5A	PCB in Fish Tissue	2006	H, 2yr	0.269
VAT-G13E_NAN02A06 / Nansemond River - Upper Middle / Downstream of Suffolk. From Rt 58/460 (RM 15.1) crossing downstream to confluence with the Western Branch Reservoir (RM 11.9). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (20160926).TMDL (32045)	5A	PCB in Fish Tissue	2006	H, 2yr	0.209
VAT-G13E_NAN03A06 / Nansemond River - Lower Middle / In area of Western Branch Reservoir. From confluence with Western Br. (RM 11.8) downstream to Holidays Pt. CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A & C1 (2016096). TMDL (32045)	5A	PCB in Fish Tissue	2006	H, 2yr	2.833
VAT-G13E_NAN04A00 / Nansemond River - Lower [No TMDL] / Nansemond R mouth. From Olds Cove downstream to mouth. CBP segment JMSMH. DSS (OPEN) condemnation 063-046 (effective 20140826) & 063-008 (effective 20140826).	5A	PCB in Fish Tissue	2006	H, 2yr	6.303
VAT-G13E_NAN04C10 / Nansemond River - Lower DSS Condemned at Knotts Cr / Nansemond R at confluence Knotts Cr. CBP segment JMSMH. DSS condemnation # 063-046 B (effective 20120801).	5A	PCB in Fish Tissue	2006	H, 2yr	0.467
VAT-G13E_STR01A04 / Star & Oyster House Creeks - Tributary to Nansemond R. / Eastern shore tributary to Nansemond R. Adjacent to the Naval Communication station at Driver. From headwaters to confluence with Nansemond R. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20140826).	5A	PCB in Fish Tissue	2006	H, 2yr	0.046

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VAT-G15E_BRO01A02 / Broad Creek, Eastern Br. Elizabeth R. / Located between Ingleside and Thomas Corner areas. North shore tributary to Eastern Br. Elizabeth R. Entirety of Broad Creek. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 065-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.371
VAT-G15E_DEC01A06 / Deep Creek, Southern Br. Elizabeth R. / South of I-64 crossing of Southern Br. E shore trib to Southern Br. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.209
VAT-G15E_DEC02A18 / Deep Creek, Southern Br. Elizabeth R.-Mouth / South of I-64 crossing of Southern Br. E shore trib to Southern Br. Mouth of Creek North of Interstate 64. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.075
VAT-G15E_EBE01A00 / Eastern Branch, Elizabeth R. - Upper / Located between Carolanne Farms and Tanglewood areas. Upper Eastern Br., from headwaters to confluence of Broad Creek (RM 4.0). CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.377
VAT-G15E_EBE02A06 / Eastern Branch, Elizabeth R. - Lower Middle / From Broad Creek (RM 4.0) downstream to the Campestella Bridge. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.625
VAT-G15E_EBE03A18 / Eastern Branch, Elizabeth R. - Lower / From Campastella Bridge to mouth of Elizabeth River mainstem. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.390
VAT-G15E_ELI01A06 / Elizabeth River Mainstem - Upper / From start of mainstem downstream to line between Hospital Pt and Smiths Cr. (Incl. Hague). BIBI segment ELIMHa (downstream Lamberts Pt.). CBP segment ELIPH. DSS (ADMIN) cond # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.468
VAT-G15E_ELI02A06 / Elizabeth River Mainstem - Middle / From a line between Hospital Pt and Smiths Cr down stream to the end of CBP-BIBI segment ELIMHa (downstream of Lamberts Pt.). BIBI segment ELIMHa. CBP segment ELIPH. DSS (ADMIN) condemnation # 056-007 E and A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	4.005
VAT-G15E_ELI03A08 / Elizabeth River Mainstem - Mouth / From start BIBI segment ELIPHa (SE corner Craney Isl. line to east) downstream to mouth (NE corner Craney Isl. east to S Glenwood Pk). BIBI segment ELIPHa. CBP segment ELIPH. DSS (ADMIN) condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	3.445
VAT-G15E_GIL01A10 / Gilligan Cr - Upper, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Upper portion no Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.012
VAT-G15E_GIL02A10 / Gilligan Cr - Lower, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Lower portion with Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.011

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VAT-G15E_HAI01A06 / Hampton River / Located between Cherry Acres & East Hampton areas of Hampton, north shore tributary to Hampton Roads Harbor. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.547
VAT-G15E_JMS01A00 / James River at Hampton Roads Harbor / Mainstem from a line between Lincoln Park and the NW corner of Craney Isl. downstream to mouth at Hampton Roads Tunnel. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	25.540
VAT-G15E_JMS01B06 / James River - King/Lincoln Park Beach Area / Located NE of Newport News Point, along the northern shore of Hampton Roads Harbor. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.009
VAT-G15E_JMS01C06 / James River - Anderson Park Beach Area / Located NE of Newport News Point, along the northern shore of Hampton Roads Harbor. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.011
VAT-G15E_JMS05A06 / James River - Newport News Point to NW Corner Craney Isl. / Line following the Rt. 664 crossing mid-river, SW to mid-mouth Nansemond R. to SW tip Craney Isl. Line. The NW line from NW tip Craney Isl. to Lincoln Pk. CBP segment JMSMH. DSS (ADMIN) cond # 056-007 A, B, C (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	3.611
VAT-G15E_JON01A10 / Jones Cr - Upper, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Upper portion no Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.027
VAT-G15E_JON02A10 / Jones Cr - Lower, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Lower portion with Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.017
VAT-G15E_LAF01A06 / Lafayette River - Upper / Located east of Craney Isl. From headwaters (approx. RM 7.5) downstream to past Rt 337 (Hampton Blvd bridge, RM 1.75) near Edgewater Haven. CBP segment LAFMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	1.743
VAT-G15E_LAF02A06 / Lafayette River - Lower / Located east of Craney Isl. From Rt. 337 (Hampton Blvd bridge, RM 1.75) downstream to the mouth. CBP segment LAFMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.404
VAT-G15E_MAI01A10 / Mains Cr. - SB Eliz R. E shore Tributary / SB Eliz R. E shore upstream tributary, SE of Deep Cr. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.013
VAT-G15E_MCE01A10 / Mill Creek - SB Elizabeth R. S. shore tributary / SB Elizabeth R S shore tributary SW of Great Bridge Locks. CBP & BIBI segment SBEMHa. Portion of DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.023
VAT-G15E_MDM01A10 / Milldam Cr trib S. Br. Elizabeth R. /	5A	PCB in Fish Tissue	2006	H, 2yr	0.071

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Tributary to E shore SB Elizabeth R. N of Gilmerton Br. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).					
VAT-G15E_MIG01A10 / Mill Creek, Trib to Hampton Roads Harbor / Mill Creek, north shore tributary to Hampton Roads Harbor. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.915
VAT-G15E_NMC01A00 / New Mill Creek - Southern Br. Elizabeth R. / Located south of I-64 crossing of Southern Br. Eastern shore trib to Southern Br, downstream of locks. Entirety of Creek. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.082
VAT-G15E_NTN01A10 / Newton Cr trib to SB Eliz R / Tributary to E shore SB Eliz R. NE of Deep Cr. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.038
VAT-G15E_PAR01A06 / Paradise Creek - Upper, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. No Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.025
VAT-G15E_PAR02A10 / Paradise Creek - Lower, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. With Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.028
VAT-G15E_SBE01A00 / Southern Branch, Elizabeth R. - Upper / South of I-64 crossing. From headwaters @ Great Br Locks downstream to I-64 crossing @ Deep Cr. (RM 6.86). CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.636
VAT-G15E_SBE02A06 / Southern Branch, Elizabeth R. - Middle / From I-64 crossing @ Deep Cr. confluence (RM 6.86) downstream to the Jordan Bridge (RM 2.30). CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	1.074
VAT-G15E_SBE03A06 / Southern Branch, Elizabeth R. - Lower / North of the Jordan Bridge. From the Jordan Bridge, Rt. 337 (RM 2.30) downstream to the mouth, confluence with the mainstem Elizabeth R. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMIN) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.545
VAT-G15E_STJ01A04 / Saint Julian Creek / Northwest of Gilmerton Bridge. Eastern shore tributary to Southern Br. Entirety of Creek. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.133
VAT-G15E_WBE01A02 / Western Branch, Elizabeth R. - Upper / Located between Stewart Manor and Point Elizabeth areas. From headwaters (RM 8.5) downstream to Sterns Creek (RM 3.5). BIBI segment WBEMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.561
VAT-G15E_WBE02A00 / Western Branch, Elizabeth R. - Lower / Located between the Point Elizabeth and Lovett Point areas. From Sterns Creek confluence (RM 3.5) downstream to the mouth. CBP segment WBEMH. BIBI segment WBEMHa. DSS (ADMIN)	5A	PCB in Fish Tissue	2006	H, 2yr	1.457

condemnation # 056-007 E (effective 20120529).					
VAT-G15E_WLY01A06 / Willoughby Bay [Less Beach Area] / Located adjacent to mouth of James River at Hampton Roads, southeast of Hampton Roads Bridge Tunnel. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	2.476
VAT-G15E_WLY03A06 / Willoughby Bay - Beach Area / Located along the northern shore portion of Willoughby Bay along Willoughby Spit. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.142
VAT-G15E_XFR01A10 / UT to SB Elizabeth R. S shore estuary SE of Mill Cr. / SB Eliz S shore estuary SE of Mill Cr. CBP & BIBI segment SBEMH. DSS (ADMIN-COND) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.008
VAT-G15E_XQT01A10 / UT to SB Elizabeth R. N shore creek near Great Bridge Locks / SB Elizabeth R. upstream N shore creek north of Great Bridge Locks. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.045
VAT-G15E_XQU01A10 / SB Eliz N shore creek SW of Mains Cr. / SB Elizabeth R. upstream N shore creek SW of Mains Cr. CBP & BIBI segment SBEMHa. DSS (ADMIN-COND) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.020
VAT-G15E_ZZZ02A08 / Unsegmented estuaries in SBEMH / CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	PCB in Fish Tissue	2006	H, 2yr	0.058

James River and Various Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**248.078**		**7.51**

Sources:

Contaminated Sediments

Source Unknown

Sources Outside State Jurisdiction or Borders

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01L-01-CHLA** **Falling Creek Reservoir**

Cause Location: Falling Creek Reservoir

City / County: Chesterfield Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

The lake was subject to historical chronic problems resulting from nutrients and organic loadings. It was listed in 1998 as not supporting the Public Water Supply use and threatened of the ALUS.

During the 2006 cycle, monitoring showed acceptable DO in the epilimnion, but showed depressed DO in the hypolimnion during stratification. The TSIs were:

TSI(CA) = 53
TSI(TP) = 59
TSI(SD) = 63

Although the secchi depth TSI exceeded the limit of 60, the Chlorophyll a and phosphorus TSIs were acceptable (mesotrophic); these are considered more reliable since an elevated secchi depth TSI may be due to inorganic turbidity and not an indication of excessive nutrients. Since the PWS Use for Falling Creek has been removed from the WQS and the TSIs meet acceptable limits the lake should be delisted for PWS. However due to the depressed dissolved oxygen in the bottom, the segment should be classified as Category 4C due to natural stratification; the segment is first listed for DO in 2006.

During the 2008 cycle the lake criteria was developed and the lake is fully supporting for DO and will be DELISTED.

During the 2012 cycle the segment became impaired for DO with a pooled violation rate of 11/60 at stations 2-FAC005.78 and 2-FAC003.85.

There was no new data for the 2014 cycle

During the 2018 cycle station 2-FAC003.85 Chlorophyll a is impaired with an exceedance rate of 2/2

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01L_FAC01A98 / Falling Creek Reservoir / Falling Creek Reservoir	5A	Chlorophyll-a	2018	L	88.37

Falling Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**88.37**	

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-01-BAC** **Goode Creek**

Cause Location: Goode Creek from the confluence with Broad Rock Creek to its mouth at the James River.

City / County: Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Goode Creek was initially assessed as not supporting the Recreation Use in the 2002 cycle based on sampling at 2-GOD000.07 and at 2-GOD000.77 (Commerce Road).

In the 2006 cycle, E. coli was added as an impairing cause based on exceedances at 2-GOD000.77. During the 2008 cycle, the impairment converted solely to E. coli.

The violation rate was 8/14 in the 2014 cycle at 2-GOD000.77.

The impairment was addressed in the report James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. Goode Creek is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_GOD01A00 / Goode Creek / Goode Creek from the confluence with Broad Rock Creek to the James River.	4A	Escherichia coli	2006	L	1.21

Goode Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.21**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-01-PCB** **Goode Creek**

Cause Location: Goode Creek from the confluence with Broad Rock Creek to its mouth at the James River.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 5A

During the 2012 cycle, Goode Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected at 2-GOD000.77 as part of a 2009 source identification study for the VDH PCB advisory in the James River.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_GOD01A00 / Goode Creek / Goode Creek from the confluence with Broad Rock Creek to the James River.	5A	PCB in Water Column	2012	H, 2yr	1.21

Goode Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**1.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-02-BAC** **Almond Creek**

Cause Location: Almond Creek from its headwaters to its mouth.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Almond Creek was initially assessed as not supporting of the Recreation Use support goal in the 1998 cycle based on fecal coliform standard exceedances recorded at the Route 5 bridge (2-ALM000.42). During the 2006 cycle, E. coli was added as an impairment. During the 2008 cycle, the impairment converted to E. coli.

The E. coli violation rate was 3/12 during the 2014 cycle.

Almond Creek was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL which was approved by the EPA on 11/4/010; therefore, it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_ALM01A98 / Almond Creek / Almond Creek from its headwaters to the James River.	4A	Escherichia coli	2006	L	2.10

Almond Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.10**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-02-PCB** **Almond Creek**

Cause Location: Almond Creek from its headwaters to its mouth.

City / County: Henrico Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 5A

During the 2012 cycle, Almond Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected in 2009 as part of a source identification study for the PCB advisory in the James River.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_ALM01A98 / Almond Creek / Almond Creek from its headwaters to the James River.	5A	PCB in Water Column	2012	H, 2yr	2.10

Almond Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**2.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-02-PH** **XVO and XVP - Almond Creek, UT**

Cause Location: Unnamed tributaries of Almond Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

In 2004, Almond Creek and tributaries XVO and XVP were considered impaired of the Aquatic Life Use due to pH exceedances at 2-ALM000.42 as well as pH exceedances at station located on UTs downstream of the BFI landfill (2-XVO000.10 and 2-XVP000.04).

Although there are numerous exceedances on the tributary, the pH violation rates were acceptable during the 2010 cycle on mainstem Almond Creek; therefore, Almond Creek was partially delisted.

During the 2012 cycle, the exceedance rates were as follows:
2-XVO000.10 - 8/27 (2008 cycle)
2-XVO000.16 - 0/2
2-XVP000.04 - 3/5

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XVO01A08 / XVO - Almond Creek, UT / Headwaters to mouth at Almond Creek	5A	pH	2004	L	0.46
VAP-G01R_XVP01A08 / XVP - Almond Creek, UT / Headwaters to mouth at Almond Creek	5A	pH	2004	L	0.36

XVO and XVP - Almond Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.82**

Sources:

Landfills	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-04-BAC** **Falling Creek**

Cause Location: Falling Creek from its headwaters downstream to the extent of backwater at Falling Creek Reservoir.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Falling Creek from its headwaters downstream to Falling Creek Reservoir was initially assessed as not supporting the Recreation Use during the 2006 cycle based on the bacteria exceedances at the Route 651 bridge (2-FAC009.46) and at the Route 720 bridge (2-FAC017.80).

During the 2008 cycle, the impairment converted solely to E. coli. The segment shows a history of exceedances at 2-FAC009.46, 2-FAC012.96 (Rt. 360 bridge), and 2-FAC017.80.

The E. coli impairment on Falling Creek from the Falling Creek Reservoir Dam to the tidal limit was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. As this segment is within the watershed, it was considered nested (Category 4A) and will be addressed during implementation.

During the 2018 cycle, the segment remained impaired with an E. coli exceedance rate of 6/36 at 2-FAC009.46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_FAC02A04 / Falling Creek / Falling Creek from its headwaters to Gregorys Pond dam.	4A	Escherichia coli	2006	L	10.60
VAP-G01R_FAC02B08 / Falling Creek / Falling Creek from Gregorys Pond dam to the confluence with Horners Run	4A	Escherichia coli	2006	L	0.98
VAP-G01R_FAC02C08 / Falling Creek / Falling Creek from Horners Run to the extent of backwater of Falling Creek Reservoir.	4A	Escherichia coli	2006	L	5.39

Falling Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.97**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-04-DO** **Falling Creek**

Cause Location: Falling Creek from Gregorys Pond downstream to the confluence with Horners Run.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, this segment of Falling Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/22 at DEQ station 2-FAC012.96, which is located at the Route 360 bridge.

The dissolved oxygen impairment was confirmed in the 2016 cycle with exceedance rates of 5/6 at 2-FAC012.96 and 2/2 at 2-FAC013.25.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_FAC02B08 / Falling Creek / Falling Creek from Gregorys Pond dam to the confluence with Horners Run	5A	Oxygen, Dissolved	2008	L	0.98

Falling Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.98**

Sources:

Dam or Impoundment Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-05-BAC** **Kingsland Creek**

Cause Location: Kingsland Creek from its headwaters downstream to its mouth at the James River.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Kingsland Creek was assessed as not supporting of the Recreation Use based on E. coli exceedances at the Route 1 bridge (2-KSL002.62). During the 2008 cycle, the violation rate was 4/11.

Kingsland Creek is within the study area for the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. As this segment is within the watershed, it is considered nested (Category 4A) and will be addressed during implementation.

Additional monitoring was conducted during the 2016 cycle; the exceedance rate was 7/12 at 2-KSL004.42 (Hopkins Road).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_KSL01A04 / Kingsland Creek / Headwaters to mouth	4A	Escherichia coli	2006	L	8.54

Kingsland Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.54**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-05-PH** **Kingsland Creek**

Cause Location: Kingsland Creek from its headwaters downstream to its mouth at the James River.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2006 cycle, Kingsland Creek was assessed as not supporting the Aquatic Life Use based on pH exceedances at the Route 1 bridge (2CKSL002.62). The exceedance rate was 3/11 in the 2008 cycle. No additional data has been collected.

A Natural Conditions Assessment was completed in February 2014. The report attributes the impairment to natural conditions and recommends that Kingsland Creek be reclassified as Class VII swampwaters. Due to an error, it remained 5C for the 2014 cycle.

Additional monitoring was conducted during the 2016 cycle. The exceedance rate was 2/13 at 2-KSL004.42 (Hopkins Road); however, the exceedance rate was acceptable at other stations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_KSL01A04 / Kingsland Creek / Headwaters to mouth	5C	pH	2006	L	8.54

Kingsland Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**8.54**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-06-BAC** **Gillies Creek**

Cause Location: Gillies Creek from its headwaters to its mouth at the James River.

City / County: Henrico Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Gillies Creek was initially assessed as not supporting of the Recreation Use in 2004 based on monitoring at the Government Road Bridge (2-GIL001.00).

During the 2008 cycle, the impairment converted to E. coli.

During the 2018 cycle, the stations had the following violation rates:
2-GIL000.42 - 11/26
2-GIL-STN01-ACB - 0/3
2-GIL001.00 - 6/12 (2010 cycle)
2-GIL001.77 - 19/27 (2012 cycle)
2-GIL002.84 - 2/12 (2010 cycle)

A Richmond CSO outfall is located on the creek. Gillies Creek was included in the James River and Tributaries - City of Richmond Bacterial TMDL which was approved by the EPA on 11/4/2010. The stream is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_GIL01A04 / Gillies Creek / Headwaters to mainstem	4A	Escherichia coli	2008	L	5.88

Gillies Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.88**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-06-PCB** **Gillies Creek**

Cause Location: Gillies Creek from its headwaters to its mouth at the James River.

City / County: Henrico Co. Richmond City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 5A

During the 2012 cycle, Gillies Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected at 2-GIL000.42 as part of a 2009 source identification study for the PCB advisory in the James River.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_GIL01A04 / Gillies Creek / Headwaters to mainstem	5A	PCB in Water Column	2012	H, 2yr	5.88

Gillies Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**5.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-06-PH** **Gillies Creek**

Cause Location: Gillies Creek from its headwaters to its mouth at the James River.

City / County: Henrico Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Gillies Creek was initially assessed as not supporting the Aquatic Life Use in 2004 based on elevated pH at the Government Road Bridge (2-GIL001.00, which was mistakenly called 2-GIL000.42 from 2001 to 2005).

During the 2010 cycle, the pH exceedance rate was 3/25 at 2-GIL001.00, although the other stations within the segment have acceptable pH exceedance rates.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_GIL01A04 / Gillies Creek / Headwaters to mainstem	5A	pH	2004	L	5.88

Gillies Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-07-DO** **Redwater Creek**

Cause Location: Redwater Creek from its headwaters to its mouth at Proctors Creek.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Redwater Creek was assessed as impaired of the Aquatic Life Use in the 2010 cycle due to dissolved oxygen exceedances at Route 615 (Coxendale Road.)

The exceedance rate was 3/13 in the 2012 cycle. Two values were extremely low.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_RDW01A06 / Redwater Creek / Headwaters to mouth at Proctors Creek	5C	Oxygen, Dissolved	2010	L	2.96

Redwater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-08-BAC** **XSZ - James River, UT (aka No Name Creek)**

Cause Location: UT to James River (a.k.a. No Name Creek) mainstem and tributaries

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

No Name Creek was assessed as not supporting the Recreation Use during the 2004 cycle based on the following fecal coliform exceedance rates:

2/2 at 2-XTC000.08
1/1 at 2-XUH000.01
2/2 at 2-XUI000.01

Additional monitoring was recommended. During the 2008 cycle, E. coli monitoring was conducted at station 2-XSZ001.58, which is located at the Route 1 bridge. The station had an E.coli exceedance rate of 7/13; therefore, the impairment was converted to E.coli.

The exceedance rate was 5/11 during the 2014 cycle.

The stream was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. The impairment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XSZ01A04 / XSZ - James River, UT (aka No Name Creek) / Headwaters to mouth including multiple unnamed tributaries to XSZ	4A	Escherichia coli	2008	L	2.22

XSZ - James River, UT (aka No Name Creek)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.22**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-09-DO** **XPF - UT to James River**

Cause Location: Ditch to James River through National Battlefield Park

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The ditch was considered impaired of the Aquatic Life use due to dissolved oxygen monitoring by the USGS:

2/4 at 0203853010 (James River Trib 5 at West Boundary at Bellwood, VA
2/4 at 0203853030 (James River Trib 5 Below Landfill at Bellwood, VA)

The downstream station 020853050 (James River Trib 5 at East Boundary) was acceptable. This station is near station 2-XPF-RICH-08-NPS, which also shows acceptable DO levels.

Additional monitoring was conducted by the DEQ during the 2014 cycle. The dissolved oxygen impairment was confirmed (3/10 at 2CXBD000.15). The exceedance rate at 2CXBD000.38 was insufficient (1/5).

Monitoring at station 2-XPF-RICH-08-NPS, which is co-located with 2CXBD000.15, was acceptable during the 2016 cycle. However, when the exceedance rates are combined, the segment still fails.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XBD01B04 / UT (dry ditch) to James River / Headwaters to mouth at James River	5C	Oxygen, Dissolved	2004	L	0.39

Richmond National Battlefield Park

XPF - UT to James River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.39**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-09-PH** **XPF - UT to James River**

Cause Location: Ditch to James River through National Battlefield Park

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The ditch was considered impaired of the Aquatic Life use due to pH monitoring by the USGS:

2/4 at 0203853010 (James River Trib 5 at West Boundary at Bellwood, VA
2/4 at 0203853030 (James River Trib 5 Below Landfill at Bellwood, VA)

The downstream station 020853050 (James River Trib 5 at East Boundary) was acceptable. This station is near station 2-XPF-RICH-08-NPS, which also has acceptable pH.

Additional monitoring was conducted by the DEQ during the 2014 cycle. The dissolved oxygen impairment was confirmed (3/10 at 2CXBD000.15). The exceedance rate at 2CXBD000.38 was insufficient (1/5).

Monitoring at station 2-XPF-RICH-08-NPS, which is co-located with 2CXBD000.15, was acceptable during the 2016 cycle. However, when the exceedance rates are combined, the segment still fails.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XBD01B04 / UT (dry ditch) to James River / Headwaters to mouth at James River	5C	pH	2004	L	0.39

Richmond National Battlefield Park

XPF - UT to James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.39**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-10-BAC** **Pocoshock Creek**

Cause Location: Pocoshock Creek from its headwaters to its mouth at Falling Creek Reservoir

City / County: Chesterfield Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Pocoshock Creek was considered impaired because of a fecal coliform violation rate of 2/12 at station 2-PSK000.23, which is located at a private road off Bemiss. Additional monitoring was conducted in the 2008 cycle and the impairment converted to E. coli. The violation rates were:

2-PSK000.23 - 3/12
2-PSK003.07 - 3/11
2-PSK006.53 - 3/12

The E. coli impairment on Falling Creek from the Falling Creek Reservoir Dam to the tidal limit was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. As Pocoshock Creek is within the watershed, it is considered nested (Category 4A) and will be addressed during implementation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_PSK01A04 / Pocoshock Creek / Headwaters to mouth at Falling Creek Reservoir	4A	Escherichia coli	2008	L	8.70

Pocoshock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.70**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-11-BAC** **Broad Rock Creek**

Cause Location: Broad Rock Creek from its headwaters to its mouth at Goode Creek.

City / County: Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Broad Rock Creek was assessed as not supporting the Recreation Use based on E. coli exceedances at 2-BDO000.38 (Columbia Street). During the 2008 cycle, the segment remained impaired due to an E. coli violation rate of 2/11 at 2-BDO000.38 and a violation rate of 3/11 at TMDL station 2-BDO000.46, which is located at Route 1. No additional data has been collected.

Broad Rock Creek is a tributary of Goode Creek, which was included in the James River and Tributaries - City of Richmond Bacterial TMDL. The TMDL was approved by the EPA on 11/4/2010. The impairment will be addressed during the implementation phase of the TMDL and is therefore considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_BDO01A06 / Broad Rock Creek / Headwaters to Goode Creek	4A	Escherichia coli	2006	L	3.12

Broad Rock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.12**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-12-PH** **XYI - Coles Run, UT**

Cause Location: The unnamed tributary XYI from its headwaters to its mouth

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The tributary has been assessed as impaired of the Aquatic Life Use based on a pH exceedance rate of 4/4 at USGS station 0203854210, which is located in the breastworks on the National Battlefield.

Additional data was collected during the 2016 cycle at station 2CXBX001.08. The exceedance rates was 4/4; therefore, the tributary will continue to be listed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XYI01A06 / XYI - Coles Run, UT / Headwaters at breastworks to mouth at Coles Run	5C	pH	2006	L	0.94

XYI - Coles Run, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.94**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-13-BAC** **XYA - Almond Creek, UT**

Cause Location: UT XYA from its headwaters to its mouth at Almond Creek.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, the segment was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/11 at TMDL station 2-XYA000.06, which is located at Bickerstaff Road. No additional data has been collected.

The stream is a tributary of Almond Creek, which was included in the James River and Tributaries - City of Richmond Bacterial TMDL. The TMDL was approved by the EPA on 11/4/2010. Although the tributary was not specifically addressed, it will be included in the implementation phase of the TMDL and is therefore considered a nested water (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XYA01A08 / Almond Creek, UT (XYA) / Headwaters to mouth at Almond Creek	4A	Escherichia coli	2008	L	1.14

XYA - Almond Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.14**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-14-BAC** **Cornelius Creek**

Cause Location: The nontidal portion of Cornelius Creek.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Cornelius Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 2/10 at TMDL station 2-CEL002.38, which is located at Old Osborne Turnpike.

No additional data has been collected at the original listing station. However, monitoring at 2-CEL001.56 in the 2014 cycle confirmed the impairment (4/12).

Cornelius Creek is within the study area for the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. Although not addressed in the report, the impairment will be addressed during the implementation phase and so is considered a nested water (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_CEL01A04 / Cornelius Creek / Headwaters to tidal limit near James River	4A	Escherichia coli	2008	L	7.22

Cornelius Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.22**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-15-BAC** **Proctors Creek**

Cause Location: The nontidal mainstem of Proctors Creek.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Proctors Creek was initially assessed as impaired of the Recreation Use in the 2008 cycle due to E. coli exceedances at the Route 1 bridge (2-PCT002.46). The violation rate was 4/24 during the 2014 cycle; however, continued monitoring is recommended because there were no recent exceedances.

The stream is within the study area for the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. The impairment will be addressed in the implementation phase; therefore, it is considered a nested water (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_PCT01A06 / Proctors Creek / Headwaters to tidal limit	4A	Escherichia coli	2008	L	8.26

Proctors Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.26**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-15-BEN** **Proctors Creek**

Cause Location: The nontidal mainstem of Proctors Creek.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Proctors Creek was assessed as impaired of the Aquatic Life Use in the 2010 cycle due to an impaired benthic community at the Route 1 bridge (2-PCT002.46).

Benthics have been collected in 2007, 2008, and 2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_PCT01A06 / Proctors Creek / Headwaters to tidal limit	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	8.26

Proctors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.26**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-16-BAC** **Horners Run**

Cause Location: The mainstem of Horners Run.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Horners Run was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at the Lynchester Drive bridge (2-HAO001.15).

The E. coli impairment on Falling Creek from the Falling Creek Reservoir Dam to the tidal limit was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. As this segment is within the watershed, it is considered nested (Category 4A) and will be addressed during implementation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_HAO01A08 / Horners Run / Headwaters to mouth at Falling Creek	4A	Escherichia coli	2008	L	2.43

Horners Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.43**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-17-BAC** **XXN - Falling Creek, UT**

Cause Location: Headwaters to mouth at Falling Creek

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, the tributary was assessed as impaired of the Recreation Use due to an E. coli violation rate of 4/12 at 2-XXN000.42, which is located at Route 678, Providence Road West. No additional data has been collected.

The E. coli impairment on Falling Creek from the Falling Creek Reservoir Dam to the tidal limit was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. As the stream is within the Falling Creek watershed, it will be considered nested (Category 4A) and will be addressed during implementation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XXN01A08 / XXN - Falling Creek, UT / Headwaters to mouth at Falling Creek	4A	Escherichia coli	2008	L	2.32

XXN - Falling Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.32**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-18-BAC** **Licking Creek**

Cause Location: Headwaters to mouth at Falling Creek

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Licking Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 6/11 at 2-LIB000.12, which is located at Barkbridge Road.

The E. coli impairment on Falling Creek from the Falling Creek Reservoir Dam to the tidal limit was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. As this stream is within the watershed, it is considered nested (Category 4A) and will be addressed during implementation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_LIB01A08 / Licking Creek / Headwaters to mouth at Falling Creek	4A	Escherichia coli	2008	L	3.24

Licking Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.24**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-19-BAC** **Stony Run**

Cause Location: Headwaters to mouth at Gillies Creek

City / County: Henrico Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Stony Run was assessed as impaired of the Recreation Use due to an E. coli violation rate of 6/12 at East Richmond Road (2-SNH000.19) and 4/12 at the Route 33 bridge (2-SNH001.31). No additional data has been collected.

Stony Run is a tributary of Gillies Creek, which was included in the James River and Tributaries - City of Richmond Bacterial TMDL. The TMDL was approved by the EPA on 11/4/2010. The stream is considered a nested water (Category 4A) and will be addressed during the implementation phase of the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_SNH01A08 / Stony Run / Headwaters to mouth at Gillies Creek	4A	Escherichia coli	2008	L	3.16

Stony Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.16**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-20-BAC** **Reedy Creek**

Cause Location: Reedy Creek from its headwaters downstream to its mouth at Kingsland Creek.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Reedy Creek was assessed as not supporting of the Recreation Use based on an E. coli exceedance rate of 4/11 at the Route 642 bridge (2-RDK000.77).

Reedy Creek is within the study area for the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. It is considered nested (Category 4A) and will be addressed during implementation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_RDK01A12 / Reedy Creek / Headwaters to mouth at Kingsland Creek	4A	Escherichia coli	2012	L	3.42

Reedy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.42**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-21-BAC** **Great Branch**

Cause Location: Great Branch from its headwaters to its mouth at Proctors Creek.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, Great Branch was impaired of the Recreation Use due to an E. coli exceedance rate of 2/10 at 2-GTB000.46 (Centralia Road). The exceedance rate at 2-GTB000.65 (Rt. 144) was acceptable (1/12); therefore, continued monitoring is recommended.

Great Branch is within the study area for the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. As this segment is within the watershed, it is considered nested (Category 4A) and will be addressed during implementation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_GTB01A12 / Great Branch / Headwaters to mouth at Proctors Creek	4A	Escherichia coli	2016	L	4.38

Great Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.38**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-21-DO** **Great Branch**

Cause Location: Great Branch from its headwaters to its mouth at Proctors Creek.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Great Branch was impaired of the Aquatic Life Use during the 2014 cycle based on a dissolved oxygen exceedance rate of 2/12 at 2-GTB000.65, which is located at Route 144.

The exceedance rate is currently acceptable (0/2); however, additional monitoring was conducted at 2-GTB000.46 (2/10) in the 2016 cycle. Monitoring at upstream Chesterfield Water Trends stations 2-GTB-25-CWT and 2-GTB-62-CWT is insufficient for assessment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_GTB01A12 / Great Branch / Headwaters to mouth at Proctors Creek	5C	Oxygen, Dissolved	2014	L	4.38

Great Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.38**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-22-CU** **XVP - Almond Creek, UT**

Cause Location: Unnamed tributary of Almond Creek.

City / County: Henrico Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Copper / 5A

During the 2012 cycle, the tributary was impaired of the Aquatic Life and Wildlife Uses due to exceedances of the acute water quality criteria for dissolved copper in 2008 and 2009 at station 2-XVP000.04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XVP01A08 / XVP - Almond Creek, UT / Headwaters to mouth at Almond Creek	5A	Copper	2012	L	0.36
	5A	Copper	2012	L	0.36

XVP - Almond Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Copper - Total Impaired Size by Water Type:			**0.72**

Sources:

Landfills Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G01R-22-ZN** **XVP - Almond Creek, UT**

Cause Location: Unnamed tributary of Almond Creek.

City / County: Henrico Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Zinc / 5A

During the 2012 cycle, the tributary was impaired of the Aquatic Life and Wildlife Uses due to exceedances of the acute water quality criteria for dissolved zinc in 2008 and 2009 at station 2-XVP000.04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01R_XVP01A08 / XVP - Almond Creek, UT / Headwaters to mouth at Almond Creek	5A	Zinc	2012	L	0.36
	5A	Zinc	2012	L	0.36

XVP - Almond Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Wildlife			
Zinc - Total Impaired Size by Water Type:			**0.72**

Sources:

Landfills Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02E-02-CHLA** **James River**

Cause Location: The mainstem of the James River within the Lower Tidal Freshwater Estuary.

City / County: Charles City Co. Chesterfield Co. Hopewell City Prince George Co. Surry Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 4A

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a exceedances. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

A special site-specific chlorophyll standard for the mainstem James River was adopted during the 2008 cycle. The lower tidal freshwater segment exceeds the summer seasonal mean in the 2018 cycle.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02E_JMS03A06 / James River / The James River from the upstream extent of JMSTFl to the downstream extent of PWS.	4A	Chlorophyll-a	2008	L	0.633
JMSTFl					
VAP-G03E_JMS01A00 / James River / The mainstem of the James River from the confluence with the Appomattox River downstream to Powell Creek.	4A	Chlorophyll-a	2008	L	10.194
JMSTFl					
VAP-G03E_JMS01B10 / James River / The mainstem of the James River from the confluence with Powell Creek downstream to Queen Creek.	4A	Chlorophyll-a	2008	L	3.485
JMSTFl					
VAP-G04E_JMS01A02 / James River / The James River from the confluence with Queens Creek downstream to Buoy 74 at Brandon Point	4A	Chlorophyll-a	2008	L	7.756
JMSTFl					
VAP-G04E_JMS03A04 / James River / Buoy 74 at Brandon Point (rivermile 55.94) to the tidal freshwater/oligohaline boundary at approximately river mile 52.08.	4A	Chlorophyll-a	2008	L	3.756
JMSTFl					

James River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:	**25.824**		

Sources:

Industrial Point Source Discharge

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02E-04-PCB** **James River**

Cause Location: Mainstem James River from the previous limit of PWS near Dutch Gap downstream to the JMSTFu/JMSTFl boundary at the Appomattox River.

City / County: Charles City Co. Chesterfield Co. Henrico Co.

Use(s): Fish Consumption Public Water Supply

Cause(s) / VA Category: PCB in Water Column / 5A

During the 2012 cycle, the segment was impaired of the Fish Consumption Use due to two exceedances of the Human Health Water Quality Criteria for PCBs in water samples collected at 2-JMS087.01. The station was sampled in 2009 and is located at buoy 137.

Note: the segment extent for the Public Water Supply Use was shortened in the 2018 cycle due to a change in the Virginia Water Quality Standards. It previously extended to 5 miles above the old American Tobacco water intake but now stops 5 miles above City Point in Hopewell. The PCB impairment for the Public Water Supply Use in the upper extent of this segment will be partially delisted; however, the segment remains impaired for the Fish Consumption Use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02E_JMS02A00 / James River / The James River from 5 miles above the old American Tobacco intake to 5 miles above City Point at Hopewell.	5A	PCB in Water Column	2012	H, 2yr	2.790
JMSTFu					
VAP-G02E_JMS02B18 / James River / The James River from 5 miles above City Point at Hopewell to the downstream extent of JMSTFu.	5A	PCB in Water Column	2012	H, 2yr	1.182
JMSTFu					

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:	**3.972**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-01-BAC** **Fourmile Creek**

Cause Location: Fourmile Creek watershed from its headwaters to the mouth at the James River.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Fourmile Creek from Deerlick Branch to Griggs Pond was initially considered threatened in 1998 and downgraded to impaired in 2002 due to fecal coliform exceedances. However, the creek was mistakenly included on Attachment A Part 1 " Waters listed on Part 1 of Virginia's October 14, 1998 303(d) Report". The impairment has since expanded.

The watershed was assessed as not supporting of the Recreation Use support goal in the 2008 cycle based on an E. coli standard exceedance rate of 5/22 at the Route 5 bridge (2-FOM003.60). The bacteria impairment converted to E. coli. The bacteria TMDL for the Fourmile Creek watershed was completed and approved by the EPA on 9/20/2004. The segment is assessed as Cat. 4A.

The exceedance rate was 8/12 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_FOM01A02 / Fourmile Creek / The Fourmile Creek watershed below rivermile 5.57.	4A	Escherichia coli	2006	L	37.00
VAP-G02R_FOM02A06 / Upper Fourmile Creek / Fourmile Creek and tribs upstream of rivermile 5.57	4A	Escherichia coli	2006	L	9.91

Fourmile Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**46.91**

Sources:

Non-Point Source	Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-03-DO** **Johnson Creek Watershed**

Cause Location: Johnson Creek and tributaries from its headwaters to the mouth at the James River

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Johnson Creek was initially assessed as not supporting the Aquatic Life Use goal during the 2004 cycle based on dissolved oxygen exceedances at Route 827 / Allied Road (2-JOD001.19). The exceedance rate was 3/23 in the 2008 cycle.

The segment was extended during 2006 based on monitoring by Chesterfield County.

Extensive monitoring was conducted by the DEQ in the 2016 cycle. Dissolved oxygen was only low at two stations.

0/12 at 2CXBR000.10
1/122 at 2CXBR000.68
0/12 at 2CXBR001.15
4/11 at 2CXBS000.62
1/10 at 2CXBS002.85
2/12 at 2-JOD001.19
0/15 at 2-JOD001.96
0/12 at 2-JOD002.69
0/12 at 2-JOD003.05
1/12 at 2-JOD004.15
0/12 at 2-JOD005.04

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_JOD01A04 / Johnson Creek / Johnson Creek and tribs from its headwaters to tidal limit	5C	Oxygen, Dissolved	2004	L	16.27

Johnson Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**16.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-03-PH** **Johnson Creek Watershed**

Cause Location: Johnson Creek and tributaries from its headwaters to the mouth at the James River

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Johnson Creek was initially assessed as not supporting the Aquatic Life Use goal during the 2004 cycle based on pH exceedances at Route 827 / Allied Road (2-JOD001.19). During the 2008 cycle, the exceedance rate was 11/23.

The segment was extended during 2006 based on monitoring by Chesterfield County.

The segment was extended during 2006 based on monitoring by Chesterfield County. Extensive monitoring was conducted by the DEQ in the 2016 cycle. pH exceedances were widespread.

3/12 at 2CXBR000.10
4/12 at 2CXBR000.68
4/12 at 2CXBR001.15
6/11 at 2CXBS000.62
7/10 at 2CXBS002.85
5/15 at 2-JOD001.19
4/15 at 2-JOD001.96
1/12 at 2-JOD002.69
4/12 at 2-JOD003.05
6/12 at 2-JOD004.15
2/12 at 2-JOD005.04

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_JOD01A04 / Johnson Creek / Johnson Creek and tribs from its headwaters to tidal limit	5C	pH	2004	L	16.27

Johnson Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**16.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-05-BAC** **Crewes Channel**

Cause Location: Crewes Channel from its headwaters to its tidal limit

City / County: Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Crewes Channel was assessed as not supporting the Recreation Use due to an E. coli violation rate of 2/16 at DEQ station 2-CCH000.54, which is located at the Route 5 bridge.

The bacterial TMDL for Crewes Channel was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015; the impairment will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_CCH01A00 / Crewes Channel / Crewes Channel from the headwaters to the tidal limit.	4A	Escherichia coli	2008	L	3.24

Crewes Channel **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.24**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-05-DO** **Crewes Channel**

Cause Location: Crewes Channel from its headwaters to its tidal limit

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Crewes Channel was assessed as not supporting the Aquatic Life Use goal based on dissolved oxygen exceedances at NPS station 2-CCH-RICH-06-NPS, which is located at Route 156.

In the 2016 cycle, the exceedance rate was 7/28 at 2-CCH-RICH-06-NPS; in addition, the exceedance rate was 4/12 at the co-located DEQ station 2-CCH001.54.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_CCH01A00 / Crewes Channel / Crewes Channel from the headwaters to the tidal limit.	5C	Oxygen, Dissolved	2012	L	3.24

Crewes Channel **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.24**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-07-BAC** **Western Run**

Cause Location: Western Run from its headwaters to its mouth at the confluence with Turkey Island Creek

City / County: Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Western Run was initially assessed as not supporting the Recreation use goals in the 2006 cycle based on bacteria sampling at the Route 156 bridge:

Fecal coliform exceedance rate of 2/3 at USGS station 0203874275
E. coli exceedance rate of 2/4 at DEQ station 2-WSN000.85

During the 2008 cycle, the bacteria impairment converted solely to E. coli based on an E. coli exceedance rate of 6/16 at 2-WSN000.85.

The bacterial TMDL for Western Run was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015. The impairment will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_WSN01A00 / Western Run / Western Run from its headwaters to the confluence with Turkey Island Creek.	4A	Escherichia coli	2006	L	1.84

Western Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.84**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-08-BAC** **Turkey Island Creek**

Cause Location: Turkey Island Creek from its headwaters to the tidal limit.

City / County: Charles City Co. Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Turkey Island Creek was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 2-TIC002.69, which is located at Carters Mill Road.

The bacterial TMDL for the Turkey Island Creek watershed was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015; the impairment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_TIC01A00 / Turkey Island Creek / Turkey Island Creek from Shirley Millpond to the tidal limit.	4A	Escherichia coli	2014	L	1.82
VAP-G02R_TIC01B16 / Turkey Island Creek / Turkey Island Creek from its headwaters to Shirley Millpond.	4A	Escherichia coli	2014	L	7.03

Turkey Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.85**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-09-DO** **Roundabout Creek**

Cause Location: Mainstem of Roundabout Creek from its headwaters downstream to the confluence with the tributary at approximately river mile 2.04

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, upper Roundabout Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/12 at 2-ROT003.15, which is located at Kingsland Road.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_ROT01A00 / Roundabout Creek / Roundabout Creek from its headwaters to the tributary at river mile 2.04	5C	Oxygen, Dissolved	2014	L	3.96

Roundabout Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-09-PH** **Roundabout Creek**

Cause Location: Mainstem of Roundabout Creek from its headwaters downstream to the confluence with the tributary at approximately river mile 2.04

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, upper Roundabout Creek was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 2-ROT003.15, which is located at Kingsland Road.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_ROT01A00 / Roundabout Creek / Roundabout Creek from its headwaters to the tributary at river mile 2.04	5C	pH	2014	L	3.96

Roundabout Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-10-PH** **XBE - Roundabout Creek, UT**

Cause Location: Headwaters to mouth at Roundabout Creek

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, the tributary was impaired of the Aquatic Life Use due to a pH exceedance rate of 4/10 at 2CXBE000.69, which is located at Wallo Road.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_XBE01A14 / XBE - Roundabout Creek, UT / Headwaters to mouth at Roundabout Creek	5C	pH	2014	L	1.43

XBE - Roundabout Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.43**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G02R-11-PH** **Turkey Island Creek**

Cause Location: Turkey Island Creek from its headwaters to Shirley Millpond.

City / County: Charles City Co. Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2016 cycle, the upper portion of Turkey Island Creek was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 5/12 at 2-TIC009.23 (Warriner Road).

Additional monitoring at downstream station 2-TIC002.69 (Carters Mill Road) was acceptable (0/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02R_TIC01B16 / Turkey Island Creek / Turkey Island Creek from its headwaters to Shirley Millpond.	5C	pH	2016	L	7.03

Turkey Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**7.03**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03E-01-BAC** **Bailey Creek (tidal), Cattail Creek (tidal)**

Cause Location: Segment begins at Bailey Creek fall line and extends downstream to its mouth at the confluence with the James River. The segment includes the tidal portion of Cattail Creek.

City / County: Hopewell City Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Tidal Bailey Creek was initially listed as impaired of the Recreation Use on the 1994 cycle 303(d) list because of excessive exceedances of the fecal coliform standards.

In the 2018 cycle, the segment continues to be assessed as not supporting of the Recreation Use goal based on an E. coli exceedance rate of 11/34 at 2-BLY00.65.

The TMDL was approved by the EPA on 7/10/2008 and by the SWCB on 4/28/2009. The segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03E_BLY01A98 / Bailey Creek/Cattail Creek / The tidal portions of Bailey Creek and Cattail Creek.	4A	Escherichia coli	1994	L	0.114

JMSTFl

Bailey Creek (tidal), Cattail Creek (tidal)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	**0.114**		

Sources:

Non-Point Source	Sanitary Sewer Overflows (Collection System Failures)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03E-01-PCB** **Bailey Creek (tidal), Cattail Creek (tidal)**

Cause Location: Segment begins at Bailey Creek fall line and extends downstream to its mouth at the confluence with the James River. The segment includes the tidal portion of Cattail Creek.

City / County: Hopewell City Prince George Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 5A

During the 2012 cycle, tidal Bailey Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected at 2-BLY000.65 as part of a 2009 source identification study for the VDH PCB advisory in the James River.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03E_BLY01A98 / Bailey Creek/Cattail Creek / The tidal portions of Bailey Creek and Cattail Creek.	5A	PCB in Water Column	2012	H, 2yr	0.114

JMSTFI

Bailey Creek (tidal), Cattail Creek (tidal)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:	**0.114**		

Sources:

Contaminated Sediments Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03E-03-PH** **James River**

Cause Location: The mainstem tidal James River from the confluence of the Appomattox River downstream to Powell Creek

City / County: Charles City Co. Hopewell City Prince George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The James River from the Appomattox River downstream to Powells Creek was impaired of the Aquatic Life Use in the 2014 cycle due to elevated pH exceedances at VIMS' continuous monitoring station JMS073.37.

pH exceedance rates are acceptable at other stations within the segment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03E_JMS01A00 / James River / The mainstem of the James River from the confluence with the Appomattox River downstream to Powell Creek.	5A	pH	2014	L	10.194

JMSTFl

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**10.194**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03E-04-BAC** **James River**

Cause Location: The mainstem tidal James River from the confluence of the Appomattox River downstream to Powells Creek.

City / County: Charles City Co. Hopewell City Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River from the Appomattox River downstream to Powells Creek was initially listed as fully supporting but threatened of the Recreation Use during the 1998 cycle and was downgraded to impaired in the 2002 cycle. In 2006, the segment was extended downstream to Queens Creek and E. coli was added as an impairing cause. The impairment converted solely to E. coli in 2008.

The TMDL was approved by the EPA on 7/10/2008 and by the SWCB on 4/28/2009. Because the downstream-most station (2-JMS069.08) had an acceptable rate, the segment was shortened to end at Powell Creek and the TMDL was done for this portion only.

During the 2016 cycle, the exceedance rates were 1/3 (geomean) at 2-JMS074.44 and 11/69 at 2-JMS075.04.

During the 2018 cycle, the exceedance rates were 2/40 (S) at 2-JMS074.44 and 8/66 at 2-JMS075.04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03E_JMS01A00 / James River / The mainstem of the James River from the confluence with the Appomattox River downstream to Powell Creek.	4A	Escherichia coli	2006	L	10.194

JMSTFl

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	**10.194**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03L-01-DO** **Harrison Lake**

Cause Location: Harrison Lake in its entirety.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

In 2006 the lake is also considered impaired Cat. 5A because the dissolved oxygen violation rate was unacceptable in the epilimnion/nonstratified periods. This was primarily due to DO violations during the September 2004 monitoring when the lake was not stratified.

In 2008 cycle no additional monitoring was collected, the lake nutrient criteria was developed, lake Harrison does not have a true lacustrine zone. The regional biologist recommended that this lake should be removed from the table of lakes to which the nutrient criteria standards apply during the next triennial review.

During the 2010 cycle the segment remained impaired aquatic life with a DO violation rate of 9/36 at station 2-WER000.02.

During the 2012 cycle the segment remained impaired for DO since there has been no new data since the 2010 cycle.

During the 2014 cycle the segment remained impaired for Aquatic life with a DO violation rate of 9/55 at station 2-WER000.02.

During the 2016 cycle the segment remained impaired for DO with a violation rate of 24/67 at station 2-WER000.02.

No new data since 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03L_WER04A06 / Harrison Lake / Harrison Lake located on West Run	5A	Oxygen, Dissolved	2006	L	60.16

Harrison Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**60.16**	

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03L-01-HG** **Harrison Lake**

Cause Location: Harrison Lake in its entirety.

City / County: Charles City Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2-HEC006.22 (C)- 2005 fish tissue had As in 3 species as an observed effect and Hg in 4 species.

VDH Fish Consumption Advisory for kepone

The VDH issued a Fish Consumption Advisory for Harrison Lake on 7/20/2006. No more than 2 meals per month of Redear Sunfish, Largemouth Bass, Chain Pickerel, and Bowfin are recommended due to mercury in fish tissue.

No new data for the 2014, 2016, and 2018 cycle

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03L_WER04A06 / Harrison Lake / Harrison Lake located on West Run	5A	Mercury in Fish Tissue	2008	L	60.16

Harrison Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**60.16**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03L-01-PH** **Harrison Lake**

Cause Location: Harrison Lake in its entirety.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

In 2006 Harrison Lake was assessed as not supporting of the Aquatic Life Use based on a pH violation rate of 12/25 at 2-WER000.02.

In 2008 cycle no additional monitoring was collected, the lake nutrient criteria was developed, lake Harrison does not have a true lacustrine zone. The regional biologist recommended that this lake should be removed from the table of lakes to which the nutrient criteria standards apply during the next triennial review.

During the 2010 cycle the segment remained impaired for pH with a violation rate of 33/60 at station 2-WER000.02.

no new data during the 2010 cycle.

During the 2014 cycle the segment remained impaired aquatic life with a pH violation rate of 30/68 at station 2-WER000.02.

During the 2016 cycle the segment remained impaired for pH with a violation rate of 18/67 at station 2-WER000.02.

No new data since 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03L_WER04A06 / Harrison Lake / Harrison Lake located on West Run	5A	pH	2006	L	60.16

Harrison Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**60.16**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-02-ALD** **Bailey Creek**

Cause Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the tidal limit.

City / County: Hopewell City Prince George Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Aldrin / 5A

The non-tidal portion of Bailey Creek was assessed in the 2002 cycle as impaired of the Fish Consumption Use goal because of exceedances of the human health screening levels for aldrin in fish tissue at station 2-BLY005.72 in 1997.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_BLY01A98 / Bailey Creek / Bailey Creek from its headwaters to Manchester Run.	5A	Aldrin	2002	L	5.12
VAP-G03R_BLY02A08 / Bailey Creek / Bailey Creek from Manchester Run to the tidal limit.	5A	Aldrin	2002	L	1.35

Bailey Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aldrin - Total Impaired Size by Water Type:			**6.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-02-BAC** **Bailey Creek**

Cause Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the tidal limit.

City / County: Hopewell City Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Bailey Creek was initially included on the 303(d) list in 1994 based on water quality monitoring performed at the Route 10 bridge (2-BLY000.65) and historical water quality problems in Bailey Bay. The causes of impairment were excessive DO and fecal coliform standard exceedances recorded at 2-BLY000.65.

A special study was performed in 1997 and 1998 to delineate the area of impact. Riverine Bailey Creek continued to show fecal coliform impairment.

During the 2008 cycle, the bacteria impairment converted to E. coli due to exceedances at 2-BLY003.42 and 2-BLY005.73. The TMDL was adopted by the EPA on 7/10/2008 and by the SWCB on 4/28/2009. The segment is considered Category 4A.

The violation rates during the 2014 cycle were 5/12 (2012 cycle) and 2/12, respectively. No additional monitoring has been conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_BLY01A98 / Bailey Creek / Bailey Creek from its headwaters to Manchester Run.	4A	Escherichia coli	2008	L	5.12
VAP-G03R_BLY02A08 / Bailey Creek / Bailey Creek from Manchester Run to the tidal limit.	4A	Escherichia coli	2008	L	1.35

Bailey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.47**

Sources:

- Industrial Point Source Discharge
- Municipal (Urbanized High Density Area)
- Municipal Point Source Discharges
- Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-02-BEN** **Bailey Creek**

Cause Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the tidal limit.

City / County: Hopewell City Prince George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2014 cycle, Bailey Creek was impaired of the Aquatic Life Use due to an altered benthic community at 2-BLY005.73, which is located at Route 630.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_BLY01A98 / Bailey Creek / Bailey Creek from its headwaters to Manchester Run.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	5.12
VAP-G03R_BLY02A08 / Bailey Creek / Bailey Creek from Manchester Run to the tidal limit.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.35

Bailey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-02-PCB** **Bailey Creek**

Cause Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the tidal limit.

City / County: Hopewell City Prince George Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The non-tidal portion of Bailey Creek was assessed in the 2002 cycle as impaired of the Fish Consumption Use because of exceedances of the human health screening levels for PCBs in fish samples at station 2-BLY005.72 in 1997.

In addition, the VDH has issued a Fish Consumption Advisory for PCBs in Bailey Creek upstream to the Route 630 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_BLY01A98 / Bailey Creek / Bailey Creek from its headwaters to Manchester Run.	5A	PCB in Fish Tissue	2002	H, 2yr	5.12
VAP-G03R_BLY02A08 / Bailey Creek / Bailey Creek from Manchester Run to the tidal limit.	5A	PCB in Fish Tissue	2002	H, 2yr	1.35

Bailey Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**6.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-03-PCB** **Poythress Run**

Cause Location: Poythress Run from its headwaters to its tidal limit

City / County: Charles City Co. Hopewell City Prince George Co.

Use(s): Aquatic Life Fish Consumption Wildlife

Cause(s) / VA Category: PCB in Water Column / 5A

During the 2012 cycle, Poythress Run was impaired of the Fish Consumption Use due to two water column PCB exceedances of the Human Health - Other Surface Waters WQS and the Aquatic Life/Wildlife WQS. The samples were collected at 2-PTH000.42 as part of a 2009 source identification study for the PCB advisory in the James River. The station is located at Poythress Run at Station Street.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_PTH01A10 / Poythress Run / Headwaters to tidal limit	5A	PCB in Water Column	2012	H, 2yr	0.70
	5A	PCB in Water Column	2012	H, 2yr	0.70

Poythress Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
PCB in Water Column - Total Impaired Size by Water Type:			**1.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-04-BAC** **West Run**

Cause Location: West Run from the confluence with East Run downstream to the backwater of Harrison Lake.

City / County: Charles City Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, West Run was assessed as not supporting the Recreation Use based on an E. coli exceedance rate of 2/12 at the Route 625 bridge (2-WER001.93.)

The West Run impairment was addressed in the Turkey Island Creek Bacterial TMDL, which was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015; therefore, the impairment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_WER03A00 / West Run / West Run from the confluence with East Run downstream to the upstream limits of Harrison Lake.	4A	Escherichia coli	2010	L	1.86

West Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.86**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-04-PH** **West Run**

Cause Location: West Run from the confluence with East Run downstream to the backwater of Harrison Lake.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

West Run was initially assessed as not supporting the Aquatic Life Use in 2004 based on pH exceedances at the Route 625 bridge (2-WER001.93).

During the 2016 cycle, the segment remained impaired (7/15).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_WER03A00 / West Run / West Run from the confluence with East Run downstream to the upstream limits of Harrison Lake.	5C	pH	2004	L	1.86

West Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.86**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-05-PCB** **XYO - Cattail Creek, UT**

Cause Location: The tributary in its entirety.

City / County: Hopewell City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Water Column / 5A

During the 2012 cycle, the tributary was impaired of the Fish Consumption Use due to two water column PCB exceedances of the Human Health - Other Surface Waters WQS. The samples were collected at 2-XYO000.03 as part of a 2009 source identification study for the PCB advisory in the James River. The station is located off South 1st Street.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_XYO01A06 / UT to Cattail Creek / Headwaters to mouth at Cattail Creek	5A	PCB in Water Column	2012	H, 2yr	0.34

XYO - Cattail Creek, UT **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**0.34**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-06-BEN** **XUD - West Run, UT**

Cause Location: The unnamed tributary XUD in its entirety.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, the unnamed tributary to West Run was assessed as not supporting the Aquatic Life Use based on an impaired benthic community at 2-XUD000.15, a freshwater probabilistic monitoring station.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_XUD01A06 / UT to West Run / Headwaters to mouth at West Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.57

XUD - West Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.57**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-06-DO** **Upper West Run / East Run Watershed**

Cause Location: West Run above the confluence with East Run, East Run, and all tributaries.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Monitoring was conducted in the West Run watershed during the 2016 cycle. The upper portion of the watershed is impaired of the Aquatic Life Use due to widespread dissolved oxygen violations. Exceedance rates were as follows:

0/12 (FS) at 2-ETR000.50
4/12 at 2-ETR003.00
3/12 at 2-SLM001.23
3/12 at 2-WER006.35
2/12 at 2-WER002.89
7/12 at 2-WER004.42
4/12 at 2-WER005.35
5/12 at 2-XUD000.35
0/3 (FS) at 2CSLM002.56

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_WER01A00 / Upper West Run Watershed / West Run from its headwaters to the confluence with East Run and all tributaries within the segment, excluding XUD.	5C	Oxygen, Dissolved	2016	L	43.70
Merged and expanded in the 2016 cycle.					
VAP-G03R_XUD01A06 / UT to West Run / Headwaters to mouth at West Run.	5C	Oxygen, Dissolved	2016	L	1.57

Upper West Run / East Run Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**45.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-06-PH** **Upper West Run / East Run Watershed**

Cause Location: West Run above the confluence with East Run, East Run, and all tributaries.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Stream XUD, an unnamed tributary to West Run, was assessed in 2006 as not supporting the Aquatic Life Use based on a pH exceedance rate of 2/2 at 2-XUD000.15, a freshwater probabilistic monitoring station.

Additional monitoring was conducted in the West Run watershed during the 2016 cycle. Due to widespread pH violations, the impairment was extended to the upper portion of the watershed. Exceedance rates in the 2018 cycle were as follows:

5/12 at 2-ETR000.50
5/12 at 2-ETR003.00
6/12 at 2-SLM001.23
0/3 (FS) at 2CSLM002.56
1/12 (FS) at 2-WER006.35
8/12 at 2-WER002.89
7/12 at 2-WER004.42
7/12 at 2-WER005.35
12/12 at 2-XUD000.35

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_WER01A00 / Upper West Run Watershed / West Run from its headwaters to the confluence with East Run and all tributaries within the segment, excluding XUD.	5C	pH	2016	L	43.70
Merged and expanded in the 2016 cycle.					
VAP-G03R_XUD01A06 / UT to West Run / Headwaters to mouth at West Run.	5C	pH	2006	L	1.57

Upper West Run / East Run Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**45.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-07-BAC** **Walls Run**

Cause Location: Walls Run from its headwaters to its mouth at Powells Creek.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Walls Run was initially assessed as not supporting the Recreation Use in 2006 based on E. coli exceedances at 2-WLR000.42, which is located at the Route 10 bridge. During the 2012 cycle, the segment remained impaired due to the following violation rates:

6/25 at 2-WLR000.42
2/12 at 2-WLR002.19 (Route 635)
6/12 at 2-WLR004.46 (Route 646)

However, Walls Run drains to Powell Creek, which was addressed in the James River - Hopewell to Westover Bacterial TMDL. The TMDL was approved by the EPA on 7/10/2008 and by the SWCB on 4/28/2009. Because Powell Creek requires an 86.1% reduction in bacterial loads, Walls Run is considered to be nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_WLR01A06 / Walls Run / Headwaters to mouth at Powell Creek	4A	Escherichia coli	2006	L	5.85

Walls Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.85**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-08-BAC** **Cattail Creek**

Cause Location: The nontidal portion of Cattail Creek.

City / County: Hopewell City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, nontidal Cattail Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 5/12 at the Route 36 bridge (2-CTC001.42). No additional data has been collected.

The James River - Hopewell to Westover bacterial TMDL was developed and addressed the Bailey Bay/tidal Bailey Creek/tidal Cattail Creek E. coli impairment. The watershed requires a 91.1% percent reduction of E. coli; therefore, the nontidal Cattail Creek impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_CTC01A00 / Cattail Creek / Cattail Creek from its headwaters to the fall line.	4A	Escherichia coli	2008	L	1.67

Cattail Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.67**

Sources:

Non-Point Source	Sanitary Sewer Overflows (Collection System Failures)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-09-BAC** **Southerly Run**

Cause Location: The mainstem of Southerly Run from its headwaters to its mouth at Bailey Creek.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Southerly Run was assessed as not supporting of the Recreation Use based on an E. coli violation rate of 3/12 at TMDL station 2-SOU000.77, which is located at the Route 646 bridge.

No additional data has been collected. However, Southerly Run drains to Bailey Creek, which was addressed in the James River - Hopewell to Westover Bacterial TMDL. The TMDL was approved by the EPA on 7/10/2008 and by the SWCB on 4/28/2009. Therefore, Southerly Run is considered to be nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_SOU01A08 / Southerly Run / Headwaters to mouth at Bailey Creek	4A	Escherichia coli	2008	L	2.84

Southerly Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.84**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-10-BAC** **Powell Creek, UT**

Cause Location: Headwaters to mouth at Powell Creek.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, the tributary was assessed as not supporting of the Recreation Use based on an E. coli exceedance rate of 3/12 at TMDL station 2-XXO000.38, which is located at the Route 666 bridge.

The tributary drains to Powell Creek, which was addressed in the James River - Hopewell to Westover Bacterial TMDL. The TMDL was approved by the EPA on 7/10/2008 and by the SWCB on 4/28/2009. Because Powell Creek requires an 86.1% reduction in bacterial loads, the tributary is considered to be nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_XXO01A08 / Powell Creek, UT / Headwaters to mouth at Powell Creek	4A	Escherichia coli	2008	L	1.72

Powell Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.72**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G03R-11-BAC** **Courthouse Creek**

Cause Location: Courthouse Creek from its headwaters to the confluence with Glebe Creek.

City / County: Charles City Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Courthouse Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 2-CRT001.00, which is located at the Route 155 bridge.

Courthouse Creek is located within the study area for the Turkey Island Creek and James River Westover Bacterial TMDL, which was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015. The impairment will be addressed during implementation; therefore, the impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G03R_CRT01B00 / Courthouse Creek / Courthouse Creek from its headwaters to the confluence with Glebe Creek.	4A	Escherichia coli	2014	L	4.39

Courthouse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.39**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G04E-02-EBEN** **James River**

Cause Location: The mainstem of the James River within the Oligohaline Estuary.

City / County: Charles City Co. James City Co. Surry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The oligohaline portion of the James River is impaired for benthics as determined by the Chesapeake Bay B-IBI study.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G04E_JMS02A02 / James River / The James River from the tidal freshwater/oligohaline boundary at approx. river mile 51.94 to the limit of the PRO watershed (approx. rm 42.7).	5A	Estuarine Bioassessments	2004	L	20.409

JMSOH

James River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**20.409**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G04L-01-BAC** **Sunken Meadow Pond**

Cause Location: Sunken Meadow Pond in its entirety.

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Sunken Meadow Pond was impaired of the Recreation Use during the 2016 cycle due to an E. coli exceedance rate of 2/12 at 2-SKC001.17, which is located at Rt. 626.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G04L_SKC01A08 / Sunken Meadow Pond / The pond in its entirety.	5A	Escherichia coli	2016	L	172.85

Sunken Meadow Pond **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**172.85**	

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G04L-01-DO** **Sunken Meadow Pond**

Cause Location: Sunken Meadow Pond in its entirety.

City / County: Surry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Sunken Meadow Pond was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 2-SKC001.17, which is located at Rt. 626. The exceedance rate was 3/12 during the 2016 cycle.

Although the segment is a non-significant/non 187 lake, the TSI was not used because guidance states that only nutrient data collected in the lacustrine zone of the lake should be used. The station is located near the backwater of the pond. In previous cycles, the TSIs would have been 50 for chlorophyll a, 61 for total phosphorus, and secchi depth information was not collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G04L_SKC01A08 / Sunken Meadow Pond / The pond in its entirety.	5C	Oxygen, Dissolved	2010	L	172.85

Sunken Meadow Pond	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**172.85**	

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G04R-01-BAC** **Wards Creek**

Cause Location: Wards Creek from the headwaters to its tidal limit.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Wards Creek was assessed as not supporting of the Recreation Use support goal based on an E. coli exceedances at monitoring station 2-WRD005.40, which is located at the Route 10 bridge.

The impairment was addressed in the Turkey Island Creek and James River Westover Bacterial TMDL, which was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015.

However, the exceedance rate was acceptable during the 2016 cycle (3/35) and the stream was delisted (Category 2C.)

It was relisted in the 2018 cycle (Category 4A) due to an exceedance rate of 4/34.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G04R_WRD01A00 / Wards Creek / Wards Creek from its headwaters to the tidal limit.	4A	Escherichia coli	2018	L	8.10

Wards Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.10**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G04R-03-MIREX** **Bailey Branch**

Cause Location: Bailey Branch from the headwaters to its tidal limit.

City / County: Surry Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Mirex / 5A

During the 2010 cycle, Bailey Branch was assessed as not supporting of the Aquatic Life and Wildlife Uses due to two exceedances of the water quality standard for Mirex in SPMDs at freshwater probabilistic monitoring station 2-BLB002.04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G04R_BLB01A06 / Bailey Branch / Headwaters to tidal limit	5A	Mirex	2010	L	5.69
	5A	Mirex	2010	L	5.69

Bailey Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Wildlife			
Mirex - Total Impaired Size by Water Type:			**11.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G04R-04-BAC** **XBB - Upper Chippokes Creek, UT**

Cause Location: An unnamed tributary of Upper Chippokes Creek from the headwaters to its tidal limit.

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, the tributary was assessed as not supporting of the Recreation Use based on an E. coli exceedance rate of 2/12 at monitoring station 2CXBB000.62, which is located at the Route 10 bridge.

The tributary is located in the Upper Chippokes Creek watershed, which was addressed in the Turkey Island Creek and James River Westover Bacterial TMDL. The TMDL was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015. The impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G04R_XBB01A14 / XBB - Upper Chippokes Creek, UT / Headwaters to mouth	4A	Escherichia coli	2014	L	7.09

XBB - Upper Chippokes Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.09**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G04R-05-BAC** **Flowerdew Hundred Creek**

Cause Location: The nontidal portion of Flowerdew Hundred Creek.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the nontidal portion of Flowerdew Hundred Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/7 at 2-FDH004.54, which is located at Route 614 (Wards Creek Road.)

Flowerdew Hundred Creek is located within the study area for the Turkey Island Creek and James River Westover Bacterial TMDL, which was approved by the SWCB on 10/1/2015 and by the EPA on 12/22/2015. The impairment will be addressed during implementation; therefore, the impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G04R_FDH01A16 / Flowerdew Hundred Creek / Headwaters to tidal limit.	4A	Escherichia coli	2016	L	3.68

Flowerdew Hundred Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.68**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-01-BEN** **Chickahominy River, UT - Unnamed Tributary**

Cause Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A pH / 4A

Biological monitoring of the receiving stream identified a moderately impaired benthic community downstream of the Tyson Plant (VPDES Permit No. VA0004031) discharge when compared to the benthic community immediately upstream of the discharge. This resulted in this segment being assessed as impaired of the Clean Water Act's Aquatic Life Use Support Goal for the 1994 305(b) report.

The TMDL study for the watershed was completed during the 2006 cycle. Extensive biological and nutrient monitoring was conducted. The benthic impairment continued and a pH impairment was noted at stations 2-XDD000.32 and 2-XDD000.40. The past phosphorus screening value was exceeded at multiple stations. The past chlorophyll A screening value was exceeded at 2-XDD000.40 and 2-XDD000.32 as well.

The TMDL was approved by the EPA on 8/05/2004 and by the SWCB on 3/15/05. The study attributed the benthic impairment to excess phosphorus and high pH. The allocation was 432.69 lbs/year of phosphorus, divided between Tysons Foods (409.35 lbs/yr) and nonpoint sources (23.34 lbs/year).

The segment remained impaired for benthics as well as pH during the 2016 cycle due to exceedances at 2-XDD000.40 and at 2-XDD000.32. Additional pH sampling in the 2018 cycle at 2-XDD000.40 continued the pH impairment (26/57).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_XDD01A98 / XDD - Chickahominy River, UT / An unnamed tributary of the Chickahominy River from the Tysons Plant discharge to the confluence with the Chickahominy.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.17

Chickahominy River, UT - Unnamed Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.17**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_XDD01A98 / XDD - Chickahominy River, UT / An unnamed tributary of the Chickahominy River from the Tysons Plant discharge to the confluence with the Chickahominy.	4A	pH	2006	L	1.17

Chickahominy River, UT - Unnamed Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.17**

Sources:

Industrial Point Source Discharge

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-01-NH3** **Chickahominy River, UT - Unnamed Tributary**

Cause Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Ammonia (Un-ionized) / 5A

Multiple exceedances of the chronic ammonia criteria had been noted in grab samples throughout the stream; therefore, a special study was conducted in July 2005 to investigate the ammonia levels in the stream. Based on the results of the study, the segment was impaired for ammonia because of 6 acute ammonia exceedances each at 2-XDD000.84 and at 2-XDD000.91. A fish kill was noted in the pond.

Although there were no acute ammonia exceedances in the 2014 cycle, there were multiple chronic exceedances at 2-XDD000.32, 2-XDD000.40, 2-XDD000.84, and 2-XDD000.91. The impairment will be carried over, but continued monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_XDD01A98 / XDD - Chickahominy River, UT / An unnamed tributary of the Chickahominy River from the Tysons Plant discharge to the confluence with the Chickahominy.	5A	Ammonia (Un-ionized)	2008	L	1.17
	5A	Ammonia (Un-ionized)	2008	L	1.17

Chickahominy River, UT - Unnamed Tributary **Wildlife**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Ammonia (Un-ionized) - Total Impaired Size by Water Type:			**2.34**

Sources:

Industrial Point Source Discharge

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-02-BAC** **Upham Brook Watershed**

Cause Location: Segment begins at the headwaters of Upham Brook and extends downstream to the confluence with the Chickahominy River, including all tributaries.

City / County: Henrico Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Upham Brook has been impaired of the Recreation Use since the 1996 cycle based on violations at DEQ's Ambient Monitoring Station 2-UPM003.53, located at the Brook Road (Rt. 1) bridge over Upham Brook, as well as excessive fecal coliform violation rates at the Richmond Regional PDC special study stations.

The segment was extended in the year 2002 cycle to include the entire watershed. During the 2006 cycle, the bacteria impairment was converted to E. coli based on widespread exceedances in the watershed.

The watershed remained impaired during the 2016 cycle (4/12 at 2-UPM001.35 and 3/9 at ACB station 2CUPM-UB1-ALL).

In addition, the violation rate was 3/4 at 2CPRI-PC-ACB in the 2018 cycle

The Upham Brook and Tributaries bacterial TMDL was completed in the 2010 cycle. The report was approved by the EPA on 7/24/2008 and by the SWCB on 4/28/2009. The watershed is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_JOP01A14 / Jordans Branch / Headwaters to mouth at Upham Brook	4A	Escherichia coli	2006	L	2.19
VAP-G05R_NTR01A00 / North Run / North Run from Hungary Creek to its mouth at Upham Brook.	4A	Escherichia coli	2006	L	4.24
VAP-G05R_NTR02A06 / North Run / North Run from its headwaters to Hungary Creek.	4A	Escherichia coli	2006	L	3.66
VAP-G05R_UPM01A02 / Upham Brook / Upham Brook from its headwaters to the mouth at the Chickahominy River, excluding Upham Brook from Flippen Creek to the UT above Wilkinson Rd.	4A	Escherichia coli	2006	L	10.99
VAP-G05R_UPM01B08 / Upham Brook / Flippen Creek downstream to UT above Wilkinson Road	4A	Escherichia coli	2006	L	1.16
VAP-G05R_XAR03A06 / Upham Brook, UT / Headwaters to mouth at Upham Brook.	4A	Escherichia coli	2006	L	1.20
VAP-G05R_XCJ01A16 / XCJ - North Run, UT / Ditch from headwaters to North Run	4A	Escherichia coli	2006	L	0.42
VAP-G05R_XXP01A08 / Upham Brook, UT (XXP) / Headwaters to mouth at Upham Brook	4A	Escherichia coli	2006	L	1.46
VAP-G05R_ZZZ01B02 / Upham Brook Tributaries / Upham Brook Watershed	4A	Escherichia coli	2006	L	39.98

Upham Brook Watershed **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**65.30**

Fact Sheets for
Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

Non-Point Source	Sanitary Sewer Overflows (Collection System Failures)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-03-BAC** **Chickahominy River**

Cause Location: The Chickahominy River from the confluence with UT XDD to the Route 360 bridge.

City / County: Hanover Co. Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the segment of the Chickahominy from the unnamed tributary at approximately rivermile 76 downstream to the Route 360 bridge was assessed as not supporting of the Recreation Use due to the following E. coli exceedance rates:

2/12 at 2CCHK071.66
3/12 at 2-CHK067.30

The impairment was extended upstream to the confluence with XDD during the 2014 cycle due to an exceedance rate of 7/37 at 2-CHK076.59, which is located at Route 625. The segment is located within the study area for the Chickahominy River and Tributaries TMDL report, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013. The bacterial impairment is considered nested.

The exceedance rates were as follows in the 2018 cycle:
9/34 at 2-CHK076.59
3/12 at 2-CHK071.75

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_CHK01B10 / Chickahominy River / The Chickahominy River from the confluence with the unnamed tributary XDD to the unnamed tributary at approximately rivermile 76	4A	Escherichia coli	2014	L	2.30
VAP-G05R_CHK01C12 / Chickahominy River / The Chickahominy River from the confluence with the unnamed tributary at rivermile 76 to the confluence with Stony Run.	4A	Escherichia coli	2012	L	5.98
VAP-G05R_CHK02A04 / Chickahominy River / Confluence with Stony Run to Route 360 bridge	4A	Escherichia coli	2012	L	8.27

Chickahominy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.55**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial Point Source Discharge
- Municipal Point Source Discharges
- Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-04-BEN** **Chickahominy River**

Cause Location: The Chickahominy River from its headwaters to the confluence with unnamed tributary XDD.

City / County: Hanover Co. Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

During the 2010 cycle, the segment was assessed as not supporting of the Aquatic Life Use due to an impaired benthic community at station 2-CHK079.23, which is located at the Route 33 bridge.

Additional sampling in 2010, 2012, and 2013 confirmed the impairment at 2-CHK079.23 as well as at station 2-CHK081.80.

The Benthic TMDL was approved by the EPA on 11/7/2013 and by the EPA on 3/28/2014. The segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_CHK01A00 / Chickahominy River / The Chickahominy River from its headwaters to the confluence with the unnamed tributary XDD.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	7.08

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.08**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Industrial Point Source Discharge	Non-Point Source	Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-05-BAC** **Stony Run**

Cause Location: Stony Run from the confluence with Lickinghole Creek downstream to its mouth at the Chickahominy River.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The segment of Stony Run was initially assessed as impaired of the Recreation Use in 2004 because of fecal coliform exceedances at the Route 656 bridge (2-SNF000.04). E. coli monitoring was conducted during the 2010 cycle; the impairment converted to E. coli. The exceedance rate was 5/23 during the 2012 cycle.

The impairment was addressed in the Chickahominy River and Tributaries TMDL report, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013. The impairment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_SNF01A02 / Stony Run / Stony Run from the confluence with Lickinghole Creek downstream to its mouth at the Chickahominy River.	4A	Escherichia coli	2010	L	0.21

Stony Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.21**

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-06-DO** **Grassy Swamp Creek**

Cause Location: Grassy Swamp Creek from the pond at rivermile 0.99 to its mouth.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Grassy Swamp Creek was assessed as impaired of the Aquatic Life Use in the 2008 cycle due to dissolved oxygen exceedances at 2-GRC000.96, which is located at the Route 660 bridge. The exceedance rate was 19/61 in the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_GRC01A04 / Grassy Swamp Creek / Pond downstream to mouth at Chickahominy River	5C	Oxygen, Dissolved	2008	L	1.02

Grassy Swamp Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.02**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-07-DO** **XDD - Chickahominy River, UT**

Cause Location: The unnamed tributary XDD from its headwaters to the Tysons Foods discharge.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The segment was initially assessed as not supporting of the Aquatic Life Use in the 2006 cycle due to dissolved oxygen exceedances at 2-XDD001.23. The impairment is suspected to be caused by low flow conditions potentially exacerbated by the excess phosphorus in the watershed. During the 2014 cycle, the segment had a DO violation rate of 14/38 at 2-XDD001.23.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_XDD02A06 / XDD - Chickahominy River, UT / Headwaters to Tysons Foods discharge	5C	Oxygen, Dissolved	2006	L	0.56

XDD - Chickahominy River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.56**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-07-PH** **XDD - Chickahominy River, UT**

Cause Location: The unnamed tributary XDD from its headwaters to the Tysons Foods discharge.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The segment was initially considered impaired during the 2006 cycle due to pH exceedances at 2-XDD001.23. It was categorized as Category 4A because of the benthic/pH TMDL for the lower portion of the tributary. Since the pH at this station is low, not elevated as at the downstream stations, this impairment should not be considered addressed. Because it was initially impaired in 2006, a TMDL due date of 2018 was assigned.

The violation rate was 29/38 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_XDD02A06 / XDD - Chickahominy River, UT / Headwaters to Tysons Foods discharge	5C	pH	2006	L	0.56

XDD - Chickahominy River, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.56**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-09-BEN** **North Run**

Cause Location: North Run from its headwaters to its mouth.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

North Run from its headwaters to the confluence with Hungary Creek was assessed as not supporting the Aquatic Life Use during the 2008 cycle based on an impaired benthic community at freshwater probabilistic monitoring station 2-NTR005.53, located above Mountain Road.

Additional monitoring occurred at another freshwater probabilistic monitoring station (2-NTR000.23) in 2011. That station also shows benthic impairment; therefore, the impairment was extended to the mouth of North Run.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_NTR01A00 / North Run / North Run from Hungary Creek to its mouth at Upham Brook.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	4.24
VAP-G05R_NTR02A06 / North Run / North Run from its headwaters to Hungary Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	3.66

North Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-09-PH** **North Run**

Cause Location: North Run from its headwaters to the confluence with Hungary Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

North Run from its headwaters to the confluence with Hungary Creek was assessed as not supporting the Aquatic Life Use during the 2006 cycle based on a pH exceedance rate of 3/6 at station 2-NTR005.53, located above Mountain Road.

No additional data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_NTR02A06 / North Run / North Run from its headwaters to Hungary Creek.	5A	pH	2006	L	3.66

North Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.66**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-10-DO** **Upham Brook**

Cause Location: Upham Brook from Flippen Creek downstream to the confluence with the UT entering above Wilkinson Road

City / County: Henrico Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The segment was assessed as not supporting the Aquatic Life Use in the 2008 cycle based on a dissolved oxygen exceedance rate of 2/12 at Route 301 (2-UPM002.41).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_UPM01B08 / Upham Brook / Flippen Creek downstream to UT above Wilkinson Road	5A	Oxygen, Dissolved	2008	L	1.16

Upham Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.16**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-11-DO** **Upham Brook, UT (XXP)**

Cause Location: The unnamed tributary XXP from its headwaters to its mouth at Upham Brook.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, the tributary was assessed as not supporting of the Aquatic Life Use based on a dissolved oxygen violation rate of 3/12 at TMDL station 2-XXP000.23, which is located at Wilkinson Road.

The exceedance rate was 5/12 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_XXP01A08 / Upham Brook, UT (XXP) / Headwaters to mouth at Upham Brook	5C	Oxygen, Dissolved	2008	L	1.46

Upham Brook, UT (XXP)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.46**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-12-BAC** **Upper Stony Run and Tributaries**

Cause Location: Stony Run and its tributaries upstream of the confluence with Lickinghole Creek

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The watershed was monitored during the 2012 cycle due to a downstream bacterial impairment on Stony Run. The watershed shows extensive exceedances throughout and is impaired for the Recreation Use.

3/12 at 2CXAG000.50
2/12 at 2-LKH000.04
1/12 at 2-LKH001.00 (fully supporting)
2/12 at 2-LKH001.46
4/12 at 2-LKH002.42
2/12 at 2-LKH003.42
3/12 at 2-SNF000.23
1/12 at 2-SNF000.87 (fully supporting)
3/12 at 2-SNF001.27
5/11 at 2-SNF001.58
3/12 at 2-SNF003.70
6/10 at 2-SNF005.59
1/10 at 2-SNF006.44 (fully supporting)
2/12 at 2-XOI000.65

The streams are located within the study area for the Chickahominy River and Tributaries Bacterial TMDL report, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013. The E. coli impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_SNF02A12 / Stony Run and Tributaries / Upper portion of watershed above confluence of Stony Run and Lickinghole Creek	4A	Escherichia coli	2012	L	39.87

Upper Stony Run and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**39.87**

Sources:

Industrial Point Source Discharge

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-13-BEN** **Allens Branch**

Cause Location: Allens Branch from its headwaters to its mouth.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

During the 2016 cycle, Allens Branch was impaired of the Aquatic Life Use due to benthic alteration at 2-ALL000.19, which was a 2013 probabilistic monitoring station.

The stream is within the study area for the Chickahominy River Benthic TMDL which was approved by the EPA on 11/7/2013 and by the SWCB on 3/28/2014. The segment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_ALL01A14 / Allens Branch / Headwaters to mouth at the Chickahominy River	4A	Benthic-Macroinvertebrate Bioassessments	2016	L	3.32

Allens Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.32**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial Point Source Discharge
- Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-14-BEN** **Jordans Branch**

Cause Location: The mainstem of Jordans Branch.

City / County: Henrico Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2016 cycle, Jordans Branch was impaired of the Aquatic Life Use due to an altered benthic community at freshwater probabilistic monitoring station 2CJOP000.34.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_JOP01A14 / Jordans Branch / Headwaters to mouth at Upham Brook	5A	Benthic-Macroinvertebrate Bioassessments	2016	M	2.19

Jordans Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.19**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-15-PH** **XCJ - North Run, UT**

Cause Location: Ditch from Lewis Ginter Botanical Garden to North Run.

City / County: Henrico Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2016 cycle, the ditch was impaired of the Aquatic Life Use due to pH exceedances at citizen monitoring station 2CXCJ-LSE-LSBG, which is located at the Lewis Ginter Botanical Garden driveway.

Monitoring at 2CXCJ-LSM-LSBG was acceptable.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_XCJ01A16 / XCJ - North Run, UT / Ditch from headwaters to North Run	5A	pH	2016	L	0.42

XCJ - North Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G05R-16-BEN** **Upham Brook**

Cause Location: The mainstem of Upham Brook.

City / County: Henrico Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2016 cycle, Upham Brook was impaired of the Aquatic Life Use due to an altered benthic community at station 2-UPM003.12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G05R_UPM01A02 / Upham Brook / Upham Brook from its headwaters to the mouth at the Chickahominy River, excluding Upham Brook from Flippen Creek to the UT above Wilkinson Rd.	5A	Benthic-Macroinvertebrate Bioassessments	2016	M	10.99
VAP-G05R_UPM01B08 / Upham Brook / Flippen Creek downstream to UT above Wilkinson Road	5A	Benthic-Macroinvertebrate Bioassessments	2016	M	1.16

Upham Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06L-04-TEMP** **Westhaven Lake**

Cause Location: The extent of Westhaven Lake

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

During the 2014 cycle, Westhaven Lake was impaired of the Aquatic Life Use due to a temperature exceedance rate of 3/8 at citizen monitoring station 2-BVR07.00-WH.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06L_XBT01A14 / Westhaven Lake / Extent of lake	5A	Temperature, water	2014	L	15.12

Westhaven Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:		**15.12**	

Sources:

Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-01-HG** **Chickahominy River**

Cause Location: Segment begins at the Route 360 bridge over the Chickahominy River, and extends downstream to the Route 156 bridge.

City / County: Hanover Co. Henrico Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

During the 2010 cycle, the segment was assessed as not supporting of the Fish Consumption Use due to mercury exceedances in chain pickerel and yellow bullhead catfish during 2005 sampling.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_CHK01A98 / Chickahominy River / The Chickahominy River from the Route 360 bridge downstream to the Route 156 bridge.	5A	Mercury in Fish Tissue	2010	L	7.45

State Scenic River

Chickahominy River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**7.45**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-03-BAC** **White Oak Swamp**

Cause Location: White Oak Swamp from White Oak Swamp Creek downstream to its mouth at the Chickahominy River.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

White Oak Swamp is assessed not supporting of the Recreation use support goal based on E. coli standard exceedances recorded at 2-WOS002.69. The segment had initially been considered impaired for fecal coliform but converted to E. coli during the 2006 cycle. The Bacteria TMDL for White Oak Swamp was completed and approved by the EPA on 9/20/2004.

During the 2010 cycle, the segment remained impaired with an E. coli exceedance rate of 6/18 at 2-WOS002.69; therefore White Oak is considered a Cat. 4A water for bacteria.

No additional E. coli data has been collected by the DEQ.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_WOS01A98 / White Oak Swamp / White Oak Swamp from White Oak Swamp Creek to its mouth at the Chickahominy River.	4A	Escherichia coli	2006	L	6.68

White Oak Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.68**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-05-DO** **Powhite Creek**

Cause Location: Powhite Creek below Gaines Millpond.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Powhite Creek below Gaines Millpond was impaired of the Aquatic Life Use due to dissolved oxygen exceedances at 2-PWH002.12, which is located at Route 156. Natural conditions are suspected, however the dam should be investigated.

The exceedance rate was 2/14 in the 2016 cycle. Other stations within the segment had insufficient data for assessment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_PWH01A02 / Powhite Creek / Powhite Creek from Gaines Millpond dam downstream to its mouth at the Chickahominy River.	5C	Oxygen, Dissolved	2014	L	2.14

Powhite Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.14**

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-06-PH** **Beaverdam Creek**

Cause Location: Beaverdam Creek from its headwaters to the confluence with tributary XBT.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Beaverdam Creek was assessed as not supporting of the Aquatic Life Use based on a pH standard exceedance rate of 3/4 at USGS station 02042433.

During the 2008 cycle, monitoring at DEQ station 2-BEV002.00 at the Route 156 bridge, only slightly upstream of the USGS station, had an acceptable exceedance rate of 0/11; therefore continued monitoring was recommended.

During the 2014 cycle, monitoring was conducted at 2-BEV002.00 as well as 2-BEV-RICH01-NPS, which is a National Park Service station. The NPS station had an acceptable violation rate (0/31), however the DEQ station was 3/26; therefore, the segment remained impaired.

During the 2016 cycle, widespread monitoring was conducted by the DEQ and the National Park Service. Although the majority of stations had acceptable pH, the upstream-most station, 2-BEV006.75 continued to have pH exceedances (7/13). The segment was shortened to end at tributary XBT and the downstream portion was partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_BEV01B16 / Beaverdam Creek / Beaverdam Creek from its headwaters to the confluence with tributary XBT.	5C	pH	2004	L	2.67

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.67**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-07-DO** **Boatswain Creek**

Cause Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle, Boatswain Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 7/50 at National Park Service Station 2-BTS-RICH-03-NPS. The station is located 100 yards downstream of Wyatt House Road near the west boundary of Richmond National Battlefield Park.

Monitoring at upstream DEQ station 2-BTS002.62 was acceptable (0/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_BTS01A02 / Boatswain Creek / Boatswain Creek from its headwaters to its mouth at the Chickahominy River.	5C	Oxygen, Dissolved	2016	L	3.75

Boatswain Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.75**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-07-PH** **Boatswain Creek**

Cause Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Boatswain Creek was assessed as not supporting of the Aquatic Life Use during the 2008 cycle based on pH standard exceedance rates of 3/4 at USGS station 0204243830, 2/4 at USGS station 02043790, and 7/15 at DEQ station 2-BTS002.62.

During the 2012 cycle, the exceedance rate at 2-BTS002.62 was 4/11. Monitoring at new National Park Service station 2-BTS-RICH-03-NPS was inconclusive (1/8).

During the 2014 cycle, the pH exceedance rate was acceptable (2/31) at 2-BTS-RICH-03-NPS; however, there was no additional monitoring at any of the other stations. Boatswain Creek remained impaired in the 2014 cycle until further monitoring could be conducted.

In the 2016 cycle, the creek remained impaired due to an exceedance rate of 5/12 at 2-BTS002.62 and 7/42 at 2-BTS-RICH-03-NPS.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_BTS01A02 / Boatswain Creek / Boatswain Creek from its headwaters to its mouth at the Chickahominy River.	5C	pH	2004	L	3.75

Boatswain Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.75**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-11-PH** **Bloody Run**

Cause Location: Bloody Run from its headwaters to the its mouth at Gaines Millpond.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Bloody Run was assessed as not supporting of the Aquatic Life Use during the 2004 cycle based on pH exceedance rates of 4/4 at USGS stations 0204243610 and 0204243650.

Additional monitoring was conducted during the 2016 cycle. Monitoring at National Park Service station 2-BDY-RICH-04-NPS, which is co-located with the previous USGS station 0204243650, had a pH violation rate of 33/51. DEQ station 2-BDY000.58 had an exceedance rate of 12/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_BDY01A04 / Bloody Run / Headwaters to mouth at Gaines Millpond.	5C	pH	2004	L	1.16

Bloody Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.16**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-12-BAC** **Beaverdam Creek**

Cause Location: Beaverdam Creek from its headwaters to its mouth.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Beaverdam Creek was initially assessed as not supporting the Recreation Use in the 2006 cycle based on E. coli exceedances at the Route 156 bridge (2-BEV002.00). During the 2012 cycle, the exceedance rate was 3/14.

The impairment was addressed in the Chickahominy River and Tributaries Bacterial TMDL report, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013.

Monitoring by citizen monitoring groups in the 2018 cycle confirms the impairments (9/14 at 2-BEV-BEV1-CBF, 3/13 at 2-BEV-BDC1-HCSWCD, and 4/13 at 2-BEV-BDC2-HCSWCD).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_BEV01A00 / Beaverdam Creek / Beaverdam Creek from XBT to its mouth at the Chickahominy River.	4A	Escherichia coli	2006	L	4.97
VAP-G06R_BEV01B16 / Beaverdam Creek / Beaverdam Creek from its headwaters to the confluence with tributary XBT.	4A	Escherichia coli	2006	L	2.67

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.64**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-13-BAC** **Boatswain Creek**

Cause Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Boatswain Creek was initially assessed as not supporting of the Recreation Use during the 2006 cycle based on E. coli exceedances at 2-BTS002.62, located at the Watt House driveway.

The exceedance rate was 3/12 during the 2012 cycle.

The impairment was addressed in the Chickahominy River and Tributaries Bacterial TMDL report, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_BTS01A02 / Boatswain Creek / Boatswain Creek from its headwaters to its mouth at the Chickahominy River.	4A	Escherichia coli	2006	L	3.75

Boatswain Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.75**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-14-BAC** **Chickahominy River**

Cause Location: Segment begins at the Route 360 bridge over the Chickahominy River, and extends downstream to the Route 156 bridge.

City / County: Hanover Co. Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, the segment was considered not supporting of the Recreation Use due to E. coli exceedances at 2-CHK062.57, which is located at the Route 360 bridge.

The impairment was addressed in the Chickahominy River and Tributaries Bacterial TMDL, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013.

The exceedance rate was 11/35 during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_CHK01A98 / Chickahominy River / The Chickahominy River from the Route 360 bridge downstream to the Route 156 bridge.	4A	Escherichia coli	2008	L	7.45

State Scenic River

Chickahominy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.45**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G06R-15-BAC** **Chickahominy River**

Cause Location: The Chickahominy River from the Route 156 bridge downstream to the confluence with Toe Ink Swamp at river mile 43.07.

City / County: Charles City Co. Hanover Co. Henrico Co. New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the Chickahominy River from the Route 156 bridge downstream to the confluence with Toe Ink Swamp at river mile 43.07 was impaired of the Recreation Use due to an E.coli exceedance rate of 3/11 at 2-CHK049.59, which is located at the Route 60 bridge.

The segment is within the study area for the Chickahominy River and Tributaries Bacterial TMDL, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013. The impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G06R_CHK02A02 / Chickahominy River / The Chickahominy River from the Route 156 bridge downstream to the Hanover/Henrico/New Kent county line.	4A	Escherichia coli	2016	L	2.85
State Scenic River					
VAP-G06R_CHK02A14 / Chickahominy River / The Chickahominy River from the Hanover/Henrico/New Kent county line downstream to the confluence with Toe Ink Swamp at river mile 43.07.	4A	Escherichia coli	2016	L	8.93

Chickahominy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.78**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07L-01-DO** **Chickahominy Lake**

Cause Location: Chickahominy Lake in its entirety.

City / County: Charles City Co. New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2014 cycle the segment became impaired for aquatic life with a DO pooled violation rate of 29/166 at stations 2-CHK025.15, 2-CHK026.94, 2-CHK029.54.

No new data since 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07L_CHK01A00 / Chickahominy Lake / Chickahominy Lake from Walkers Dam to the extent of backwater	5A	Oxygen, Dissolved	2002	L	######

Chickahominy Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**1,050.46**	

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07L-01-HG** **Chickahominy Lake**

Cause Location: Chickahominy Lake in its entirety.

City / County: Charles City Co. New Kent Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The VDH issued a Fish Consumption Advisory for Chickahominy Lake on 7/20/2006. No more than 2 meals per month of Largemouth Bass, Chain Pickerel, and Bowfin are recommended due to mercury in fish tissue.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07L_CHK01A00 / Chickahominy Lake / Chickahominy Lake from Walkers Dam to the extent of backwater	5A	Mercury in Fish Tissue	2008	L	######

Chickahominy Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,050.46**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-01-BAC** **Collins Run**

Cause Location: Collins Run from the headwaters downstream to rivermile 0.99

City / County: Charles City Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Collins Run from its headwaters downstream to rivermile 0.99 was assessed as not supporting of the Recreation Use in 2002 because of fecal coliform exceedances at two confined animal feeding operation special study locations, 2-CNR001.16 and 2-CNR001.54 (Route 614 bridge).

The impairment converted to E. coli in the 2010 cycle.

During the 2012 cycle, the exceedance rates were as follows:
1/12 at 2-CNR001.54 (fully supporting)
2/12 at 2-CNR001.58
4/12 at 2-CNR002.69

Collins Run was addressed in the Chickahominy River and Tributaries Bacterial TMDL report, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_CNR01A00 / Collins Run / Collins Run from the headwaters downstream to rivermile 0.99	4A	Escherichia coli	2010	L	4.49

Collins Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.49**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-01-DO** **Collins Run**

Cause Location: Collins Run from the headwaters downstream to rivermile 0.99

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Collins Run from its headwaters downstream to rivermile 0.99 was assessed as not supporting of the Aquatic Life Use in the 2010 cycle because of a dissolved oxygen violation rate of 4/6 at 2-CNR002.69, which is located at the Route 155 bridge.

The exceedance rate was 2/18 during the 2016 cycle. Downstream stations 2-CNR001.54 and 2-CNR001.58 were acceptable.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_CNR01A00 / Collins Run / Collins Run from the headwaters downstream to rivermile 0.99	5C	Oxygen, Dissolved	2010	L	4.49

Collins Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-01-PH** **Collins Run**

Cause Location: Collins Run from the headwaters downstream to rivermile 0.99

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Collins Run from its headwaters downstream to rivermile 0.99 was assessed as not supporting of the Aquatic Life Use in the 2012 cycle because of pH violation rates of 3/12 at 2-CNR002.69 (Route 155) and 2/12 at 2-CNR001.58. Station 2-CNR001.54 was acceptable (0/12).

Additional monitoring was conducted during the 2016 cycle at 2-CNR002.69. The segment remained impaired for pH (4/18).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_CNR01A00 / Collins Run / Collins Run from the headwaters downstream to rivermile 0.99	5C	pH	2012	L	4.49

Collins Run		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	pH - Total Impaired Size by Water Type:			**4.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-02-DO** **Rumley Marsh**

Cause Location: Rumley Marsh from XWS to Old Forge Pond. Below Old Forge Pond, the stream name is Jones Run.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Special studies conducted in Rumley Marsh and Jones Run in 1994 identified summertime DO exceedances in Rumley Marsh at station 2-RUM002.46.

Rumley Marsh downstream to Old Forge Pond was threatened in 1998 and downgraded in 2002. During the 2008 cycle, additional monitoring was conducted at 2-RUM004.38, which is located at the Route 617 bridge. The monitoring confirmed the impairment. In addition, station 2-RUM002.46 had a violation rate of 5/6 and station 2-RUM005.54 was 1/6 (IN).

During the 2014 cycle, the dissolved oxygen exceedance rates were as follows:
18/30 at 2-RUM002.46
11/27 at 2-RUM004.38 (2012)
3/12 at 2-RUM005.54

The Natural Conditions Assessment for Low pH and Low Dissolved Oxygen in Rumley Marsh, Pelham Swamp, and Tributaries was completed in January 2012. The report recommended that Rumley Marsh from its headwaters to its confluence with tributary XWS be reclassified as Class VII swampwater; until the WQS could be revised the upper portion was assessed as Category 4C. However, it indicates that the nutrients in lower Rumley Marsh are too high. It is believed that the Chesapeake Bay TMDL will reduce nutrients in nonpoint source runoff.

The upper watershed was reclassified as Class VII swampwaters during the 2018 cycle. Per Virginia's Water Quality Standards (9VAC25-260-50), numeric dissolved oxygen standards only apply to Class VII waters when there is sufficient evidence the narrative criterion is not protective of aquatic life uses. To date, this Class VII water has not exhibited a need for a site-specific DO criterion, so the dissolved oxygen impairment has been removed (partial delist) in the upper portion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_RUM01B14 / Rumley Marsh / Rumley Marsh from XWS downstream to Old Forge Pond.	5A	Oxygen, Dissolved	2002	L	1.31

Rumley Marsh **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.31**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-02-PH** **Rumley Marsh**

Cause Location: Rumley Marsh from XWS to Old Forge Pond. Below Old Forge Pond, the stream name is Jones Run.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2010 cycle, the segment was assessed as not supporting of the Aquatic Life Use due to pH violations at 2-RUM002.46 and 2-RUM005.54. During the 2014 cycle, the pH exceedance rates were as follows:

6/30 at 2-RUM002.46
4/28 at 2-RUM004.38 (2012)
9/12 at 2-RUM005.54

The Natural Conditions Assessment for Low pH and Low Dissolved Oxygen in Rumley Marsh, Pelham Swamp, and Tributaries was completed in January 2012. The report recommends that Rumley Marsh from its headwaters to its confluence with tributary XWS be reclassified as Class VII swampwater; until the WQS could be revised the upper portion was assessed as Category 4C. However, it indicates that the nutrients in lower Rumley Marsh are too high for the current swampwater protocol. It is believed that the Chesapeake Bay TMDL will reduce nutrients in nonpoint source runoff.

The upper Rumley Marsh watershed was reclassified as Class VII swampwaters during the 2018 cycle. Although no additional pH data has been collected, a review of the previous pH data indicates that the upper watershed meets the newly designated Class VII watershed pH criteria of 3.7-8.0 SU. The Class VII portion of the pH impairment will be partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_RUM01B14 / Rumley Marsh / Rumley Marsh from XWS downstream to Old Forge Pond.	5A	pH	2010	L	1.31

Rumley Marsh **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.31**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-04-BAC** **Schiminoe Creek**

Cause Location: Schiminoe Creek from its headwaters to its mouth at the Chickahominy River.

City / County: New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Schiminoe Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/12 at 2-SMN001.42, which is located at Route 60.

Schiminoe Creek is located within the study watershed for the Chickahominy River and Tributaries Bacterial TMDL, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013. The E. coli impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_SMN01A00 / Schiminoe Creek / Schiminoe Creek from its headwaters to the mouth at the Chickahominy River.	4A	Escherichia coli	2012	L	6.22

Schiminoe Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.22**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-04-DO** **Schiminoe Creek**

Cause Location: Schiminoe Creek from its headwaters to its mouth at the Chickahominy River.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Schiminoe Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/12 at 2-SMN001.42, which is located at Route 60.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_SMN01A00 / Schiminoe Creek / Schiminoe Creek from its headwaters to the mouth at the Chickahominy River.	5C	Oxygen, Dissolved	2012	L	6.22

Schiminoe Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-04-PH** **Schiminoe Creek**

Cause Location: Schiminoe Creek from its headwaters to its mouth at the Chickahominy River.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Schiminoe Creek was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 4/12 at 2-SMN001.42, which is located at Route 60.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_SMN01A00 / Schiminoe Creek / Schiminoe Creek from its headwaters to the mouth at the Chickahominy River.	5C	pH	2012	L	6.22

Schiminoe Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**6.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-06-DO** **XWS - Rumley Marsh, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Rumley Marsh.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2012 cycle, XWS was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/18 at 2-XWS000.85, which is located at the Route 155 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_XWS01A10 / Rumley Marsh, UT / Headwaters to mouth at Rumley Marsh	5A	Oxygen, Dissolved	2012	L	2.17

XWS - Rumley Marsh, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.17**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-06-PH** **XWS - Rumley Marsh, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Rumley Marsh.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2012 cycle, XWS was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 4/18 at 2-XWS000.85, which is located at the Route 155 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_XWS01A10 / Rumley Marsh, UT / Headwaters to mouth at Rumley Marsh	5A	pH	2012	L	2.17

XWS - Rumley Marsh, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.17**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-07-PH** **XAB - Collins Run, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Collins Run.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, XAB was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 2-XAB000.15, which is located off of Route 155.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_XAB01A10 / Collins Run, UT / Headwaters to mouth at Collins Run	5C	pH	2012	L	1.72

XAB - Collins Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-08-BAC** **Chickahominy River**

Cause Location: The Chickahominy River from the confluence with Possum Run downstream to the limit of backwater for Lake Chickahominy.

City / County: Charles City Co. New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the Chickahominy River from Possum Run to Chickahominy Lake was impaired of the Recreation Use due to E.coli exceedances at 2-CHK035.26, which is located at Route 618.

The segment is within the study area for the Chickahominy River and Tributaries Bacterial TMDL, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013. The impairment is considered nested (Category 4A.)

The exceedance rate was 9/45 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_CHK01A00 / Chickahominy River / The Chickahominy River from the confluence with Possum Run at rivermile 41.66 downstream to the upstream limit of Chickahominy Lake.	4A	Escherichia coli	2016	L	11.03

Chickahominy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.03**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G07R-09-BAC** **XTH - Chickahominy River, UT**

Cause Location: The unnamed tributary XTH in its entirety.

City / County: New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle, XTH (UT to the Chickahominy River) was impaired of the Recreation Use due to an E. coli exceedance rate of 7/12 at 2CXTH000.86.

The stream is located within the study area for the Chickahominy River and Tributaries Bacterial TMDL, which was approved by the EPA on 9/19/2012 and by the SWCB on 3/25/2013. The impairment is proposed for nesting (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G07R_XTH01A02 / XTH - Chickahominy River, UT / An unnamed tributary of Chickahominy River in its entirety.	4A	Escherichia coli	2018	L	2.26

XTH - Chickahominy River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.26**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08E-01-BAC** **Morris Creek**

Cause Location: Morris Creek from its tidal limit at river mile 6.67 to its mouth.

City / County: Charles City Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Nontidal Morris Creek was previously assessed as not supporting of the Recreation use support goal based on fecal coliform exceedances recorded at 2-MOC005.97. The segment was listed as threatened in 1998, and then downgraded to impaired during the 2002 cycle. However, EPA mistakenly included it as impaired on the 1998 Consent Decree.

During the 2008 cycle, additional E. coli monitoring was conducted at stations 2-MOC005.97 and 2-MOC010.97. Although the upstream E. coli exceedance rate was acceptable (1/12), the segment remained impaired due to an exceedance rate of 4/17 at 2-MOC005.97. The impairment converted to E. coli.

However, in the 2010 cycle, it was determined that the tidal limit had been incorrectly determined and that the listing station 2-MOC005.97 was tidally influenced. That station was reassessed against the enterococci standard and remained impaired. The segment extent was corrected.

The TMDL was completed for the tidal enterococci impairment and was approved by the EPA on 12/3/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08E_MOC01A02 / Morris Creek / The tidal portion of Morris Creek.	4A	Enterococcus	2010	L	0.394

CHKOH

Morris Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.394**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08E-01-PH** **Morris Creek**

Cause Location: Morris Creek from its tidal limit at river mile 6.67 to its mouth.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

Morris Creek was assessed as not supporting of the Aquatic Life use support (ALUS) goal based on water quality monitoring performed at the Route 623 bridge (2-MOC005.97).

During the 2008 cycle, additional monitoring was conducted. The impairment was confirmed with the following violation rates:
3/24 at 2-MOC005.97
pH 3/10 at 2-MOC010.97

However, based on analysis of station 2-MOC005.97 a Natural Conditions Assessment recommends that Morris Creek and its tributaries from the head of tide at river mile 5.97 upstream to its headwaters be reclassified as Class VII swampwaters.

The nontidal watershed above rivermile 5.97 was reclassified during the 2010 cycle and the segment was reassessed against the Class VII pH standard. However, it was determined that the tidal limit is actually located at rivermile 6.67; therefore, the original listing station, 2-MOC005.97, is located in the tidal Morris Creek segment. The violation rate was 7/33 in the 2010 cycle. Since the Natural Condition Report confirmed that the impairment at the station was a natural condition, the tidal portion of Morris Creek is considered Category 4C.

Monitoring at station 2CMOC001.95 was acceptable; therefore, further monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08E_MOC01A02 / Morris Creek / The tidal portion of Morris Creek.	4C	pH			0.394

CHKOH

Morris Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**0.394**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08E-02-EBEN** **Chickahominy River**

Cause Location: Approximately 0.5 mile upstream and downstream of station 2CCHK002.40

City / County: Charles City Co. James City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

Station 2CCHK002.40 is a Coastal 2000 probabilistic monitoring station. During the 2018 cycle, a 2016 Weight of Evidence assessment performed by DEQ's Central Office indicated benthic alteration which was probably caused by the acute and chronic effects of sediment metals (scenario 1, category 5A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08E_CHK02B18 / Chickahominy River / Approximately 0.5 mile upstream and downstream of station 2CCHK002.40	5A	Estuarine Bioassessments	2018	L	0.452

CHKOH

Chickahominy River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.452**		

Sources:

Contaminated Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08E-03-BAC** **Diascund Creek**

Cause Location: The tidal Diascund Creek.

City / County: James City Co. New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Diascund Creek from the dam to its mouth was assessed as not supporting of the Recreation Use during the 2010 cycle due to an enterococci exceedance rate of 4/23 at 2-DSC003.19.

Additional monitoring in the 2016 cycle confirmed the impairment (2/11 at 2-DSC003.19 and 5/12 at 2-DSC005.38.)

The impairment was addressed in the Lower Chickahominy River Bacterial TMDL, which was approved by the EPA on 8/11/2017 and the SWCB on 7/19/2017. It is therefore considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08E_DSC01A00 / Diascund Creek / Diascund Creek from the Diascund Reservoir dam downstream to the mouth at the Chickahominy River.	4A	Enterococcus	2010	L	0.271

CHKOH

Diascund Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.271**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08E-07-EBEN** **XAC - Chickahominy River, UT**

Cause Location: The tidal portion of tributary XAC.

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

Station 2CXAC000.20 is a Coastal 2000 probabilistic monitoring station. During the 2010 cycle, Weight of Evidence assessment performed by DEQ's Central Office indicated benthic alteration which was probably caused by the acute and chronic effects of sediment PAHs and possibly metals (scenario 1, category 5A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08E_XAC01A10 / XAC - Chickahominy River, UT / XAC in its entirety	5A	Estuarine Bioassessments	2010	L	0.017

CHKOH

XAC - Chickahominy River, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.017**		

Sources:

Contaminated Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08R-02-BAC** **Mill Creek**

Cause Location: Mill Creek from its headwaters downstream to its tidal limit

City / County: James City Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Mill Creek was initially assessed as not supporting of the Recreation Use support goal in 2004 based on a fecal coliform violation rate of 3/13 recorded at 2-MCR002.38.

Additional monitoring was conducted during the 2012 cycle. The impairment converted to E. coli due to an exceedance rate of 2/12.

The exceedance rate was 6/24 during the 2016 cycle.

The impairment was addressed in the Lower Chickahominy River Bacterial TMDL, which was approved by the EPA on 8/11/2017 and the SWCB on 7/19/2017. It is therefore considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08R_MCR01A04 / Mill Creek / Headwaters to tidal limit	4A	Escherichia coli	2012	L	4.81

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.81**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08R-04-DO** **Yarmouth Creek**

Cause Location: The nontidal portion of Yarmouth Creek.

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Yarmouth Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 2-YRM004.96, which is located at Rt. 632.

The violation rate was 5/36 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08R_YRM01A12 / Yarmouth Creek / Headwaters to tidal limit	5C	Oxygen, Dissolved	2012	L	4.09

Yarmouth Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.09**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08R-05-BAC** **Barrows Creek**

Cause Location: The nontidal portion of Barrows Creek.

City / County: Charles City Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Barrows Creek was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 6/12 at 2-BRW002.50, which is located at Route 615.

The impairment was addressed in the Lower Chickahominy River Bacterial TMDL, which was approved by the EPA on 8/11/2017 and the SWCB on 7/19/2017. It is therefore considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08R_BRW01A14 / Barrows Creek / Headwaters to tidal limit	4A	Escherichia coli	2014	L	6.93

Barrows Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.93**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G08R-05-DO** **Barrows Creek**

Cause Location: The nontidal portion of Barrows Creek.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Barrows Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 5/12 at 2-BRW002.50, which is located at Route 615.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G08R_BRW01A14 / Barrows Creek / Headwaters to tidal limit	5C	Oxygen, Dissolved	2014	L	6.93

Barrows Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.93**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09L-01-HG** **Diascund Creek Reservoir**

Cause Location: Diascund Creek Reservoir

City / County: James City Co. New Kent Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The 2010 cycle the segment was impaired for fish consumption use due to Mercury in fish tissue of Bass and Bowfin.
The 2012 cycle the segment was impaired for fish consumption use due to Mercury in fish tissue of Bass and Bowfin.

No new data for the 2014, 2016 and 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09L_DSC01A00 / Diascund Creek Reservoir / Diascund Creek Reservoir	5A	Mercury in Fish Tissue	2010	L	######

Diascund Creek Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,056.13**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-01-BAC** **Beaverdam Creek**

Cause Location: Beaverdam Creek, a tributary to Diascund Reservoir.

City / County: New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 2012 cycle, Beaverdam Creek was impaired of the Recreation Use due to the following exceedance rates:

3/9 at 2-BDM003.16
4/20 at 2-BDM004.12
3/9 at 2-BDM004.60
5/9 at 2-BDM005.70

The impairment was addressed in the Lower Chickahominy River Bacterial TMDL, which was approved by the EPA on 8/11/2017 and the SWCB on 7/19/2017. It is therefore considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_BDM01A98 / Beaverdam Creek / Beaverdam Creek from its headwaters to the upstream limit of Diascund Reservoir.	4A	Escherichia coli	2012	L	4.34

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.34**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-01-DO** **Beaverdam Creek**

Cause Location: Beaverdam Creek, a tributary to Diascund Reservoir.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Beaverdam Creek has been assessed as not supporting of the Aquatic Life use because of dissolved oxygen standard exceedances at the Route 632 bridge (2-BDM004.12). The segment was initially considered fully supporting but threatened in the 1998 cycle, but was downgraded to impaired in the 2002 cycle with a TMDL due date of 2014.

Additional monitoring has been conducted throughout the creek. The exceedance rates in the 2016 cycle were as follows:
2/11 at 2-BDM003.16
13/37 at 2-BDM004.12 (2014 cycle)
14/23 at 2-BDM004.60
0/23 at 2-BDM005.70 (fully supporting)

Although the upstream station is fully supporting and is upstream of a swampy area, dark water was seen at this station, so it will remain incorporated with the downstream stations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_BDM01A98 / Beaverdam Creek / Beaverdam Creek from its headwaters to the upstream limit of Diascund Reservoir.	5A	Oxygen, Dissolved	2002	L	4.34

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.34**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-01-PH** **Beaverdam Creek**

Cause Location: Beaverdam Creek, a tributary to Diascund Reservoir.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2012 cycle, Beaverdam Creek was assessed as not supporting of the Aquatic Life use because of pH exceedances.

The exceedance rates in the 2016 cycle were as follows:
2/11 at 2-BDM003.16
2/37 at 2-BDM004.12 (2014 cycle - fully supporting)
5/23 at 2-BDM004.60
2/23 at 2-BDM005.70 (fully supporting)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_BDM01A98 / Beaverdam Creek / Beaverdam Creek from its headwaters to the upstream limit of Diascund Reservoir.	5A	pH	2012	L	4.34

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.34**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-02-DO** **Diascund Creek**

Cause Location: Diascund Creek from its headwaters to the Diascund Reservoir.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Diascund Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen violation rate of 4/25 at the Route 628 bridge (2-DSC012.68).

During the 2014 cycle, the exceedance rates were as follows:
5/11 at 2-DSC011.33
1/24 at 2-DSC012.67 (fully supporting)
5/11 at 2-DSC014.53
4/11 at 2-DSC015.32

Additional monitoring was conducted at 2-DSC012.67 during the 2016 cycle. The exceedance rate was acceptable (1/35). The segment will remain impaired due to the previous exceedances at the remaining stations in the stream; however, continued monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_DSC01A00 / Diascund Creek / Diascund Creek from its headwaters to the upstream limit of Diascund Creek Reservoir.	5C	Oxygen, Dissolved	2008	L	6.88

Diascund Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.88**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-02-PH** **Diascund Creek**

Cause Location: Diascund Creek from its headwaters to the Diascund Reservoir.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Diascund Creek was assessed as not supporting of the Aquatic Life Use due to pH exceedances. The exceedance rates during the 2014 cycle were as follows:

2/11 at 2-DSC011.33
1/24 at 2-DSC012.67 (fully supporting)
1/11 at 2-DSC014.53 (fully supporting)
2/11 at 2-DSC015.32

Additional monitoring was conducted at 2-DSC012.67 during the 2016 cycle. The exceedance rate was acceptable (1/35). The segment will remain impaired due to the previous exceedances at the remaining stations in the stream; however, continued monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_DSC01A00 / Diascund Creek / Diascund Creek from its headwaters to the upstream limit of Diascund Creek Reservoir.	5C	pH	2012	L	6.88

Diascund Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.88**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-03-DO** **XAL - Diascund Creek, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XAL was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/11 at 2CXAL000.15.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_XAL01A12 / XAL - Diascund Creek, UT / Headwaters to mouth at Diascund Creek	5C	Oxygen, Dissolved	2012	L	1.22

XAL - Diascund Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-03-PH** **XAL - Diascund Creek, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, XAL was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2/11 at 2CXAL000.15.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_XAL01A12 / XAL - Diascund Creek, UT / Headwaters to mouth at Diascund Creek	5C	pH	2012	L	1.22

XAL - Diascund Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-04-DO** **XAK - Diascund Creek, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XAK was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 2CXAK000.08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_XAK01A12 / XAK - Diascund Creek, UT / Headwaters to mouth at Diascund Creek	5C	Oxygen, Dissolved	2012	L	2.91

XAK - Diascund Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.91**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-05-DO** **XAJ - Diascund Creek, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XAJ was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 2CXAJ000.69.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_XAJ01A12 / XAJ - Diascund Creek, UT / Headwaters to mouth at Diascund Creek	5C	Oxygen, Dissolved	2012	L	2.93

XAJ - Diascund Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.93**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-06-BAC** **XAH - Beaverdam Creek, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Beaverdam Creek

City / County: New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, XAH was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/6 at 2CXAH000.35.

The impairment was addressed in the Lower Chickahominy River Bacterial TMDL, which was approved by the EPA on 8/11/2017 and the SWCB on 7/19/2017. It is therefore considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_XAH01A12 / XAH - Beaverdam Creek, UT / Headwaters to mouth at Beaverdam Creek	4A	Escherichia coli	2012	L	2.23

XAH - Beaverdam Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.23**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-06-DO** **XAH - Beaverdam Creek, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Beaverdam Creek

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2012 cycle, XAH was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at 2CXAH000.35. The exceedance rate was 4/9 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_XAH01A12 / XAH - Beaverdam Creek, UT / Headwaters to mouth at Beaverdam Creek	5A	Oxygen, Dissolved	2012	L	2.23

XAH - Beaverdam Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.23**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-07-DO** **Wahrani Swamp**

Cause Location: Wahrani Swamp from its headwaters to the upstream limit of Diascund Creek Reservoir.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Wahrani Swamp was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/12 at 2-WAS002.69, which is located at Route 632.

The exceedance rate was 10/20 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_WAS01A00 / Wahrani Swamp / Wahrani Swamp from its headwaters to the upstream limit of Diascund Creek Reservoir.	5C	Oxygen, Dissolved	2014	L	3.66

Wahrani Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G09R-08-DO** **XBY - Beaverdam Creek, UT**

Cause Location: Unnamed tributary from its headwaters to its mouth at Beaverdam Creek

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2016 cycle, tributary XBY was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/12 at 2CXBY000.19.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G09R_XBY01A16 / XBY - Beaverdam Creek, UT / Headwaters to mouth at Beaverdam Creek.	5A	Oxygen, Dissolved	2016	L	1.08

XBY - Beaverdam Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.08**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10E-01-BAC** **Powhatan Creek/Sandy Bay**

Cause Location: This cause encompasses Powhatan Creek/Sandy Bay, from end of tidal waters downstream to the mouth of Sandy Bay. Located North of Jamestown Island area, tributary to the Thorofare embayment. CBP segment JMSOH.

City / County: James City Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus bacteria data from stations 2-MIC000.03 (16 viol. /33 obs.). Bacteria impairment covered under TMDL (36211) for Powhatan Creek/Sandy Bay, EPA approved 4/28/20.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G10E_POW01A02 / Powhatan Creek/Sandy Bay / West of Jamestown Island, north shore tributary to the James R. From end of tidal waters downstream to the mouth of Sandy Bay. CBP segment JMSOH. DSS (ADMIN - Prohibited Nonproductive) shellfish condemn # 059-069 A (effective 20141219).	4A	Enterococcus	1998	L	0.204

Powhatan Creek/Sandy Bay **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.204**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10E-03-BAC** **Mill Creek**

Cause Location: This cause encompasses Mill Creek, from the end of tidal waters downstream to the mouth. Located North of Jamestown Island area, tributary to the Thorofare embayment. CBP segment JMSOH.

City / County: James City Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus bacteria data from station 2-MIC000.03 (18 viol. / 35 obs.). Bacteria impairment covered under TMDL (36211) for Powhatan Creek/Sandy Bay, EPA approved 4/28/2009. TMDL ID = VAT-G10E-03. Related to Entero impairment in adjacent Powhatan Cr.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G10E_MIC01A00 / Mill Creek / North of Jamestown Island area, tributary to the Thorofare embayment. From end of tidal waters downstream to the mouth. CBP segment JMSOH. DSS (ADMIN - Prohibited Nonproductive) shellfish condemn # 059-069 A (effective 20141219).	4A	Enterococcus	1998	L	0.075

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.075**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10E-05-EBEN James River (Oligohaline)**

Cause Location: This cause encompasses a portion of the James River Oligohaline segment from Sandy Bay to Hog Island Creek

City / County: Isle Of Wight Co. James City Co. Newport News City Surry Co. Williamsburg City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. Powhatan C

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G10E_CLG01A06 / College Creek / North shore trib to James R. Located NE of Jamestown Isl. and west of Kingsmill area, in James City Co. From end of tidal waters downstream to mouth. CBP segment JMSOH. DSS (ADMIN Non-Prod) shellfish condemn # 059-069 A (effective 20141219).	5A	Estuarine Bioassessments	2012	L	0.578
VAT-G10E_JMS01A06 / James River Mainstem - Chickahominy R. to Hog Point / From confluence with Chickahominy R. coincident with watershed line (RM 48.40) downstream to line between Hog Pt. and mouth College Cr. N shore James R. CBP segment JMSOH. DSS (ADMIN) shellfish condemn # 059-069 A (effective 20141219).	5A	Estuarine Bioassessments	2004	L	17.843
VAT-G10E_JMS01B08 / James River - Carters Grove Area (G10) / Mainstem along north shore, Camp Wallace to Carters Grove. Area shoreline upstream of Skiffes Creek. Portion of CBP segment JMSOH. DSS (ADMIN PROHIB) shellfish direct harvesting condemnation # 059-067 A&B (effective 20100901).	5A	Estuarine Bioassessments	2004	L	0.985
VAT-G10E_JMS02A06 / James River - Hog Point Area (Open Shellfish Area) / Triangular area in mainstem around Walnut Point, from Hog Pt. to G11 watershed line. CBP segment JMSOH. DSS (OPEN) shellfish direct harvesting condemnation # 057-069 (effective 20141219).	5A	Estuarine Bioassessments	2004	L	2.240
VAT-G10E_MIC01A00 / Mill Creek / North of Jamestown Island area, tributary to the Thorofare embayment. From end of tidal waters downstream to the mouth. CBP segment JMSOH. DSS (ADMIN - Prohibited Nonproductive) shellfish condemn # 059-069 A (effective 20141219).	5A	Estuarine Bioassessments	2004	L	0.075
VAT-G10E_POW01A02 / Powhatan Creek/Sandy Bay / West of Jamestown Island, north shore tributary to the James R. From end of tidal waters downstream to the mouth of Sandy Bay. CBP segment JMSOH. DSS (ADMIN - Prohibited Nonproductive) shellfish condemn # 059-069 A (effective 20141219).	5A	Estuarine Bioassessments	2004	L	0.204
VAT-G11E_JMS01B08 / James River - Hog Island Area [JMSOH area] / From area of Homewood (G11 watershed line) downstream to start of JMSMH salinity boundary (Hog Isl. Cr.). CBP segment JMSOH. DSS (OPEN) shellfish direct harvesting condemnation # 059-069 (effective 20141219).	5A	Estuarine Bioassessments	2004	L	3.846
VAT-G11E_JMS01D14 / James River - Carters Grove Area (G11) / Mainstem along north shore, Camp Wallace to Carters Grove. Area shoreline upstream of Skiffes Creek. Portion of CBP segment JMSOH. DSS (ADMIN PROHIB) shellfish direct harvesting condemnation # 059-067 A&B (effective 20100901.	5A	Estuarine Bioassessments	2004	L	1.218

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

James River (Oligohaline) **Aquatic Life**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Estuarine Bioassessments - Total Impaired Size by Water Type:	**26.990**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10R-01-BAC** **College Run**

Cause Location: This cause encompasses College Run, from the convergence of the two upstream branches downstream to the confluence with the James River at Cobham Bay. Located north of Chippokes Plantation State Park, tributary to Cobham Bay (Surry County, PRO station).

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

The Recreation Use impairment is retained from previous assessments '02-'08 (2 violates / 8 obs. collected for 2006 IR at station 2-CGE001.41) due to exceedance of the criteria for Fecal Coliform bacteria. No further bacteria data has been collected. Need E.coli data to confirm previous FC impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G10R_CGE01A02 / College Run / North of Chippokes Plantation State Park, tributary to Cobham Bay (Surry County, PRO station). Mainstem College Run from convergence of two upstream branches downstream to the confluence with the James River at Cobham Bay. Not including tributaries.	5A	Fecal Coliform	2002	L	2.61

College Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.61**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10R-02-BEN** **Powhatan Creek**

Cause Location: This cause encompasses Powhatan Creek, from the confluence with Long Hill Swamp and Chisel Run downstream to the beginning of tidal waters. Located west of the Five Forks area. North of Jamestown Island, north shore tributary to the James River.

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained for the stream's benthic population as measured by DEQ's Benthic-Macroinvertebrate Bioassessments program at station 2-POW006.77. Benthic data assessment (Spring - 2000 and Fall - 2000) resulted in a moderate impairment rating for this station.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G10R_POW01A00 / Powhatan Creek / West of the Five Forks area. North of Jamestown Island, north shore tributary to the James R. Powhatan Creek from the confluence with Long Hill Swamp and Chisel Run downstream to the beginning of tidal waters.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	5.36

Powhatan Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.36**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10R-03-BAC** **XHC - Dark Swamp, UT**

Cause Location: The unnamed tributary XHC in its entirety.

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, the unnamed tributary to Dark Swamp was impaired of the Recreation Use due to an E. coli exceedance rate of 4/17 at 2-XHC000.12, which is located approx. 0.6 miles downstream of the Surry WWTF.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G10R_XHC01A08 / Dark Swamp, UT / Headwaters to mouth at Dark Swamp	5A	Escherichia coli	2012	L	1.30

XHC - Dark Swamp, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.30**

Sources:

- Agriculture
- Municipal Point Source Discharges
- Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10R-03-DO** **XHC - Dark Swamp, UT**

Cause Location: The unnamed tributary XHC in its entirety.

City / County: Surry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2010 cycle, the unnamed tributary to Dark Swamp was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at 2-XHC000.12, which is located approx. 0.6 miles downstream of the Surry WWTF. The exceedance rate was 5/22 during the 2012 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G10R_XHC01A08 / Dark Swamp, UT / Headwaters to mouth at Dark Swamp	5A	Oxygen, Dissolved	2010	L	1.30

XHC - Dark Swamp, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.30**

Sources:

Agriculture	Municipal Point Source Discharges	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10R-04-BAC** **Unnamed tributary to Mill Creek**

Cause Location: This cause encompasses the Unnamed tributary to Mill Creek. Located N of Lake Powell, between Jamestown Isl. and City of Williamsburg.

City / County: James City Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired based on E.coli data from Station 2-XZK000.06 with 15 viol / 23 obs. The impairment is nested within the Mill Creek tidal recreation impairment in the 2018 IR. The new impairment is within the boundary of the existing TMDL and land uses are comparable. The Mill Cr TMDL places 95% Reductions on Residential and Agricultural lands with a 98 % reduction for wildlife. Therefore this recreation use impairment will be nested within the Mill Cr TMDL EPA approved 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G10R_XZK01A10 / Unnamed tributary to Mill Creek / Unnamed tributary to Mill Creek. Located N of Lake Powell, between Jamestown Isl. and City of Williamsburg. Northeast branch, at confluence of Lake Powell and Mill Creek.	4A	Escherichia coli	2012	L	1.22

Unnamed tributary to Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G10R-05-BAC** **Dark Swamp**

Cause Location: The nontidal portion of Dark Swamp

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, Dark Swamp was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 4/12 at 2-DRK000.31, which is located at the Route 626 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G10R_DRK01A14 / Dark Swamp / Headwaters to tidal limit	5A	Escherichia coli	2014	L	3.15

Dark Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.15**

Sources:

Municipal Point Source Discharges	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-01-BAC** **Warwick River - Middle Tidal Portion**

Cause Location: This cause encompasses the Warwick River - Middle Tidal Portion, from approximately Denbigh Landing area downstream to Denbigh Park area. Located in Menchville area of Newport News. CBP segment JMSMH.

City / County: Newport News City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus data exceeding the criteria (7 viol/ 33 obs) measured at DEQ (AQM) monitoring station @ 2-WWK003.98.
Considered NESTED under TMDL (35574) "Warwick River" EPA approved 2/29/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_WWK02A08 / Warwick River - Middle Tidal Portion / Located in Menchville area. From approx. Denbigh Landing area downstream to Denbigh Park area. CBP segment JMSMH. DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A (20080518).	4A	Enterococcus	2008	L	0.075

Warwick River - Middle Tidal Portion **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.075**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-01-SF** **Chuckatuck Creek System**

Cause Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation #062-080 A, 10/5/2016.

City / County: Isle Of Wight Co. Suffolk City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS condemnation. EPA approved TMDL 7/9/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_CKT01A04 / Chuckatuck & Brewers Creeks / South shore trib to James R., confluence upstream of Nansemond R. From headwaters to end of SF condemnation at Johnson near tidal flat. Portion of CBP segment JMSMH. DSS shellfish harvesting condemnation # 062-080 A (effective 20161005).	4A	Fecal Coliform	1998	L	0.731

Chuckatuck Creek System	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.731**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-03-BAC** **Deep Creek - Lower**

Cause Location: This cause encompasses the area located in Menchville area. Tributary to Warwick River. From Warwick Yacht Club downstream to mouth. CBP segment JMSMH.

City / County: Newport News City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is not supported based on the data from Station 2-DEP000.26 (8 violate / 33 obs.) for the instantaneous criteria for Enterococci bacteria. This station was impaired previously under TMDL ID VAT-G11E-03. Bacteria impairment covered under TMDL (34124) 'Deep Creek', EPA approved 2/29/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_DEP01A02 / Deep Creek - Lower / Located in Menchville area. Tributary to Warwick R. From Warwick Yacht Club downstream to mouth. CBP segment JMSMH. DSS (ADMIN) shellfish direct harvesting condemnation # 058-034 A (effective 20080518).	4A	Enterococcus	2006	L	0.100

Deep Creek - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.100**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-05-BAC** **Pagan River - Upper and Middle**

Cause Location: This cause encompasses the Pagan River - Upstream of Chalmers Point, from widening North of Smithfield downstream to Battery Park. South shore tributary to James River. Located in Smithfield area. CBP segment JMSMH.

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on failure to meet the Enterococcus bacteria instantaneous criteria at stations, 2-PGN005.46 (7 viol. / 31 obs.) and 2-PGN008.42 (8 viol. / 31 obs.).1998 CD segment for FC (Attachment A, Category 1, Part 1) VAT-G11E-04 & 1998 CD segment for FC & DO (Attachment A, Category 1, Part 1 & Attachment B) VAT-G11E-05. Bacteria impairment covered under TMDL (35579) 'Pagan River & Jones Creek', EPA approved 2/12/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_PGN01A08 / Pagan River - Upper / Located in Smithfield area. South shore tributary to James R. From end of tidal water downstream to approx RM 7.00. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 201460502).	4A	Enterococcus	1998	L	0.062
VAT-G11E_PGN01C18 / Pagan River - Middle / Located in Smithfield area. South shore tributary to James R.N of Rt 10 downstrm N of Cupress Cr .Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Enterococcus	1998	L	0.058

Pagan River - Upper and Middle **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.120**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-05-EBEN** **Chesapeake Bay segment JMSMHa**

Cause Location: This cause encompasses the complete CBP segment JMSMHa.

City / County: Isle Of Wight Co. James City Co. Newport News City Portsmouth City Suffolk City
Surry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on not meeting the Chesapeake Bay benthics associated with JMSMHa Chesapeake Bay segment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_JMS01A06 / James River - Gravel Neck to Pagan River / From start of JMSMH salinity boundary (Hog Isl. Cr.) downstream to line between Jail Pt (Mulberry Isl) to Days Pt (mouth Pagan R). CBP segment JMSMH. DSS (OPEN) shellfish condemnation # 059-069 (effective 20141219).	5A	Estuarine Bioassessments	2006	L	40.260
VAT-G11E_JMS01C08 / James River - Carter Grove Area / Mainstem along north shore, from near Carter Grove. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 059-067 A (effective 20100901).	5A	Estuarine Bioassessments	2010	L	0.404
VAT-G11E_JMS02A06 / James River - Jail Point to Hilton Village / Mainstem from line between Jail Pt (Mulberry Isl) to Days Pt (Mouth Pagan R) downstream to line Hilton Village (Newport News)/Kings Creek (Isle of Wight). CBP segment JMSMH. DSS (OPEN) shellfish harvesting condemnation # 059-069 (effective 20141219).	5A	Estuarine Bioassessments	2006	L	24.697
VAT-G11E_JMS03A06 / James River - Along Lower North Shore / Mainstem along north shore, from Jail Point (Mulberry Isl) downstream to line following Rt. 664. CBP segment JMSMH. Portions of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080518) & 057-007 A (effective 20120529).	5A	Estuarine Bioassessments	2006	L	3.943
VAT-G11E_JMS03B06 / James River - Hilton Beach Area / North shore James R. NW of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080518).	5A	Estuarine Bioassessments	2006	L	0.110
VAT-G11E_JMS03C06 / James River - Huntington Beach Area / North shore James R. near foot of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080508).	5A	Estuarine Bioassessments	2006	L	0.008
VAT-G11E_JMS04A06 / James River - Hilton Village to Craney Island / Mainstem from a line between Hilton Village (Newport News)/Kings Creek (Isle of Wight) downstream to the end of DSS (OPEN) shellfish harvesting condemnation # 059-069 F (effective 20141219). CBP segment JMSMH.	5A	Estuarine Bioassessments	2006	L	24.879
VAT-G11E_JMS06A10 / James River - Outside Mouth Streeter & Hoffler Creeks / Mainstem area at Mouth of Streeter & Hoffler Creeks @ SW corner Craney Island. CBP segment JMSMH. DSS (ADMIN) shellfish condemnation # 064-018 A (effective 20080530).	5A	Estuarine Bioassessments	2010	L	0.156
VAT-G11E_SFF03A10 / Skiffes Creek - Mouth / Located west of	5A	Estuarine Bioassessments	2018	L	0.060

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Lee Hall area, flows across the James City Co./NN City boundary. From Goose Island to point on opposite shore. Portion of CBP segment JMSMH. DSS (OPEN) shellfish direct harvesting condemnation # 059-069 (effective 20141219).					
VAT-G11E_TYB01A00 / Tylers Beach Boat Basin / Located in the Bailey Beach area. Adjacent to the James River. Opposite Mulberry Island. NW corner of Burwell Bay. From end of tidal waters downstream to mouth. CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 060-206 B (20141231).	5A	Estuarine Bioassessments	2018	L	0.011
VAT-G15E_JMS05A06 / James River - Newport News Point to NW Corner Craney Isl. / Line following the Rt. 664 crossing mid-river, SW to mid-mouth Nansemond R. to SW tip Craney Isl. Line. The NW line from NW tip Craney Isl. to Lincoln Pk. CBP segment JMSMH. DSS (ADMIN) cond # 056-007 A, B, C (effective 20120529).	5A	Estuarine Bioassessments	2010	L	3.611

Chesapeake Bay segment JMSMHa	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**98.137**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-06-BAC** **Lawnes Creek (Tributary to James River)**

Cause Location: This cause encompasses the entire tidal portion of Lawnes Creek. South shore tributary to James River near Hog Island WMA. Hog Isl. Area, opposite Mulberry Point. From end of tidal waters downstream to mouth. CBP segment JMSMH.

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on failure to meet the Enterococcus bacteria instantaneous criteria (9 viol. / 23 obs.) at station 2-LAW000.42. Nested in EPA approved SF TMDL 5/6/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_LAW01A00 / Lawnes Creek (Tributary to James River) / South shore tributary to James R. near Hog Island WMA. Hog Isl. area, opposite Mulberry Point. From end of tidal waters downstream to mouth. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 060-206 A (effective 20141231).	4A	Enterococcus	2010	L	0.291

Lawnes Creek (Tributary to James River) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.291**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-06-SF** **Lawnes Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation # 060-206 A, 12/31/2014.

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS condemnation. EPA approved SF TMDL 5/6/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_LAW01A00 / Lawnes Creek (Tributary to James River) / South shore tributary to James R. near Hog Island WMA. Hog Isl. area, opposite Mulberry Point. From end of tidal waters downstream to mouth. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 060-206 A (effective 20141231).	4A	Fecal Coliform	1998	L	0.291

Lawnes Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.291**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-10-SF** **Pagan River - Middle Lower & Lower**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 061-064 A effective 5/2/2016.

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS shellfish direct harvesting condemnation # 061-064 A (20160502). Bacteria impairment covered under TMDL (35579) VAT-G11E-10-SF, 'Pagan River & Jones Creek', EPA approved 2/12/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_PGN02A08 / Pagan River - Middle Lower / Located in Smithfield area. South shore tributary to James R. North of Town of Smithfield downstream Azalea Dr. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Fecal Coliform	2008	L	1.030
VAT-G11E_PGN02B14 / Pagan River - Lower / Located in Smithfield area. South shore tributary to James R. Lower portion from Moonefield Dr to Morris Cr. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Fecal Coliform	2008	L	0.162

Pagan River - Middle Lower & Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**1.192**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-16-SF** **Cypress Creeks**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation # 061-064A, 3/21/2012.

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS condemnation. Bacteria impairment covered under TMDL (35579) approved by EPA 2/12/2008.1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-10.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_CYP01A06 / Cypress Creek / South shore tributary to Pagan R, confluence near Smithfield. From end of tidal waters downstream to mouth. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Fecal Coliform	1998	L	0.263

Cypress Creeks **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.263**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-16-SF2** **Pagan River - Upper & Upper- Middle**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation # 061-064 A ,5/2/2016.

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is not supported based on the DSS restricted condemnation # 061-064 A (effective date 5/2/2016). Not covered under TMDL for 'Pagan River & Jones Creek', (35579) EPA approved 2/12/2008. However will nest since SF impairment is within tidal range of Pagan River & Jones Creek TMDL, newly impaired segments are comparable and all existing sources are accounted for in the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_PGN01A08 / Pagan River - Upper / Located in Smithfield area. South shore tributary to James R. From end of tidal water downstream to approx RM 7.00. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 201460502).	4A	Fecal Coliform	2008	L	0.062
VAT-G11E_PGN01B18 / Pagan River - Upper Middle / Located in Smithfield area. South shore tributary to James R. From downstream of Crook Ln to UT N Trib.Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Fecal Coliform	2008	L	0.065
VAT-G11E_PGN01C18 / Pagan River - Middle / Located in Smithfield area. South shore tributary to James R.N of Rt 10 downstrm N of Cupress Cr .Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Fecal Coliform	2008	L	0.058

Pagan River - Upper & Upper- Middle **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.185**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-17-SF** **Ballard Creek & Bay, James River - Ballard Swamp Area and Kings Creek & Bay - James River South Shore Tributary**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation # 062-164 A (effective 10/5/20116.

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS shellfish condemnation # 062-164 A (effective 20161005). TMDL ID = VAT-G11E-17. EPA approved Fecal Coliform TMDL 7/2/2010.1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_BAL01A06 / Ballard Creek & Bay- James R. South Shore Tributary / South shore tributary to James R., upstream of James R. Bridge. North of Ragged Island area. From end of tidal water downstream almost to confluence with James R. CBP segment JMSMH. Portion of DSS shellfish condemnation # 062-164 A (effective 20161005).	4A	Fecal Coliform	1998	L	0.019
VAT-G11E_KIN01A06 / Kings Creek & Bay - James R. South Shore Tributary / South shore tributary to James R., upstream of James R. Bridge. North of Ragged Island area. CBP segment JMSMH. From end of tidal waters downstream to end of DSS shellfish direct harvesting condemnation # 062-164 B (effective 20161005).	4A	Fecal Coliform	1998	L	0.031

Ballard Creek & Bay, James River - Ballard Swamp Area and Kings Creek & Bay - James River South Shore Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.050**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-20-BAC** **James River - Hilton Beach Area**

Cause Location: This cause encompasses the area of north shore James R. NW of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH.

City / County: Newport News City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data from the VDH-Beach station VA747818 (15 viol. / 23 Geo-mean obs.) along with multiple swimming advisories between the years 2007-2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_JMS03B06 / James River - Hilton Beach Area / North shore James R. NW of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080518).	5A	Enterococcus	2012	L	0.110

James River - Hilton Beach Area **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.110**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-20-SF** **Jones Creek - Tributary to Pagan River**

Cause Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation #061-064 A, 5/2/2016.

City / County: Isle Of Wight Co. Suffolk City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

"The Shellfishing Use is not supported by the VDH DSS Shellfish Condemnation # 061-064 A effective date 20160502. Bacteria impairment covered under TMDL (35579) 'Pagan River & Jones Creek', EPA approved 2/12/2008."

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_JOG02A08 / Jones Creek - Tributary to Pagan River / South shore trib. to Pagan R. near confluence with James R. From SR 669 to mouth, including tidal tributaries. CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 B & M2 (effective 20160502).	4A	Fecal Coliform	2008	L	0.102

Jones Creek - Tributary to Pagan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.102**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-21-BAC** **James River - Huntington Beach Area**

Cause Location: This cause encompasses the area north shore James R. near foot of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH.

City / County: Newport News City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data from the VDH-Beach station VA747813 (6 viol. / 26 Geo-mean obs.) and multiple short term swimming advisories.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_JMS03C06 / James River - Huntington Beach Area / North shore James R. near foot of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080508).	5A	Enterococcus	2006	L	0.008

James River - Huntington Beach Area **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.008**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11E-23-EBEN** **Warwick River - Middle-Lower Tidal Portion**

Cause Location: This cause encompasses the area located in Menchville area. Tributary to James R. From Denbigh Park to Approx Lucas Cr. Portion of CBP segment JMSMH.

City / County: Newport News City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

Aquatic Life Use is not supported based on benthic data assessment from the 2016 WoE station 2-WWK003.20 in 2016. WoE assessment ranked station as 5A with probable chronic effects of cumulative sediment metals. Possibly additional contaminants.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_WWK03B18 / Warwick River - Middle-Lower Tidal Portion / Located in Menchville area. Tributary to James R. From Denbigh Park to Approx Lucas Cr. Portion of CBP segment JMSMH. DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A, B (20080518).	5A	Estuarine Bioassessments	2018	L	0.077

Warwick River - Middle-Lower Tidal Portion	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.077**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11L-01-CU** **Lee Hall Reservoir**

Cause Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Copper / 5A

The Aquatic Life Use and Wildlife Uses are impaired based on exceedance of the DEQ copper (acute) criteria as reported from a USGS 2002 special study. Cu exceedances include 0204279210 (4 violates), 0204279224 (1 violates), 0204279230 (4 violates) and 0204279240 (4 violates).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11L_LHR01A08 / Lee Hall Reservoir / Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.	5A	Copper	2004	L	292.14
	5A	Copper	2004	L	292.14

Lee Hall Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Wildlife			
Copper - Total Impaired Size by Water Type:		**584.28**	

Sources:

Municipal (Urbanized High Density Area)	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11L-01-HG** **Lee Hall Reservoir**

Cause Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Fish Consumption Use is impaired based on fish tissue metals data collected from 2005. The Mercury impairment was found in Largemouth Bass.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11L_LHR01A08 / Lee Hall Reservoir / Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.	5A	Mercury in Fish Tissue	2010	L	292.14

Lee Hall Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**292.14**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11L-01-PCB** **Lee Hall Reservoir**

Cause Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on fish tissue data collected from 2005. The PCB impairment was found in Carp and Largemouth Bass.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11L_LHR01A08 / Lee Hall Reservoir / Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.	5A	PCB in Fish Tissue	2010	L	292.14

Lee Hall Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**292.14**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11L-05-DO** **Lee Hall Reservoir**

Cause Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Dissolved oxygen is not supporting ALUS based on data at stations 2-LHR001.76 (6 viol/ 32 obs) and 2-LHR002.56 (12 viol/ 29 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11L_LHR01A08 / Lee Hall Reservoir / Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.	5A	Oxygen, Dissolved	2008	L	292.14

Lee Hall Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**292.14**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11L-06-DO** **Scotts Factory Pond**

Cause Location: This cause encompasses the pond in its entirety.

City / County: Isle Of Wight Co. James City Co. Newport News City Surry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Dissolved oxygen is impaired based on level III data at station 2ECL-1-IRC with 3 viol/ 8 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11L_SFP01A16 / Scotts Factory Pond / Pond near Champion Swamp near Route 665	5A	Oxygen, Dissolved	2016	L	14.83

Scotts Factory Pond	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**14.83**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11R-01-BAC** **Baptist Run**

Cause Location: This cause encompasses Baptist Run, this segment begins at outflow of pond upstream of station at Crawford Drive extending downstream to confluence with Great Run and Beaverdam Creek. Located south of Lackey.

City / County: York Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Recreation Use impairment is retained from 2006 Report. The Recreation Use is impaired (2 violates / 2 observations) based on exceedance of the DEQ Fecal Coliform bacteria instantaneous maximum criteria. Recreation bacteria impairment covered under TMDL (34126) VAT-G11R-01 " Fecal Bacteria Total Maximum Daily Load Development for Warwick River - Baptist Run", EPA approved 2/29/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11R_BAP01A04 / Baptist Run / Located S of Lackey and N of Newport News City Reservoir. Segment begins NW (upstream) of Rt 238 extending underneath and downstream to confluence with Great Run and Beaverdam Creek. Runs thru Colonial Natl. Historical Park.	4A	Fecal Coliform	2004	L	3.15

Baptist Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11R-02-BEN** **Chuckatuck Creek**

Cause Location: This cause encompasses Chuckatuck Creek, from the confluence of unnamed tributary (downstream of Rt. 600) downstream to confluence of unnamed tributary (downstream of Rt. 602, below BIO station @ 2-CKT005.72).Riverine portion southwest of Longview.

City / County: Isle Of Wight Co. Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained from previous assessments (2004 - 2006) based on a moderately impaired rating for freshwater benthic bioassessment monitored at DEQ (BIO) benthic assessment monitoring station @ 2-CKT005.72 during Spring & Fall of 1998 - 2000. No more recent benthic monitoring has been conducted with which to revise assessment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11R_CKT01A04 / Chuckatuck Creek / Riverine portion southwest of Longview and NW of Grave areas. Chuckatuck Creek, from confluence of unnamed trib. branches downstream underneath Rt 602 (below BIO station @ 2-CKT005.72) to junction of N trib. (outflow from pond) downstream of Rt 602	5A	Benthic-Macroinvertebrate Bioassessments	2004	L	1.53

Chuckatuck Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11R-03-BAC** **Champion Swamp**

Cause Location: This cause encompasses a portion of Champion Swamp. Located southwest of Town of Smithfield. Western tributary to Cypress Creek. Portion of lower Champion Swamp, from split of stream upstream of State Hwy 620 downstream to the start of tidal waters in downstream Cypress Creek past pipeline marker on topo

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use impairment is retained. Current data for E.coli at station 2CPN-1-IRC has 1 viol/ 19 obs is Level II and insufficient to make assessment determination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11R_CPN01A00 / Champion Swamp / Located southwest of Town of Smithfield. Western tributary to Cypress Creek. Portion of lower Champion Swamp, from split of stream upstream of State Hwy 620 downstream to the start of tidal waters in downstream Cypress Creek past pipeline marker on topo.	5A	Escherichia coli	2010	L	3.16

Champion Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.16**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G11R-04-BAC** **Pagan River (including Wrenns Millpond)**

Cause Location: This cause encompasses Riverine portion of Pagan River beginning at the confluence of Warren Creek and in eastern trib. Proceeding downstream (including Wrenns Millpond) and downstream of pond to confluence with tidal waters.

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired based on (17 viol / 36 obs.) based on E.coli bacteria data meeting the applicable criteria monitored at DEQ (AQM) monitoring station 2-PGN010.07. Impairment is nested in the 2018 IR within the Pagan River Bacteria TMDL. New impairment is located within the TMDL watershed boundary. Station 10.07 was used in the model. Land use is consistent with the TMDL watershed landuse. Reductions in the TMDL are adequate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11R_PGN01A04 / Pagan River (including Wrenns Millpond) / Riverine portion of Pagan River beginning at the confluence of Warren Cr. and in eastern trib. proceeding downstream (including Wrenns Millpond) and downstream of pond to confluence with tidal waters.	4A	Escherichia coli	2012	L	1.35

Pagan River (including Wrenns Millpond) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.35**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12L-01-DO** **Lake Cahoon**

Cause Location: This cause encompasses the entirety of Lake Cohoon. Southeast of Myrtle. West and upstream of Lake Meade, (portion of the headwater impoundment system of the Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen (15 viol/ 41 obs) data at station 2-LCN000.20.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12L_LCN01A06 / Lake Cohoon (PWS) / Southeast of Myrtle. West and upstream of Lake Meade (portion of the headwater impoundment system of the Nansemond River). Portion of Portsmouth PWS system.	5A	Oxygen, Dissolved	2006	L	454.16

Lake Cahoon **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**454.16**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12L-02-DO** **Lake Meade**

Cause Location: This cause encompasses the entirety of Lake Meade. Northwest of City of Suffolk. Headwater impoundments of Nansemond River. Downstream receptor of Lakes Cohoon & Kilby. Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen data at stations 2-LMD000.02 (9 viol/ 49 obs) and 2-LMD001.41 (8 viol/ 44 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12L_LMD01A06 / Lake Meade (PWS) / Northwest of City of Suffolk. Headwater impoundments of Nansemond River. Downstream receptor of Lakes Cohoon & Kilby. Portion of Portsmouth PWS system.	5A	Oxygen, Dissolved	2006	L	489.49

Lake Meade **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**489.49**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12L-02-TP** **Lake Meade**

Cause Location: This cause encompasses the entirety of Lake Meade. Northwest of City of Suffolk. Headwater impoundments of Nansemond River. Downstream receptor of Lakes Cohoon & Kilby. Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

Nutrient impairment for TP is retained in the 2018 IR. Data collected in the 2015 supports TP -ALUS criteria ; however need an additional year of data to delist. Previously, Lake Meade pooled nutrient results: 2 viol / 2 obs TP 2009, 2012 (IM); Nutrients Impaired -Assess TP since algaecide application.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12L_LMD01A06 / Lake Meade (PWS) / Northwest of City of Suffolk. Headwater impoundments of Nansemond River. Downstream receptor of Lakes Cohoon & Kilby. Portion of Portsmouth PWS system.	5A	Phosphorus (Total)	2012	L	489.49

Lake Meade	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Phosphorus (Total) - Total Impaired Size by Water Type:		**489.49**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12L-03-CHLA** **Speights Run Lake**

Cause Location: This cause encompasses the entirety of Speights Run Lake. Northwest of Suffolk Municipal Airport. Southwest of Lake Kilby. Most southwest branch and upstream of Lake Kilby/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

ALUS is impaired for nutrients - Chla. Speights Run pooled nutrients results: 2 viol / 3 obs Chla 2012, 2009, 2015 (IM); Chla Assessed IM -no algaecide application.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12L_SPE01A06 / Speights Run - Lake (PWS) / Northwest of Suffolk Municipal Airport. Southwest of Lake Kilby. Most southwest branch and upstream of Lake Kilby/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.	5A	Chlorophyll-a	2010	L	120.87

Speights Run Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**120.87**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12L-03-DO** **Speights Run Lake**

Cause Location: This cause encompasses the entirety of Speights Run Lake. Northwest of Suffolk Municipal Airport. Southwest of Lake Kilby. Most southwest branch and upstream of Lake Kilby/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen data at stations 2-SPE000.17 (15 viol/ 42 obs) and 2-SPE001.18 (18 viol/ 41 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12L_SPE01A06 / Speights Run - Lake (PWS) / Northwest of Suffolk Municipal Airport. Southwest of Lake Kilby. Most southwest branch and upstream of Lake Kilby/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.	5A	Oxygen, Dissolved	2006	L	120.87

Speights Run Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**120.87**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12L-04-DO** **Lake Kilby**

Cause Location: This cause encompasses the entirety of Lake Kilby. Northwest of Suffolk Municipal Airport. South of Pitchkettle Creek. Most southwest branch of Lake Kilby/Pitchkettle Creek/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO data violation rate is 69.4 % (11 violates/ 31 obs.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12L_LKK01A06 / Lake Kilby (PWS) / Northwest of Suffolk Municipal Airport. South of Pitchkettle Creek. Most southwest branch of Lake Kilby/Pitchkettle Creek/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.	5A	Oxygen, Dissolved	2006	L	200.03

Lake Kilby	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**200.03**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12L-04-TP** **Lake Kilby**

Cause Location: This cause encompasses the entirety of Lake Kilby. Northwest of Suffolk Municipal Airport. South of Pitchkettle Creek. Most southwest branch of Lake Kilby/Pitchkettle Creek/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

Aquatic Life Use is impaired for nutrients - TP. Lake Kilby pooled nutrient results: 2 viol/ 2 obs TP 2015, 2012 (IM).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12L_LKK01A06 / Lake Kilby (PWS) / Northwest of Suffolk Municipal Airport. South of Pitchkettle Creek. Most southwest branch of Lake Kilby/Pitchkettle Creek/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.	5A	Phosphorus (Total)	2014	L	200.03

Lake Kilby	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Phosphorus (Total) - Total Impaired Size by Water Type:		**200.03**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G12R-01-PH** **Eley Swamp**

Cause Location: This cause encompasses the area located northeast of Myrtle. Segment is south of Rt. 460 and traverses the N&W RR line. Segment extends 2.40 mi. upstream and 2.20 mi. downstream from Rt. 607 crossing. Portion of Portsmouth water supply reservoirs.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

The Aquatic Life Use impairment, based on pH concentrations below the allowable DEQ minimum criteria (6.0 SU) from the 1998 303d listing is retained due to lack of more recent data. The Natural Conditions Report for pH was approved in Triennial Review.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G12R_ELE01A00 / Eley Swamp tributary to Lake Cohoon (PWS) / Located northeast of Myrtle. Segment is south of Rt 460 and traverses the N&W RR line. Segment extends 2.40 mi. upstream and 2.20 mi. downstream from Rt. 607 crossing. Portion of Portsmouth water supply reservoirs.	4C	pH			4.80

Eley Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.80**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-07-PH** **Shingle Creek - Tributary to Nansemond R.**

Cause Location: This cause encompasses the area NE of Suffolk, near Rt. 642. From end of tidal waters (0.2 mi upstream of Portsmouth Blvd) downstream to confluence with Nansemond River. CBP segment JMSMH.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The Aquatic Life Use is impaired (TMDL ID = VAT-G13E-07) based on a site specific failure to meet the minimum pH criteria.(4.0 SU) at station 2-SGL001.00 (11/36). Connection of upstream portions with canals associated with the Dismal Swamp may impart low pH waters into this segment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_SGL01A00 / Shingle Creek - Tributary to Nansemond R. / NE of Suffolk, near Rt 642. From end of tidal waters (0.2 mi upstream of Portsmouth Blvd) downstream to confluence with Nansemond River. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	5A	pH	2002	L	0.040

Shingle Creek - Tributary to Nansemond R.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**0.040**		

Sources:

Natural Sources	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-12-BAC** **Bennett Creek, Tributary to Nansemond River**

Cause Location: This cause encompasses from the headwaters to the mouth, including tidal tributaries. Portion of CBP segment JMSMH.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance of the instantaneous criteria for Enterococcus bacteria at stations 2-BEN001.42 (6 viol/ 33 obs.) and 2BEN-SBC000.35-SUF (19 viol/ 90 obs).Nested within EPA approved TMDL for SF in Bleakhorn, Bennett and Knotts Creek 6/3/2010.

TMDL ID (VAT-G13E-04) and due date (TMDL due date = 2016) same as original FC impairment.
Cause code (G13E-12-SF) relates to shellfish Cause code in DSS # 063-046 A (20060202).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_BEN01A04 / Bennett Creek - Tributary to Nansemond R. / Eastern shore trib. to Nansemond R., near confluence with James R. Bennett Harbor area. From headwaters to mouth, including tidal tributaries. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 A (20140826).	4A	Enterococcus	2004	L	0.542

Bennett Creek, Tributary to Nansemond River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.542**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-12-SF** **Bennett, Bleakhorn and Knotts Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation #063-046 A, 8/26/2014.

City / County: Suffolk City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS shellfish direct harvesting condemnation # 063-046 A (20140826). TMDL ID = VAT-G13E-12. EPA approved SF TMDL for Bleakhorn, Bennett and Knotts Creek 6/3/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_BEN01A04 / Bennett Creek - Tributary to Nansemond R. / Eastern shore trib. to Nansemond R., near confluence with James R. Bennett Harbor area. From headwaters to mouth, including tidal tributaries. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 A (20140826).	4A	Fecal Coliform	1998	L	0.542
VAT-G13E_BHN01A00 / Bleakhorn Creek - Tributary to Nansemond R. Mouth / Western shore trib. to Nansemond R., near confluence with James R. Eclipse area near Crittenden. From headwaters to mouth, including tidal tributaries. CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 B (20140826). TMDL.	4A	Fecal Coliform	1998	L	0.014
VAT-G13E_KNC01A00 / Knotts Creek - Tributary to E. shore Nansemond R. / Eastern shore trib. to Nansemond R., near confluence with James R. Belleville and Huntersville areas. From headwaters to mouth, including tidal tributaries. CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 A (20140826).	4A	Fecal Coliform	1998	L	0.122

Bennett, Bleakhorn and Knotts Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.677**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-13-BAC** **Nansemond River - Upper & Shingle Cr**

Cause Location: Upper Nansemond River, within city of Suffolk. Extends from most upstream point in river at Lake Meade Dam (RM 19.8) downstream to Rt. 58/460 crossing (RM 15.2). CBP segment JMSMH.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus data at the following stations:
2-NAN019.14: 23 viol/ 34 obs
2NAN-SNR0015.58-SUF: 53 viol/ 92 obs
2NAN-SNR0018.24-SUF: 58 viol/ 92 obs
2NAN-SNR0018.82-SUF: 55 viol/ 92 obs
2NAN-SNR0019.27-SUF: 36 viol/ 80 obs
2NAN-SNR0019.46-SUF: 33 viol/ 77 obs
2-SGL001.00 (29 viol/ 34 obs) and
2SGL-SSC000.24-SUF (49 viol/ 71 obs).
The Recreation and Shellfishing Uses are covered under TMDL "Fecal Bacteria Total Maximum Daily Load Development for the Nansemond River Primary Contact Recreation Use and Shellfish Harvesting Use", April 26, 2006, EPA approved 12/4/06.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_NAN01A00 / Nansemond River - Upper / Upper Nansemond River, within city of Suffolk. Extends from most upstream point in river at Lake Meade Dam (RM 19.8) downstream to Rt. 58/460 crossing (RM 15.2). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Enterococcus	1994	L	0.269
VAT-G13E_SGL01A00 / Shingle Creek - Tributary to Nansemond R. / NE of Suffolk, near Rt 642. From end of tidal waters (0.2 mi upstream of Portsmouth Blvd) downstream to confluence with Nansemond River. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Enterococcus	1994	L	0.040

Nansemond River - Upper & Shingle Cr **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.310**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-13-SF** **Burnetts Mill Creek, Nansemond R., Shingle Cr, Star & Oyster, Unsegmented & Western Branch Trib Estuaries to Upper Nansemond**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation # # 063-008 A (20160926). TMDL (32045)

City / County: Suffolk City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS shellfish condemnation # 063-008 A & C1(20160926).TMDL ID = VAT-G13E-13.1998 CD segment for shellfish (Attachment A, Category 3) VAT-G13E-13. The Recreation and Shellfish Uses are covered under TMDL "" Fecal Bacteria Total Maximum Daily Load Development for the Nansemond River Primary Contact Recreational Use and Shellfish Harvesting Use, April 26, 2006, EPA approved 12/4/06.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_BML01A06 / Burnetts Mill Creek - Tributary to Upper Nansemond R. / Eastern shore trib. to upper Nansemond R., south of the Nansemond area. Drains the Beamon area. From headwaters to mouth. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (20160926). TMDL (32045)	4A	Fecal Coliform	1998	L	0.028
VAT-G13E_NAN01A00 / Nansemond River - Upper / Upper Nansemond River, within city of Suffolk. Extends from most upstream point in river at Lake Meade Dam (RM 19.8) downstream to Rt. 58/460 crossing (RM 15.2). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Fecal Coliform	1994	L	0.269
VAT-G13E_NAN02A06 / Nansemond River - Upper Middle / Downstream of Suffolk. From Rt 58/460 (RM 15.1) crossing downstream to confluence with the Western Branch Reservoir (RM 11.9). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (20160926).TMDL (32045)	4A	Fecal Coliform	1994	L	0.209
VAT-G13E_NAN03A06 / Nansemond River - Lower Middle / In area of Western Branch Reservoir. From confluence with Western Br. (RM 11.8) downstream to Holidays Pt. CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A & C1 (2016096). TMDL (32045)	4A	Fecal Coliform	1994	L	2.833
VAT-G13E_SGL01A00 / Shingle Creek - Tributary to Nansemond R. / NE of Suffolk, near Rt 642. From end of tidal waters (0.2 mi upstream of Portsmouth Blvd) downstream to confluence with Nansemond River. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Fecal Coliform	1994	L	0.040
VAT-G13E_STR01A04 / Star & Oyster House Creeks - Tributary to Nansemond R. / Eastern shore tributary to Nansemond R. Adjacent to the Naval Communication station at Driver. From headwaters to confluence with Nansemond R. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20140826).	4A	Fecal Coliform	1998	L	0.046
VAT-G13E_WBN01A06 / Western Branch - Tributary to Nansemond R. / Western shore branch off the Nansemond River south of the Reids Ferry area. Downstream of the Western Branch Reservoir, prior to reaching the Nansemond River. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Fecal Coliform	1998	L	0.106
VAT-G13E_ZZZ01A00 / Unsegmented Estuaries - Upper Nansemond R. / Upper Nansemond River unsegmented tributaries	4A	Fecal Coliform	1998	L	0.097

James River Basin

with a DSS condemnation. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).

Burnetts Mill Creek, Nansemond R., Shingle Cr, Star & Oyster, Unsegmented & Western Branch Trib Estuaries to Upper Nansemond	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**3.629**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-14-SF** **Nansemond River -Lower at Knotts Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 063-046 B 20120801.

City / County: Suffolk City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS shellfish direct harvesting condemnation present within this segment as described in VDH Notice and Description of Shellfish Condemnation 063-046 B 20120801. Included in "TMDL Report for Chesapeake Bay Shellfish Waters: Bleakhorn Cr, Bennett Cr, and Knotts Cr Bacterial Impairments in City of Suffolk, VA" EPA approved 6/3/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_NAN04C10 / Nansemond River - Lower DSS Condemned at Knotts Cr / Nansemond R at confluence Knotts Cr. CBP segment JMSMH. DSS condemnation # 063-046 B (effective 20120801).	4A	Fecal Coliform	2010	L	0.467

Nansemond River -Lower at Knotts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.467**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-15-BAC** **Knotts Creek - Tributary to E. shore Nansemond R.**

Cause Location: This area encompasses the Eastern shore trib. to Nansemond R., near confluence with James R. Belleville and Huntersville areas. From headwaters to mouth, including tidal tributaries. CBP segment JMSMH.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on the data collected by the City of Suffolk at station 2KNC-SKC000.35-SUF with 20 viol/ 71 obs.

NESTED within TMDL EPA approved for Shellfish at Knotts, Bleakhorn and Bennett Creek 6/3/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_KNC01A00 / Knotts Creek - Tributary to E. shore Nansemond R. / Eastern shore trib. to Nansemond R., near confluence with James R. Belleville and Huntersville areas. From headwaters to mouth, including tidal tributaries. CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 A (20140826).	4A	Enterococcus	2014	L	0.122

Knotts Creek - Tributary to E. shore Nansemond R.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.122**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-16-BAC** **Nansemond River - Upper Middle**

Cause Location: This cause encompasses the area downstream of Suffolk. From Rt. 58/460 (RM 15.1) crossing downstream to confluence with the Western Branch Reservoir (RM 11.9). CBP segment JMSMH.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on NONA station data at 2NAN-SNR0013.50-SUF with 45 viol/94 obs for Enterococci.

Nested within EPA approved Shellfish TMDL for Bacteria Nansemond R, 12/4/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_NAN02A06 / Nansemond River - Upper Middle / Downstream of Suffolk. From Rt 58/460 (RM 15.1) crossing downstream to confluence with the Western Branch Reservoir (RM 11.9). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (20160926).TMDL (32045)	4A	Enterococcus	2014	L	0.209

Nansemond River - Upper Middle **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.209**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-17-BAC** **Nansemond River - Lower Middle**

Cause Location: This cause encompasses the area of Western Branch Reservoir. From confluence with Western Br. (RM 11.8) downstream to Holidays Pt. CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (20120801). TMDL (32045)

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on data collected at the following stations: 2NAN-SNR0011.83-SUF: 37 viol/ 93 obs; 2NAN-SNR007.88-SUF: 16 viol/ 93 obs; 2NAN-SNR008.82-SUF: 16 viol/ 92 obs. The bacteria impairment is nested in EPA approved TMDL for Nansemond R Bacteria TMDL 12/4/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_NAN03A06 / Nansemond River - Lower Middle / In area of Western Branch Reservoir. From confluence with Western Br. (RM 11.8) downstream to Holidays Pt. CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A & C1 (2016096). TMDL (32045)	4A	Enterococcus	2014	L	2.833

Nansemond River - Lower Middle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**2.833**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G13E-18-BAC** **Western Branch - Tributary to Nansemond R.**

Cause Location: This cause encompasses the western shore branch off the Nansemond River south of the Reids Ferry area. Downstream of the Western Branch Reservoir, prior to reaching the Nansemond River. CBP segment JMSMH.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on data collected at Station 2WBN-SWB000.30-SUF with 43 viol / 93 obs. Nested in EPA approved Shellfish TMDL Nansemond River 12/4/2006."

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G13E_WBN01A06 / Western Branch - Tributary to Nansemond R. / Western shore branch off the Nansemond River south of the Reids Ferry area. Downstream of the Western Branch Reservoir, prior to reaching the Nansemond River. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Enterococcus	2014	L	0.106

Western Branch - Tributary to Nansemond R.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.106**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G14L-01-DO** **Lake Burnt Mills**

Cause Location: This cause encompasses the entirety of Lake Burnt Mills. West of Chuckatuck. Upper northwest portion of Western Branch Reservoir system. Upstream of Rt. 603. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co. Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO exceedance rate 26.4% (36 violates/ 136 obs). Individual station exceedances include 2-NWB007.04 (8 viol/ 38 obs), BM1 (10 viol/ 51 obs), BM2 (14 viol/ 40 obs), 2GRW-3-IRC (4 viol/ 6 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G14L_NWB01A08 / Lake Burnt Mills / West of Chuckatuck. Upper northwest portion of Western Branch Reservoir system. Upstream of Rt 603. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.	5A	Oxygen, Dissolved	2006	L	637.99

Lake Burnt Mills **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**637.99**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G14L-02-TP** **Western Branch Reservoir**

Cause Location: This cause encompasses the entirety of Western Branch Reservoir. West of Chuckatuck. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co. Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

The Aquatic Life Use is impaired based on pooled nutrient results: 2 viol/ 2 obs Chla & TP 2015,2012 (IM); (algaecide application).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G14L_NWB02A08 / Western Branch Reservoir / West of Chuckatuck. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.	5A	Phosphorus (Total)	2012	L	######

Western Branch Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**1,209.67**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G14L-03-DO** **Lake Prince Reservoir**

Cause Location: This cause encompasses the entirety of Lake Prince Reservoir. Northwest of Suffolk, south of Town of Indika. Southwest branch of Western Branch Reservoir system. Upstream of Western Branch Reservoir. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co. Norfolk City Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO exceedance rate is 14.8% (84 violates / 568 obs.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G14L_LPR01A06 / Lake Prince - Reservoir (PWS) / Northwest of Suffolk, south of Town of Indika. Southwest branch of Western Branch Reservoir system. Upstream of Western Branch Reservoir. Portion of Norfolk water supply reservoirs.	5A	Oxygen, Dissolved	2006	L	715.37

Lake Prince Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**715.37**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G14R-01-PH** **Carbell Swamp - Upper**

Cause Location: This cause encompasses the upper portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co. Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The Aquatic Life Use is impaired based on pH concentrations below the DEQ minimum criteria (6.0 SU). DEQ freshwater benthic bioassessment monitoring station @ 2-CRL004.04 (1 violates / 4 observations).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G14R_CRL01A08 / Carbell Swamp - Upper / Upper portion of swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Entire watershed is portion of PWS for City of Norfolk.	5C	pH	2002	L	2.95

Carbell Swamp - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.95**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G14R-02-BAC** **Carbell Swamp - Lower**

Cause Location: This cause encompasses the lower portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church), including confluent trib. at station originating from the NW. Begins at Branch & Joyner Millpond downstream to joining Lake Prince. Within PWS for City of Norfolk

City / County: Isle Of Wight Co. Norfolk City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired based on exceedance of the E.coli bacteria instantaneous criteria (7 violates / 35 obs.) as monitored at the DEQ monitoring station 2-CRL001.83. Impaired segment is proposed for nesting in the 2018 IR within the Nansemond River Shingle Creek Bacteria TMDL. Nesting is proposed since impairment is within existing Bacteria TMDL boundary with comparable sources and similar land use with reductions adequate for entire watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G14R_CRL02A08 / Carbell Swamp - Lower / Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church), including confluent trib. at station originating from the NW. Begins at Branch & Joyner Millpond downstream to joining Lake Prince. Within PWS for City of Norfolk.	4A	Escherichia coli	2010	L	2.88

Carbell Swamp - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G14R-02-DO** **Carbell Swamp - Lower**

Cause Location: This cause encompasses the lower portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Lower segment of swamp. Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co. Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO concentrations below the DEQ minimum criteria (12 violates /35 obs.) at station 2-CRL001.83.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G14R_CRL02A08 / Carbell Swamp - Lower / Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church), including confluent trib. at station originating from the NW. Begins at Branch & Joyner Millpond downstream to joining Lake Prince. Within PWS for City of Norfolk.	5A	Oxygen, Dissolved	2008	L	2.88

Carbell Swamp - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-01-01-EBEN Deep Creek, Southern Br. Elizabeth R.- Mouth**

Cause Location: This cause encompasses the area South of I-64 crossing of Southern Br. E shore trib to Southern Br. Mouth of Creek North of Interstate 64. CBP segment SBEMH. BIBI segment SBEMHa.

City / County: Chesapeake City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

Segment is listed as impaired in the 2018 IR based on 2016 WoE assessment at station 2-DEC000.58. The WoE analysis collected in 2016 is 5A: IM with high probability of cumulative chronic and acute effects of sediment PAHs and metals. Deep Creek was listed as impaired for benthics in the 2006 IR with CGC G15E-01-01-EBEN and later delisted in the 2012 IR. Station has Cat 5A assessment for both the 2006 and 2016 WoE. DEQ (C2-2006, 2016) station @ 2-DEC000.58 indicates severe benthic impairment with data collected in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_DEC02A18 / Deep Creek, Southern Br. Elizabeth R.- Mouth / South of I-64 crossing of Southern Br. E shore trib to Southern Br. Mouth of Creek North of Interstate 64. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2018	L	0.075

Deep Creek, Southern Br. Elizabeth R.- Mouth **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.075**		

Sources:

- Industrial Point Source Discharge
- Industrial/Commercial Site Stormwater Discharge (Permitted)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-01-01-TCDD** **Elizabeth River Southern Branch and its tidal tributaries. CBP segment SBEMH.**

Cause Location: This cause encompasses the entirety of the Southern Branch Elizabeth River and its tidal tributaries.

City / County: Chesapeake City Norfolk City Portsmouth City

Use(s): Fish Consumption

Cause(s) / VA Category: Dioxin (including 2,3,7,8-TCDD) / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory within the Southern Branch Elizabeth River and its tidal tributaries for Dioxin in Blue Crab hepatopancreas contamination, issued by the VDH 1/23/09.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_DEC01A06 / Deep Creek, Southern Br. Elizabeth R. / South of I-64 crossing of Southern Br. E shore trib to Southern Br. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.209
VAT-G15E_DEC02A18 / Deep Creek, Southern Br. Elizabeth R.-Mouth / South of I-64 crossing of Southern Br. E shore trib to Southern Br. Mouth of Creek North of Interstate 64. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.075
VAT-G15E_GIL01A10 / Gilligan Cr - Upper, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Upper portion no Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.012
VAT-G15E_GIL02A10 / Gilligan Cr - Lower, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Lower portion with Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.011
VAT-G15E_JON01A10 / Jones Cr - Upper, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Upper portion no Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.027
VAT-G15E_JON02A10 / Jones Cr - Lower, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Lower portion with Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.017
VAT-G15E_MAI01A10 / Mains Cr. - SB Eliz R. E shore Tributary / SB Eliz R. E shore upstream tributary, SE of Deep Cr. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.013
VAT-G15E_MCE01A10 / Mill Creek - SB Elizabeth R. S. shore tributary / SB Elizabeth R S shore tributary SW of Great Bridge Locks. CBP & BIBI segment SBEMHa. Portion of DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.023

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAT-G15E_MDM01A10 / Milldam Cr trib S. Br. Elizabeth R. / Tributary to E shore SB Elizabeth R. N of Gilmerton Br. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.071
VAT-G15E_NMC01A00 / New Mill Creek - Southern Br. Elizabeth R. / Located south of I-64 crossing of Southern Br. Eastern shore trib to Southern Br, downstream of locks. Entirety of Creek. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.082
VAT-G15E_NTN01A10 / Newton Cr trib to SB Eliz R / Tributary to E shore SB Eliz R. NE of Deep Cr. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.038
VAT-G15E_PAR01A06 / Paradise Creek - Upper, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. No Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.025
VAT-G15E_PAR02A10 / Paradise Creek - Lower, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. With Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.028
VAT-G15E_SBE01A00 / Southern Branch, Elizabeth R. - Upper / South of I-64 crossing. From headwaters @ Great Br Locks downstream to I-64 crossing @ Deep Cr. (RM 6.86). CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.636
VAT-G15E_SBE02A06 / Southern Branch, Elizabeth R. - Middle / From I-64 crossing @ Deep Cr. confluence (RM 6.86) downstream to the Jordan Bridge (RM 2.30). CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	1.074
VAT-G15E_SBE03A06 / Southern Branch, Elizabeth R. - Lower / North of the Jordan Bridge. From the Jordan Bridge, Rt. 337 (RM 2.30) downstream to the mouth, confluence with the mainstem Elizabeth R. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMIN) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.545
VAT-G15E_STJ01A04 / Saint Julian Creek / Northwest of Gilmerton Bridge. Eastern shore tributary to Southern Br. Entirety of Creek. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.133
VAT-G15E_XFR01A10 / UT to SB Elizabeth R. S shore estuary SE of Mill Cr. / SB Eliz S shore estuary SE of Mill Cr. CBP & BIBI segment SBEMH. DSS (ADMIN-COND) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.008
VAT-G15E_XQT01A10 / UT to SB Elizabeth R. N shore creek near Great Bridge Locks / SB Elizabeth R. upstream N shore creek north of Great Bridge Locks. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.045
VAT-G15E_XQU01A10 / SB Eliz N shore creek SW of Mains Cr. / SB Elizabeth R. upstream N shore creek SW of Mains Cr. CBP & BIBI segment SBEMHa. DSS (ADMIN-COND) shellfish condemnation #	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.020

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

056-007 E (effective 20120529).

VAT-G15E_ZZZ02A08 / Unsegmented estuaries in SBEMH / CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Dioxin (including 2,3,7,8-TCDD)	2010	L	0.058

Elizabeth River Southern Branch and its tidal tributaries. CBP segment SBEMH.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Dioxin (including 2,3,7,8-TCDD) - Total Impaired Size by Water Type:	**3.147**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-02-02-BAC** **Elizabeth River Upper Mainstem, Eastern Branch, Broad Creek, Southern Branch and Paradise Creek Recreation Impairment**

Cause Location: This cause encompasses the Elizabeth River Upper Mainstem, from start of mainstem downstream to line between Hospital Pt and Smiths Creek (incl. Hague). Eastern Branch and Broad Creek.

City / County: Chesapeake City Norfolk City Portsmouth City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance of the instantaneous criteria for Enterococcus bacteria. The Cause Code (G15E-02-02-BAC) relates the bacteria impairments in the lower Eastern & Southern Branches and upper mainstem Elizabeth River. Bacteria TMDL Development for the Elizabeth River Watershed EPA approved 7/20/2010.1999 CD segment for DO & FC (Attachment A, Category 1, Part 1 & Attachment B) VAT-G15E-02-04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_BRO01A02 / Broad Creek, Eastern Br. Elizabeth R. / Located between Ingleside and Thomas Corner areas. North shore tributary to Eastern Br. Elizabeth R. Entirety of Broad Creek. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 065-007 E (effective 20120529).	4A	Enterococcus	1998	L	0.371
VAT-G15E_PAR01A06 / Paradise Creek - Upper, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. No Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2006	L	0.025
VAT-G15E_PAR02A10 / Paradise Creek - Lower, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. With Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2006	L	0.028
VAT-G15E_SBE03A06 / Southern Branch, Elizabeth R. - Lower / North of the Jordan Bridge. From the Jordan Bridge, Rt. 337 (RM 2.30) downstream to the mouth, confluence with the mainstem Elizabeth R. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMIN) shellfish condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	1998	L	0.545

Elizabeth River Upper Mainstem, Eastern Branch, Broad Creek, Southern Branch and Paradise Creek Recreation Impairment	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.969**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-02-03-BAC Southern Branch, Elizabeth R. - Middle**

Cause Location: This cause encompasses the southern branch of the Elizabeth River from the Norfolk & Portsmouth Beltline to S Military Highway (13).

City / County: Chesapeake City Portsmouth City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococci data from Stations 2-SBE006.26 (7 viol/ 57 obs) and 2-SBE001.98 (13 viol/ 63 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_SBE02A06 / Southern Branch, Elizabeth R. - Middle / From I-64 crossing @ Deep Cr. confluence (RM 6.86) downstream to the Jordan Bridge (RM 2.30). CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2016	L	1.074

Southern Branch, Elizabeth R. - Middle **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**1.074**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-02-04-EBEN** **Eastern Branch Elizabeth River, Broad Creek and Unsegmented estuaries in EBEMH**

Cause Location: This cause encompasses the entirety of the Eastern Branch Elizabeth River and Broad Creek. Located between Carolanne Farms and Tanglewood areas. Upper Eastern Branch, from headwaters to confluence of Broad Creek (RM 4.0). CBP segment EBEMH.

City / County: Chesapeake City Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

There is insufficient data to assess benthics, therefore the 2010 impairment will be retained. 2010- The Aquatic Life Use was impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis (VERSAR-2005). The benthic source/stressor tool yielded sediment contaminants as the suspected source for the impairment. This segment was previously included (2004 IR) in TMDL ID: VAT-G15E-01-03. The TMDL due date is carried from the previous 2004 IR impairment identification date."

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_BRO01A02 / Broad Creek, Eastern Br. Elizabeth R. / Located between Ingleside and Thomas Corner areas. North shore tributary to Eastern Br. Elizabeth R. Entirety of Broad Creek. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 065-007 E (effective 20120529).	5A	Estuarine Bioassessments	2004	L	0.371
VAT-G15E_EBE01A00 / Eastern Branch, Elizabeth R. - Upper / Located between Carolanne Farms and Tanglewood areas. Upper Eastern Br., from headwaters to confluence of Broad Creek (RM 4.0). CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2004	L	0.377
VAT-G15E_EBE02A06 / Eastern Branch, Elizabeth R. - Lower Middle / From Broad Creek (RM 4.0) downstream to the Campestella Bridge. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2004	L	0.625
VAT-G15E_EBE03A18 / Eastern Branch, Elizabeth R. - Lower / From Campastella Bridge to mouth of Elizabeth River mainstem. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2004	L	0.390
VAT-G15E_IND01A02 / Indian River - Eastern Branch, Elizabeth R. / Located southwest of Broad Creek. Between Campostella Heights and Tanglewood. Entirety of creek including tribs. CBP segment EBEMH. Portion of the DSS (ADMINISTRATIVE) shellfish harvesting condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2006	L	0.268
VAT-G15E_STM01A10 / Steamboat Creek / South Shore trib to E. Branch. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2006	L	0.058
VAT-G15E_ZZZ03A08 / Unsegmented estuaries in EBEMH / CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2006	L	0.261

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Eastern Branch Elizabeth River, Broad Creek and Unsegmented estuaries in EBEMH

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**2.350**		

Sources:

Contaminated Sediments	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-02-05-BAC** **Indian River, tributary of Eastern Branch, Elizabeth River**

Cause Location: This cause encompasses the entirety of the Indian River. Located southwest of Broad Creek. Between Campostella Heights and Tanglewood. Entirety of creek including tribs. CBP segment EBEMH.

City / County: Chesapeake City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired (19 violates / 31 observations) due to exceedance of the instantaneous criteria for Enterococcus bacteria. Bacteria TMDL Development for the Elizabeth River Watershed EPA approved 7/20/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_IND01A02 / Indian River - Eastern Branch, Elizabeth R. / Located southwest of Broad Creek. Between Campostella Heights and Tanglewood. Entirety of creek including tribs. CBP segment EBEMH. Portion of the DSS (ADMINISTRATIVE) shellfish harvesting condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2002	L	0.268

Indian River, tributary of Eastern Branch, Elizabeth River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.268**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-02-06-BAC Eastern Branch, Elizabeth R. - Lower**

Cause Location: This cause encompasses the eastern branch of the Elizabeth River, from the Berkley Bridge to the Broad Creek confluence

City / County: Chesapeake City Norfolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus data at stations 2-EBE000.40 (6 viol/ 55 obs) and 2-EBE002.98 (7 viol/ 54 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_EBE02A06 / Eastern Branch, Elizabeth R. - Lower Middle / From Broad Creek (RM 4.0) downstream to the Campestella Bridge. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2006	L	0.625

Eastern Branch, Elizabeth R. - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.625**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Cause Group Code: G15E-03-01-EBEN **Elizabeth River Mainstem**

Cause Location: This cause encompasses the entirety of the Elizabeth River Mainstem. CBP segment SBEMH. BIBI segment ELIMHa.

City / County: Norfolk City Portsmouth City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_ELI01A06 / Elizabeth River Mainstem - Upper / From start of mainstem downstream to line between Hospital Pt and Smiths Cr. (Incl. Hague). BIBI segment ELIMHa (downstream Lamberts Pt.). CBP segment ELIPH. DSS (ADMIN) cond # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2004	L	0.468
VAT-G15E_ELI02A06 / Elizabeth River Mainstem - Middle / From a line between Hospital Pt and Smiths Cr down stream to the end of CBP-BIBI segment ELIMHa (downstream of Lamberts Pt.). BIBI segment ELIMHa. CBP segment ELIPH. DSS (ADMIN) condemnation # 056-007 E and A (effective 20120529).	5A	Estuarine Bioassessments	2004	L	4.005
VAT-G15E_ELI03A08 / Elizabeth River Mainstem - Mouth / From start BIBI segment ELIPHa (SE corner Craney Isl. line to east) downstream to mouth (NE corner Craney Isl. east to S Glenwood Pk). BIBI segment ELIPHa. CBP segment ELIPH. DSS (ADMIN) condemnation # 056-007 A (effective 20120529).	5A	Estuarine Bioassessments	2010	L	3.445

Elizabeth River Mainstem **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**7.917**		

Sources:

Contaminated Sediments Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-03-03-EBEN Scott Creek**

Cause Location: This cause encompasses the entirety of Scott Creek

City / County: Norfolk City Portsmouth City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use - Estuarine Bioassessment impairment based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The Elizabeth River mainstem segment BIBI-ELIPHa was assessed as impaired of the Clean Water Act's Aquatic Life Use Support Goal due to the results of benthic BIBI probabilistic station surveys. The BIBI stressor tool yielded "unknown" as the probable impairment source.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_SCO01A06 / Scott Creek / South shore tributary of Elizabeth River mainstem. Upstream of Pinner Point. CBP segment ELIPH. BIBI segment ELIMHa. Portion of the DSS (ADMINISTRATIVE) shellfish harvesting condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2016	L	0.194

Scott Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.194**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-04-01-BAC Western Branch, Elizabeth R. - Upper**

Cause Location: This cause encompasses the area located between Stewart Manor and Point Elizabeth areas. From headwaters (RM 8.5) downstream to Sterns Creek (RM 3.5). BIBI segment WBEMHa.

City / County: Chesapeake City Portsmouth City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Recreation Use is impaired with 7 viol / 60 obs at station 2-WBE004.44.

EPA approved TMDL for Enterococcus in Lower and Upper Western Branch Elizabeth River 7/20/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_WBE01A02 / Western Branch, Elizabeth R. - Upper / Located between Stewart Manor and Point Elizabeth areas. From headwaters (RM 8.5) downstream to Sterns Creek (RM 3.5). BIBI segment WBEMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2006	L	0.561

Western Branch, Elizabeth R. - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.561**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-04-02-BAC Western Branch, Elizabeth R. - Lower**

Cause Location: This cause encompasses the main stem of the Elizabeth River from the West Norfolk Bridge (164) to the confluence with Sterns Creek.

City / County: Chesapeake City Portsmouth City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impairment is maintained. Previously station held 2/11 obs with 18. 2 % and now is a 10.2 % violation rate. Based on the Enterococci data from Station 2-WBE002.11 with 6 viol/ 59 obs the segment will remain listed as impaired. This segment is included in the Bacteria TMDL Development for the Elizabeth River Watershed EPA approved 7/20/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_WBE02A00 / Western Branch, Elizabeth R. - Lower / Located between the Point Elizabeth and Lovett Point areas. From Sterns Creek confluence (RM 3.5) downstream to the mouth. CBP segment WBEMH. BIBI segment WBEMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2006	L	1.457

Western Branch, Elizabeth R. - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**1.457**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-04-02-EBEN Western Branch Elizabeth River and Unsegmented estuaries in WBEMH**

Cause Location: This cause encompasses the entirety of the Western Branch Elizabeth River and its tributaries. CBP segment WBEMH. BIBI segment WBEMHa.

City / County: Chesapeake City Portsmouth City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

There is insufficient data to assess benthics, therefore the 2010 impairment will be retained. 2010- The Aquatic Life Use was impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis (VERSAR-2005). The benthic source/stressor tool yielded sediment contaminants as the suspected source for the impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_DPT01A06 / Drum Point Creek - Western Branch, Elizabeth R. / Western shore trib to the Western Br. Entirety of creek including tributaries. Located in the area of Charlton Village to Ahoy Acres. CBP segment WBEMH. Portion of the DSS (ADMINISTRATIVE) shellfish condemnation # 065-007 E (effective 20120529).	5A	Estuarine Bioassessments	2010	L	0.148
VAT-G15E_WBE01A02 / Western Branch, Elizabeth R. - Upper / Located between Stewart Manor and Point Elizabeth areas. From headwaters (RM 8.5) downstream to Sterns Creek (RM 3.5). BIBI segment WBEMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2006	L	0.561
VAT-G15E_WBE02A00 / Western Branch, Elizabeth R. - Lower / Located between the Point Elizabeth and Lovett Point areas. From Sterns Creek confluence (RM 3.5) downstream to the mouth. CBP segment WBEMH. BIBI segment WBEMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2010	L	1.457
VAT-G15E_ZZZ04A08 / Unsegmented estuaries in WBEMH / CBP segment WBEMH. BIBI segment WBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	5A	Estuarine Bioassessments	2010	L	0.560

Western Branch Elizabeth River and Unsegmented estuaries in WBEMH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**2.725**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-05-02-BAC Knitting Mill Creek v& Lafayette R-Upper**

Cause Location: This cause encompasses the Knitting Mill Creek, a Creek off of Lafayette River near Colonial Place and upper Lafayette River.

City / County: Norfolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use impairment is retained for Knitting Mill Creek and based on data from station 2-LAF003.83 with 11.3 exceedance rate. Bacteria TMDL Development for the Elizabeth River Watershed EPA approved 7/20/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_KMK01A12 / Knitting Mill Creek / Creek off of Lafayette River near Colonial Place. CBP segment ELIPH. BIBI segment LAFMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2002	L	0.027
VAT-G15E_LAF01A06 / Lafayette River - Upper / Located east of Craney Isl. From headwaters (approx. RM 7.5) downstream to past Rt 337 (Hampton Blvd bridge, RM 1.75) near Edgewater Haven. CBP segment LAFMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Enterococcus	2006	L	1.743

Knitting Mill Creek v& Lafayette R-Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**1.771**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-06-01-BAC** **James River - King/Lincoln Park Beach Area**

Cause Location: Located NE of Newport News Point, along the northern shore of Hampton Roads Harbor. CBP segment JMSPH.

City / County: Hampton City Newport News City Norfolk City Portsmouth City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired based on the Enterococcus bacteria data from the VDH-Beach station VA722627 (3 viol. / 20 Geo-mean obs.) in addition to several swimming advisories. Previous Use ID = VAT-G15E-06-01.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_JMS01B06 / James River - King/Lincoln Park Beach Area / Located NE of Newport News Point, along the northern shore of Hampton Roads Harbor. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	Enterococcus	2006	L	0.009

James River - King/Lincoln Park Beach Area	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.009**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-06-02-BAC James River - Anderson Park Beach Area**

Cause Location: Located NE of Newport News Point, along the northern shore of Hampton Roads Harbor. CBP segment JMSPH.

City / County: Hampton City Newport News City Norfolk City Portsmouth City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired based on the Enterococcus bacteria data from the VDH-Beach station VA523358 (2 viol. /20 Geo-mean obs.) and swimming advisories.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_JMS01C06 / James River - Anderson Park Beach Area / Located NE of Newport News Point, along the northern shore of Hampton Roads Harbor. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	Enterococcus	2012	L	0.011

James River - Anderson Park Beach Area **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.011**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-06-03-BAC Hoffler Creek**

Cause Location: This cause encompasses the entirety of Hoffler Creek. Located along south shore of Hampton Roads Harbor. Entirety of Hoffler Creek. South shore trib to James River west of Craney Isl. (at mouth of Elizabeth R). CBP segment JMSMH.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation impairment is retained for the 2018 cycle. In 2016, there were 2 viol/ 4 obs for enterococcus at station 2-HOF000.44. In 2014, The Recreation Use was assessed as impaired based on exceedance of the instantaneous criteria for Enterococcus bacteria at station 2-HOF000.44 (5 violate / 12 obs.). The impairment is added for the 2008 IR under ID = VAT-G15E-06-03. Hoffler Creek Bacteria TMDL EPA approved 12/14/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_HOF01A06 / Hoffler Creek / Located along south shore of Hampton Roads Harbor. Entirety of Hoffler Cr. South shore trib to James R. west of Craney Isl. (at mouth of Elizabeth R). CBP segment JMSMH. DSS (ADMIN) shellfish harvesting condemnation # 064-018 A (effective 20080530).	4A	Enterococcus	2008	L	0.053

Hoffler Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.053**		

Sources:

Urban Runoff/Storm Sewers	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-06-04-BAC Willoughby Bay - Beach Area**

Cause Location: This cause encompasses the area located along the northern shore portion of Willoughby Bay along Willoughby Spit. CBP segment JMSPH.

City / County: Norfolk City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is assessed as impaired based on the data from the VDH Beach Monitoring Program geometric mean violation, swimming advisories and joint VDH-DEQ assessment review at Captains Quarters VDH station. The station VA862384 exceeds the monthly geometric mean 9/2011 (2 geomean viol / 22 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_WLY03A06 / Willoughby Bay - Beach Area / Located along the northern shore portion of Willoughby Bay along Willoughby Spit. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	Enterococcus	2014	M	0.142

Willoughby Bay - Beach Area **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.142**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* G15E-08-EBEN** **Willoughby Bay [Less Beach Area]**

Cause Location: This cause encompasses the area located adjacent to mouth of James River at Hampton Roads, southeast of Hampton Roads Bridge Tunnel. CBP segment JMSPH.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

Aquatic Life Use is impaired based on WoE station. There is insufficient benthic BIBI data in 2018 to determine CB segment JMPHd benthic assessment. Previously was fully supporting based on 2014 BIBI assessment. WoE station 2-WLY002.03 in 2016 assessed as 5A. Therefore in 2018 AU will be listed for benthics based on WoE.

WoE stations:
2CWLY002.23:15 BENTHIC PROBMON (WoE) 2A potential exists for chronic effects of sediment metals and PAHs; JMSPH

2-WLY002.03: 16 Benthic ProbMon WoE 5A: Probable cumulative effects of sediment metals and PAH contamination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_WLY01A06 / Willoughby Bay [Less Beach Area] / Located adjacent to mouth of James River at Hampton Roads, southeast of Hampton Roads Bridge Tunnel. CBP segment JMSPH. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 A (effective 20120529).	5A	Estuarine Bioassessments	2018	L	2.476

Willoughby Bay [Less Beach Area]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**2.476**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H01R-01-BAC** **Reed Creek**

Cause Location: The upper limit is the headwaters in the Jefferson National Forest on the Sedalia Quad (intersection of State Routes 638 and 764). The impairment ends at the mouth of Reed Creek on the James River below Big Island, Virginia (Snowden, Sedalia and Big Island Quads).

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Reed Creek Bacteria TMDL Load Duration Study received U.S. EPA approval on 6/21/2004 [Fed. ID 7763/21565] and SWCB approval on 12/02/2004 for these 1998 303(d) Listed waters for fecal coliform bacteria (formerly 2002 thru 2006 VAW-H01R-01). Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Three stations are located within the 8.83 mile impaired waters (NHD mileage correction from 2002 Listing 12.27 miles). 2-RED000.16 (Off Route 501), the original listing station, and 2 additional stations 2-RED005.36 (Route 637 Bridge) and 2-RED008.32 (Route 122 Bridge).

2-RED008.22- (Rt. 122 Bridge) There are no additional data within the 2014 or 2016 data windows. 2012 results are 1 (1300 cfu/100 ml) of 3 samples in excess of the instantaneous criterion. The 2010 IR finds 4 of 14 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion. Values in excess of the criterion range from 350 to 1300 cfu/100 ml. 2008 IR reports 5 of 17 E.coli samples exceed. Values in excess of the criterion range the same as 2010.

2-RED005.36- (Rt. 637 Bridge) There are no additional data within the 2014 or 2016 data windows. Three of 3 samples exceed the instantaneous criterion within the 2012 data window. 2010 E.coli exceedances of the instantaneous criterion are found in 10 of 14 samples. Values exceeding the criterion range from 260 to >2000 cfu/100 ml. 2008 IR finds E.coli exceedances in 12 of 17 samples where exceeding values range from 280 to 2000 cfu/100 ml.

2-RED000.16- (Off Rt. 501) There are no additional data beyond the 2014 IR. The 2014 assessment finds 6 of 12 E.coli observations exceed the instantaneous criterion ranging from 350 to greater than 2000 cfu/100 ml. E.coli data within the 2012 data window produce 2 of 12 excursions of the 235 cfu/100 ml instantaneous criterion. Seven of 33 E.coli samples exceed the instantaneous criterion within the 2010 data window. Excessive values range from 250 to 500 cfu/100 ml. 2008 results in 8 of 38 E.coli samples exceeding the instantaneous criterion and the same range as 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H01R_RED01A00 / Reed Creek / Reed Creek mainstem from its mouth on the James River upstream to the intersection of State Routes 638 and 764 (JM02).	4A	Escherichia coli	2004	L	8.83

Reed Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.83**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H01R-01-HG** **James River**

Cause Location: James River from Balcony Falls Dam downstream to Holcomb Rock Dam

City / County: Amherst Co. Bedford Co. Rockbridge Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2005 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov for VDH Advisories or Bans.

2-JMS279.41 (Blue Ridge Parkway Bridge) - The initial 2010 303(d) Listing is based on 2005 fish tissue analysis where mercury (Hg) is found in 2 species; smallmouth bass at 0.46 ppm and largemouth bass at 0.40 ppm; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 or 2018 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H01R_JMS01A00 / James River / James River mainstem from the mouth of Wilderness Creek downstream to Holcomb Rock Dam (JM03).	5A	Mercury in Fish Tissue	2010	L	1.36
VAW-H01R_JMS01A04 / James River / The James River from the upstream ending of the WQS PWS designation (37°30'08.38"/79°01'18.18") downstream to the mouth of Wilderness Creek (JM03).	5A	Mercury in Fish Tissue	2010	L	0.70
VAW-H01R_JMS02A00 / James River / James River mainstem from the Georgia Pacific outfalls downstream to the upstream ending of the WQS PWS designation (37°30'08.38"/79°01'18.18") (JM03).	5A	Mercury in Fish Tissue	2010	L	3.30
VAW-H01R_JMS03A00 / James River / James River mainstem from the mouth of Peters Creek downstream to the Georgia Pacific outfalls on the James River (JM01).	5A	Mercury in Fish Tissue	2010	L	3.05
VAW-H01R_JMS04A00 / James River / James River mainstem from the Balcony Falls Dam downstream to the mouth of Peters Creek (JM01).	5A	Mercury in Fish Tissue	2010	L	7.42

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**15.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H01R-02-BAC** **James River**

Cause Location: James River mainstem from the Balcony Falls Dam downstream to the mouth of Peters Creek (JM01).

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

These waters were previously Listed in 1998 and subsequently de-listed with the 2002 assessment. The Recreational Use impairment returns with the 2014 Integrated Report (IR) due to escherichia coli (E/coli) exceedances of the WQS instantaneous criterion.

2-JMS282.28 (Rt. 501 Bridge - S.E. of Glasgow) There are no additional data beyond the 2014 IR. The 2014 IR finds 6 of 36 E.coli observations exceeding the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 325 to 1225 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H01R_JMS04A00 / James River / James River mainstem from the Balcony Falls Dam downstream to the mouth of Peters Creek (JM01).	5A	Escherichia coli	2014	L	7.42

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.42**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wastes from Pets
Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H01R-03-BAC** **James River**

Cause Location: James River from the mouth of Reed Creek downstream to Holcomb Rock Dam.

City / County: Amherst Co. Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

These waters were previously 303(d) Listed in 1998 and de-listed with the 2002 assessment. These waters return to impaired waters status with the 2016 Integrated Report (IR).

2-JMS275.75 (Below Big Island) 6 of 36 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window. The 2016 IR finds 5 of 36 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. Excessive values range from 355 to 1750 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H01R_JMS01A00 / James River / James River mainstem from the mouth of Wilderness Creek downstream to Holcomb Rock Dam (JM03).	5A	Escherichia coli	2016	L	1.36
VAW-H01R_JMS01A04 / James River / The James River from the upstream ending of the WQS PWS designation (37°30'08.38"/79°01'18.18") downstream to the mouth of Wilderness Creek (JM03).	5A	Escherichia coli	2016	L	0.70
VAW-H01R_JMS02A00 / James River / James River mainstem from the Georgia Pacific outfalls downstream to the upstream ending of the WQS PWS designation (37°30'08.38"/79°01'18.18") (JM03).	5A	Escherichia coli	2016	L	3.30

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.36**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wastes from Pets
Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H02R-01-BAC** **Pedlar River**

Cause Location: Pedlar River from its mouth on the James River to its confluence with Enchanted Creek.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35014, 12/4/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35014] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35014, 11/04/2007

Four stations are located within the 16.38 miles of impaired waters. 2-POL000.04 (Route 650 Bridge-Amherst County), and three additional stations. 2-POL007.20 (Route 643), 2-POL008.53 (Pedlar River at Route 610), and 2-POL010.11 (Below Route 640 Bridge)

2-POL010.11 (Below Route 640 Bridge) 2018 results are two of 12 samples in excess of the instantaneous criterion. (exceedances were 325 and 1525 cfu/100ml)

2-POL008.53 (Pedlar River at Route 610) 2018 results are three of 23 samples in excess of the instantaneous criterion. (exceedances were 250, 2000, and 3448 cfu/100ml)

2-POL007.20 (Route 643) 2018 results are three of 12 samples in excess of the instantaneous criterion. (exceedances were 375,300 and 700 cfu/100ml)

2-POL000.04 (Route 650 Bridge-Amherst County) 2018 results are two of 12 samples in excess of the instantaneous criterion. (exceedances were 1275 and 2187 cfu/100ml)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H02R_POL01A00 / Pedlar River / Pedlar River mainstem from its mouth on the James River upstream to the mouth of Horsley Creek.	4A	Escherichia coli	2016	L	5.53
VAW-H02R_POL01B14 / Pedlar River / Pedlar River from the mouth of Horsley Creek upstream to the mouth of Little Cedar Creek,	4A	Escherichia coli	2014	L	1.33
VAW-H02R_POL02A00 / Pedlar River / Pedlar River mainstem from the Little Cedar Creek mouth upstream to the mouth of an unnamed tributary located just downstream of the Rt. 610 crossing and upstream of the Little Dancing Creek mouth.	4A	Escherichia coli	2006	L	2.53
VAW-H02R_POL03A02 / Pedlar River / Pedlar River mainstem from an unnamed tributary's confluence with the Pedlar River, just downstream of the Rt. 610 crossing upstream to the mouth of Enchanted Creek.	4A	Escherichia coli	2006	L	6.99

Pedlar River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.38**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H02R-02-BAC** **Pedlar River, Upper**

Cause Location: Pedlar River from the National Forest boundary upstream to its headwaters.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35014, 12/4/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35014] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35014, 11/04/2007

One station is located within the 8.94 miles of impaired waters. 2-POL028.68 (FR 76)

2-POL028.68 (FR 76) 2018 results are 2 of 12 samples in excess of the instantaneous criterion. (exceedances were 325 and 325 cfu/100ml)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H02R_POL07B02 / Pedlar River / Pedlar River mainstem from the boundary of the National Forest upstream to its headwaters.	4A	Escherichia coli	2016	L	8.94

Pedlar River, Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.94**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-01-BAC** **Blackwater Creek**

Cause Location: Blackwater Creek from the confluence of Tomahawk and Burton Creeks to the mouth at the James River.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River Bacteria TMDL Study (Blackwater Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 35571] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35571, 11/04/2007

Two stations are located within the 10.54 miles of impaired waters. 2-BKW000.40 (Blackwater Creek at Rivermont Ave) and 2-BKW000.40 (Blackwater Creek at Rivermont Ave)

2-BKW000.40 (Blackwater Creek at Rivermont Ave) (Ambient, Lynchburg Area TMDL) 2018 results are four of 12 samples in excess of the instantaneous criterion. (exceedances range from 341 to 6131 cfu/100ml)

2-BKW005.95 (Blackwater Creek at Hill Street [South of Langhorne]) (Ambient) two of 12 samples in excess of the instantaneous criterion. (exceedances were 325 and 1525 cfu/100ml)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_BKW01A00 / Blackwater Creek / Blackwater Creek mainstem from the confluence of Tomahawk and Burton Creeks downstream to the Blackwater Creek confluence on the James River.	4A	Escherichia coli	2006	L	10.54

Blackwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.54**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-01-BEN** **Blackwater Creek**

Cause Location: Blackwater Creek from the confluence of Tomahawk and Burton Creeks to the mouth at the James River.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-BKW000.40 (Blackwater Creek at Rivermont Ave) Bio 'IM' from three VSCI scores (2011, 2015) averaging 60.3. Habitat assessment scores at this site were low for epifaunal substrate, sediment deposition, bank stability and bank vegetative protection. Blackwater Creek is an urban stream with many non-point sources of pollution, in addition to scouring and high sediment loads during rain events. It has a uniform stream bottom with little instream habitat. 2007 'IM'.
2-BKW004.87 Bio 'IM' from three VSCI scores (2011, 2015) averaging 52.1.
2007, 2009-2010 Bio - IM
This section of Blackwater Creek has an excellent riparian zone for an urban area, but has poor bank stability, increased embeddedness and sediment deposition, and marginal epifaunal substrate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_BKW01A00 / Blackwater Creek / Blackwater Creek mainstem from the confluence of Tomahawk and Burton Creeks downstream to the Blackwater Creek confluence on the James River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	10.54

Blackwater Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.54**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-02-BAC** **Fishing Creek**

Cause Location: Fishing Creek mainstem from its confluence with the James River upstream to its headwaters.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River Bacteria TMDL Study (Fishing Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 35572] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35572, 11/04/2007

One station is located within the 6.32 miles of impaired waters. 2-FSG000.85 (Ambient, Lynchburg Area TMDL)(Fishing Creek at Winchester Rd)

2-FSG000.85 (Ambient, Lynchburg Area TMDL)(Fishing Creek at Winchester Rd) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_FSG01A00 / Fishing Creek / Fishing Creek mainstem from its confluence with the James River upstream to its headwaters.	4A	Escherichia coli	2008	L	6.32

Fishing Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.32**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-03-BAC** **Ivy Creek**

Cause Location: Ivy Creek mainstem from its headwaters downstream to its confluence with Blackwater Creek.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

WQS: Class III, Section 11, None
Impaired Area ID: VAC-H03R-01

The James River Bacteria TMDL Study (Ivy Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 35573] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35573, 11/04/2007

Six stations are located within the 21.45 miles of impaired waters. 2-IVA000.22 (Ivy Creek at Business Rt 501), 2-IVA005.43 (Peaks View Park - Admore Bridge), 2-IVA006.38 (Lynchburg Area TMDL) (Ivy Creek at Wigginton Rd), and 2-IVA012.13 (Ivy Creek at Route 662)

Assessment basis: DEQ stations: 2-IVA000.05 (B), 2-IVA000.22 (AW), 2-IVA005.43 (B), 2-IVA005.75 (B), 2-IVA012.13 (AW, TM, B), and Citizen station 2IVA-MJ-IC-ACB (ACB).

2-IVA000.22 (Ivy Creek at Business Rt 501) Two of 12 samples in excess of the instantaneous criterion.

2-IVA005.43 (Peaks View Park - Admore Bridge) Two of 12 samples in excess of the instantaneous criterion 2016 IR . One 2011 sampling event during 2018 IR: temp, DO, pH 'IN'.

2-IVA006.38 (Lynchburg Area TMDL) (Ivy Creek at Wigginton Rd) 2-FSG000.85 (Ambient, Lynchburg Area TMDL)(Fishing Creek at Winchester Rd) Two of 12 samples in excess of the instantaneous criterion.

2-IVA012.13 (Ivy Creek at Route 662)(2018) Five of 12 samples in excess of the instantaneous criterion (excursion range: 250-350 cfu/100ml). Temp, DO, pH, TP 'FS'.

2IVA-MJ-IC-ACB - DO, Temp, pH [Lv.3] 'FS'. One [Lv.2] elevated E.coli sample at 300.

Historical Information:

2-IVA000.05 - Temp, DO, pH 'FS' from three measurements each. No E.coli data.
2-IVA000.05 - Ivy Creek had very low flow during the spring 2007 sampling event. Ivy Creek is an urban stream with obvious dumping of trash and debris, including bricks, tires, and metal objects. The upstream portion of the sample reach has homes, lawns, and construction present up to the edges of the banks.
2-IVA005.75 - Temp, DO, pH 'FS' from two data points each.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_IVA01A00 / Ivy Creek / Ivy Creek mainstem from its headwaters downstream to its confluence with Blackwater Creek.	4A	Escherichia coli	2008	L	21.44

Ivy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**21.44**

Fact Sheets for
Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-03-BEN** **Ivy Creek**

Cause Location: Ivy Creek mainstem from its headwaters downstream to its confluence with Blackwater Creek.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

WQS: Class III, Section 11, None

Assessment basis: DEQ stations: 2-IVA000.05 (B), 2-IVA000.22 (AW), 2-IVA005.43 (B), 2-IVA005.75 (B), 2-IVA012.13 (AW, TM, B), and Citizen station 2IVA-MJ-IC-ACB (ACB).

Impaired Area ID: VAC-H03R-01

2-IVA000.05 - Temp, DO, pH 'FS' from three measurements each. No E.coli data.

Bio 'IM' from three VSCI samples (2011, 2015) averaging 53.5. Ivy Creek is an urban stream with obvious dumping of trash and debris, including bricks, tires, and metal objects. The upstream portion of the sample reach has homes, lawns, and construction present up to the edges of the banks. This site was assessed as impaired in 2014. Additional monitoring is required.

Ivy Creek had very low flow during the spring 2007 sampling event. Ivy Creek is an urban stream with obvious dumping of trash and debris, including bricks, tires, and metal objects. The upstream portion of the sample reach has homes, lawns, and construction present up to the edges of the banks.

2-IVA005.43 - One 2011 sampling event during 2018 IR: temp, DO, pH 'IN'. 2016 IR E. coli - 2/12 Exceedance Rate.

2-IVA005.75 - Temp, DO, pH 'FS' from two data points each.

Bio 'J' from four VSCI scores averaging 58.3 (2011, 2015). Ivy Creek flows through a city park and has high sediment deposition. However, satellite imagery shows that much of the upstream riparian zone is wooded or consists of fields and medium intensity residential areas. In 2014, 2-IVA005.75 was assessed as FS but a downstream station (2-IVA000.05) was assessed as IM. In 2015, 2-IVA005.75 had VSCI scores near the assessment threshold with a benthic community indicative of pressure from scour and sediment. Additional monitoring is required.

2007 - FS
Ivy Creek flows through a city park and has high sediment deposition, however, satellite imagery shows that much of the upstream riparian zone is wooded or consists of fields and low intensity residential areas. Additional development will threaten the biological integrity of this stream.

2-IVA012.13 - Temp, DO, pH, TP 'FS'. Five of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion (excursion range: 250-350 cfu/100ml).

Bio 'IM' from four VSCI scores (2011, 2015) averaging 49.3. Heavy, fresh sediment deposition noted in stream at time of sampling. Available habitat was heavily embedded in sediment. This watershed is being rapidly developed and will likely degrade further due to increased runoff from new neighborhoods.

2007 - IM
Heavy, fresh sediment deposition noted in stream at time of sampling. Available habitat was heavily embedded in sediment. This watershed is being rapidly developed and will likely degrade further due to increased runoff from new neighborhoods.
2IVA-MJ-IC-ACB - DO, Temp, pH [Lv.3] 'FS'. One [Lv.2] elevated E.coli sample at 300.

Historical info:

2-IVA006.38 (Lynchburg Area TMDL)
E. coli - 2/12 Exceedance Rate

2-IVA000.22 - E. coli - 2/12 Exceedance Rate

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

2-IVA000.05
2007 - IM - Ivy Creek had very low flow during the spring 2007 sampling event. Ivy Creek is an urban stream with obvious dumping of trash and debris, including bricks, tires, and metal objects. The upstream portion of the sample reach has homes, lawns, and construction present up to the edges of the banks.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_IVA01A00 / Ivy Creek / Ivy Creek mainstem from its headwaters downstream to its confluence with Blackwater Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	21.44

Ivy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**21.44**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-04-BAC** **James River**

Cause Location: Holcomb Rock Dam to the Archer Creek confluence.

City / County: Amherst Co. Bedford Co. Campbell Co. Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River Bacteria TMDL Study (James River) received U.S. EPA approval on 11/4/2007 [Fed. ID 35014] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35014, 11/04/2007

Two stations are located within the 10.53 miles of impaired waters. 2-JMS258.54 (Ambient)(Under Route 29 Bridge - Percivals Island Lot) (2018) and 2-JMS270.84 (Trend)(2018)

2-JMS258.54 (Ambient)(Under Route 29 Bridge - Percivals Island Lot) (2018) 10 of 34 samples in excess of the instantaneous criterion.

2-JMS270.84 (Trend)(At Power Plant at Holcomb Rock Dam)(2018) 7 of 36 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_JMS01A00 / James River / James River mainstem from the Business Route 29 bridge downstream to the mouth of Williams Run.	4A	Escherichia coli	2008	L	3.85
VAW-H03R_JMS04A02 / James River / James River mainstem from Reusens dam downstream to Business Route 29.	4A	Escherichia coli	2008	L	4.21
VAW-H03R_JMS06A02 / James River / James River mainstem from Holcomb Rock Dam downstream to Reusens Dam.	4A	Escherichia coli	2014	L	8.25
VAW-H05R_JMS04A00 / James River / James River mainstem from the upper watershed boundary at the confluence of Williams Run downstream to the mouth of Archer Creek.	4A	Escherichia coli	2008	L	2.68

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.99**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Municipal Point Source Discharges
Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-04-PCB** **James River**

Cause Location: The James River from Big Island dam (below Blue Ridge Parkway) downstream to the I-95 bridge James River Bridge in Richmond including its tributaries Hardware River up to Rt. 6 bridge and Slate River up the Rt. 676 bridge.

City / County:					
	Albemarle Co.	Amherst Co.	Appomattox Co.	Bedford Co.	Buckingham Co.
	Campbell Co.	Chesterfield Co.	Cumberland Co.	Fluvanna Co.	Goochland Co.
	Henrico Co.	Lynchburg City	Nelson Co.	Powhatan Co.	Richmond City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The rivers are considered impaired of the Fish Consumption Use due to a 12/13/2004 VDH fish consumption restriction for PCBs. No more than two meals/month of gizzard shad, carp, American eel, flathead catfish, and quillback carpsucker are recommended.

A portion of the segment was first listed in the 2004 cycle but was expanded during the 2006 cycle based on the condemnation. The original 2016 TMDL due date was maintained.

The impairment is based on the results of DEQ's fish tissue monitoring program which has indicated PCB exceedances at multiple stations including 2-JMS166.50, 2-JMS157.28, 2BJMS118.99, 2-JMS127.50, 2CJMS110.00, 2-SLT000.20, et al.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H22R_SLT03A02 / Slate River / The Slate River from a point 5 miles upstream of the Fork Union Sanitary District raw water intake (Rivermile 3.88) to the mouth at the James River.	5A	PCB in Fish Tissue	2008	H	3.89
VAP-H33R_JMS01A98 / James River / The James River from its confluence with the Rivanna River at river mile 166.61 downstream to the confluence with Big Lickinghole Creek at river mile 143.35.	5A	PCB in Fish Tissue	2006	H	23.08
VAP-H38R_JMS01A06 / James River / From Big Lickinghole Creek to start of PWS section	5A	PCB in Fish Tissue	2006	H	2.35
VAP-H38R_JMS02A04 / James River / James River from the confluence with Mohawk Creek to river mile 137.00	5A	PCB in Fish Tissue	2006	H	3.75
VAP-H38R_JMS03A06 / James River / Rivermile 137 to rivermile 130.14 in H39	5A	PCB in Fish Tissue	2006	H	6.94
VAP-H38R_JMS04A06 / James River / Start of PWS section downstream to Mohawk Creek	5A	PCB in Fish Tissue	2006	H	0.51
VAP-H39R_JMS01A98 / James River / The James River from the confluence with Tuckahoe Creek to the William's Island dam.	5A	PCB in Fish Tissue	2006	H	7.44
VAP-H39R_JMS01B00 / James River / The James River from river mile 130.14 to river mile 128.14.	5A	PCB in Fish Tissue	2006	H	2.03
VAP-H39R_JMS02A98 / James River / The James River from the William's Island dam to the Boulevard Bridge.	5A	PCB in Fish Tissue	2006	H	3.35
State Scenic River					
VAP-H39R_JMS02B04 / James River / The James River from river mile 128.14 to the confluence with Tuckahoe Creek.	5A	PCB in Fish Tissue	2006	H	4.37
VAP-H39R_JMS03A98 / James River / The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.	5A	PCB in Fish Tissue	2006	H	2.94
State Scenic River					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAP-H39R_JMS03B14 / James River - South Channel / The south channel of the James River from the Belle Island dam to the Brown's Island dam.	5A	PCB in Fish Tissue	2006	H	0.94
State Scenic River					
VAV-H14R_JMS01A18 / James River / James River from its confluence with the Tye River downstream to its confluence with Bishop Creek.	5A	PCB in Fish Tissue	2006	H	13.48
VAV-H14R_JMS02A18 / James River / James River from its confluence with Bishop Creek downstream to its confluence with the Rockfish River.	5A	PCB in Fish Tissue	2006	H	5.08
VAV-H17R_JMS01A18 / James River / James River from its confluence with Totier Creek downstream to its confluence with the Hardware River.	5A	PCB in Fish Tissue	2006	H	8.13
VAV-H17R_JMS02A18 / James River / James River from its confluence with Ballinger Creek downstream to its confluence with Totier Creek.	5A	PCB in Fish Tissue	2006	H	4.82
VAV-H17R_JMS03A18 / James River / James River from its confluence with the Rockfish River downstream to its confluence with Ballinger Creek.	5A	PCB in Fish Tissue	2006	H	5.73
VAV-H19R_HRD01A00 / Hardware River / Hardware River from the gaging station downstream to its confluence with the James River.	5A	PCB in Fish Tissue	2008	H	11.34
VAV-H19R_HRD02A10 / Hardware River / Hardware River from the headwaters downstream to the gaging station.	5A	PCB in Fish Tissue	2008	H	11.90
VAV-H20R_JMS01A02 / James River / James River from the Hardware River downstream to a point 5 miles above Fork Union Sanitary District raw water intake.	5A	PCB in Fish Tissue	2006	H	1.98
VAV-H20R_JMS02A02 / James River / The James River from a point 5 miles above Fork Union Sanitary District's raw water intake downstream to its confluence with the Slate River.	5A	PCB in Fish Tissue	2006	H	2.94
VAV-H20R_JMS02B18 / James River / The James River from its confluence with the Slate River downstream to the Fork Union Sanitary District's raw water intake.	5A	PCB in Fish Tissue	2006	H	2.15
VAV-H20R_JMS03A02 / James River / The James River from the Fork Union Sanitary District's raw water intake downstream to the confluence with the Rivanna River.	5A	PCB in Fish Tissue	2006	H	9.24
VAW-H01R_JMS01A00 / James River / James River mainstem from the mouth of Wilderness Creek downstream to Holcomb Rock Dam (JM03).	5A	PCB in Fish Tissue	2006	H	1.36
VAW-H01R_JMS01A04 / James River / The James River from the upstream ending of the WQS PWS designation (37°30'08.38"/79°01'18.18") downstream to the mouth of Wilderness Creek (JM03).	5A	PCB in Fish Tissue	2006	H	0.70
VAW-H01R_JMS02A00 / James River / James River mainstem from the Georgia Pacific outfalls downstream to the upstream ending of the WQS PWS designation (37°30'08.38"/79°01'18.18") (JM03).	5A	PCB in Fish Tissue	2006	H	3.30
VAW-H01R_JMS03A00 / James River / James River mainstem from the mouth of Peters Creek downstream to the Georgia Pacific outfalls on the James River (JM01).	5A	PCB in Fish Tissue	2006	H	3.05
VAW-H03R_JMS01A00 / James River / James River mainstem from the Business Route 29 bridge downstream to the mouth of Williams Run.	5A	PCB in Fish Tissue	2004	H	3.85

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAW-H03R_JMS04A02 / James River / James River mainstem from Reusens dam downstream to Business Route 29.	5A	PCB in Fish Tissue	2004	H	4.21
VAW-H03R_JMS06A02 / James River / James River mainstem from Holcomb Rock Dam downstream to Reusens Dam.	5A	PCB in Fish Tissue	2006	H	8.25
VAW-H05R_JMS01A00 / James River / James River mainstem from the Wreck Island Creek confluence downstream to the watershed boundary at the mouth of Bent Creek.	5A	PCB in Fish Tissue	2006	H	6.26
VAW-H05R_JMS02A00 / James River / James River mainstem from the confluence of Stonewall Creek to the Wreck Island Creek mouth on the James River.	5A	PCB in Fish Tissue	2006	H	6.78
VAW-H05R_JMS02B14 / James River / James River from the confluence of Beck Creek to the confluence of Stonewall Creek.	5A	PCB in Fish Tissue	2014	H	3.05
VAW-H05R_JMS03A00 / James River / James River mainstem from the confluence of Archer Creek downstream to the mouth of Beck Creek.	5A	PCB in Fish Tissue	2006	H	7.71
VAW-H05R_JMS04A00 / James River / James River mainstem from the upper watershed boundary at the confluence of Williams Run downstream to the mouth of Archer Creek.	5A	PCB in Fish Tissue	2004	H	2.68
VAW-H08R_JMS01A00 / James River / James River from Bent Creek to its confluence with the Tye River	5A	PCB in Fish Tissue	2006	H	9.67

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**199.25**

Sources:

Contaminated Sediments Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-05-BAC** **Burton Creek**

Cause Location: Burton Creek from its headwaters to its mouth on Tomahawk Creek.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River Bacteria TMDL Study (Burton Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 35017] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35017, 11/04/2007

One station is located within the 3.48 miles of impaired waters.
2-BUN001.64 (Ambient, Lynchburg Area TMDL)(Off Fort Ave., Below Rub's Rest.)

2-BUN001.64 (Ambient, Lynchburg Area TMDL)(Off Fort Ave., Below Rub's Rest.) 10 of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_BUN01A06 / Burton Creek / Burton Creek from its headwaters to the confluence with Tomahawk Creek.	4A	Escherichia coli	2006	L	3.47

Burton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.47**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-05-BEN** **Burton Creek**

Cause Location: Burton Creek from its headwaters to its mouth on Tomahawk Creek.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-BUN000.04 - (Burton Cr-off Rhonda Rd near conf-tmahwk) Bio 'IM' from four VSCI scores (2011, 2015) averaging 41.8. 2007 - Burton Creek suffers from heavy algal growth in addition to fine sediments covering the stream bottom. Habitat assessment scores were low for bank stability and bank vegetative protection. An abundance of trash was noted in the stream at the time of sampling.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_BUN01A06 / Burton Creek / Burton Creek from its headwaters to the confluence with Tomahawk Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	3.47

Burton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-06-BAC** **Judith Creek**

Cause Location: Judith Creek from its headwaters to the confluence with the James River.

City / County: Bedford Co. Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River Bacteria TMDL Study (Judith Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 35015] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35015, 11/04/2007

Two stations are located within the 11.1 miles of impaired waters. 2-JTH001.52 (Ambient, Lynchburg Area TMDL)(Rt. 645 (Trents Ferry Road)) and 2-JTH006.53 (Ambient) (2018) (X of 761 & 647 just off 501 past Bnsboro)

2-JTH001.52 (Ambient, Lynchburg Area TMDL)(Rt. 645 (Trents Ferry Road)) Three of 27 samples in excess of the instantaneous criterion.

2-JTH006.53 (Ambient) (2018) (X of 761 & 647 just off 501 past Bnsboro) Zero of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_JTH01A06 / Judith Creek / Judith Creek from its headwaters to the confluence with the James River.	4A	Escherichia coli	2006	L	11.08

Judith Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.08**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-06-BEN** **Judith Creek**

Cause Location: Judith Creek from its headwaters to the confluence with the James River.

City / County: Bedford Co. Lynchburg City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-JTH001.52 - 2008-2010 Bio - FS (Rt. 645, Trents Ferry Rd.)
2-JTH006.53 - 2011/2008 Bio - IM (X of 761 & 647 just off 501 past Bnsboro)
This stream is small and has unstable banks with little vegetative protection. This station has shown some improvement in VSCI score. Further monitoring is required.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_JTH01A06 / Judith Creek / Judith Creek from its headwaters to the confluence with the James River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	11.08

Judith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.08**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-07-BAC** **Tomahawk Creek**

Cause Location: Tomahawk Creek from its headwaters to its confluence with Burton Creek.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River Bacteria TMDL Study (Tomahawk Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 35016] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35016, 11/04/2007

Two stations are located within the 6.06 miles of impaired waters. 2-THK001.31 (Lynchburg Area TMDL)(Tomahawk Cr @ McConneville Rd) and 2-THK002.33 (Ambient)(Tomahawk Cr. @ Graves Mill Rd.)

2-THK001.31 (Lynchburg Area TMDL)(Tomahawk Cr @ McConneville Rd) Four of 12 samples in excess of the instantaneous criterion.

2-THK002.33 (Ambient)(Tomahawk Cr. @ Graves Mill Rd.) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_THK01A06 / Tomahawk Creek / Tomahawk Creek from its headwaters to its confluence with Burton Creek.	4A	Escherichia coli	2006	L	6.06

Tomahawk Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.06**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-07-BEN** **Tomahawk Creek**

Cause Location: Tomahawk Creek from its headwaters to its confluence with Burton Creek.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-THK000.03 - 2007,2009 Bio - IM (Tomahawk-off Rhonda Rd. near conf-burton)
Tomahawk Creek is an urban stream with highly embedded substrate and unstable banks.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_THK01A06 / Tomahawk Creek / Tomahawk Creek from its headwaters to its confluence with Burton Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	6.06

Tomahawk Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.06**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-08-BAC** **Williams Run**

Cause Location: Williams Run from its confluence with the James River upstream to it headwaters.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:35014, 12/04/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35014] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35014, 11/04/2007

One station is located within the 6.49 miles of impaired waters. 2-WLM002.69 (Ambient)(Williams Run at Route 622 Bridge)

2-WLM002.69 (Ambient)(Williams Run at Route 622 Bridge) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_WLM01A02 / Williams Run / Williams Run from its confluence with the James River upstream to it headwaters.	4A	Escherichia coli	2006	L	6.49

Williams Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.49**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-09-BAC** **Dreaming Creek**

Cause Location: Dreaming Creek from its headwaters to its mouth on Burton Creek

City / County: Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:35017, 12/04/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35017] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35017, 11/04/2007

One station is located within the 5.04 miles of impaired waters. 2-DMG000.58 (Ambient, Lynchburg Area TMDL)(Dreaming Creek at Graves Mill)

2-DMG000.58 (Ambient, Lynchburg Area TMDL)(Dreaming Creek at Graves Mill) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_DMG01A08 / Dreaming Creek / Dreaming Creek from its headwaters to its mouth on Burton Creek	4A	Escherichia coli	2008	L	5.04

Dreaming Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.04**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H03R-10-BAC** **Burton Creek, Unnamed Tributary**

Cause Location: Burton Creek, UT from its headwaters to its mouth on Burton Creek.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:35017, 12/04/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35017] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35017, 11/04/2007

One station is located within the 3.47 miles of impaired waters. 2-XXA001.43 (Lynchburg Area TMDL)(UT Burton Creek at Harvard Street)

2-XXA001.43 (Lynchburg Area TMDL)(UT Burton Creek at Harvard Street) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H03R_XXA01A08 / Burton Creek, Unnamed Tributary / Burton Creek, UT from its headwaters to its mouth on Burton Creek.	4A	Escherichia coli	2008	L	3.46

Burton Creek, Unnamed Tributary **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.46**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H04R-01-BAC** **Graham Creek**

Cause Location: Graham Creek mainstem from the Graham Creek Reservoir backwaters upstream to its headwaters.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

NESTED 2014:35014, 12/04/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35014] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35014, 11/04/2007

One station is located within the 6.49 miles of impaired waters. 2-GRA002.89 (Ambient)(Route 652 Bridge)

2-GRA002.89 (Ambient)(Route 652 Bridge) Two of three samples of fecal coliform in excess of criterion. No new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H04R_GRA02A02 / Graham Creek / Graham Creek mainstem from the Graham Creek Reservoir backwaters upstream to its headwaters.	4A	Fecal Coliform	2002	L	5.59

Graham Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.59**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H04R-02-BAC** **Harris Creek**

Cause Location: Harris Creek from its confluence with Falling Rock Creek to just upstream of the Amherst County USA secondary water intake.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:35014, 12/04/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35014] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35014, 11/04/2007

One station is located within the 8.33 miles of impaired waters. 2-HAZ010.92 (Ambient)(2018)(Harris Creek at Route 657)

2-HAZ010.92 (Ambient)(2018)(Harris Creek at Route 657) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H04R_HAZ02A08 / Harris Creek / Harris Creek from its confluence with Falling Rock Creek to just upstream of the Amherst County USA secondary water intake.	4A	Escherichia coli	2008	L	8.33

Harris Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.33**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-01-BAC** **James River**

Cause Location: The confluence with Wreck Island Creek to Tye River

City / County: Amherst Co. Appomattox Co. Buckingham Co. Campbell Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2-JMS229.14 (Ambient, Trend)(2018)(Route 60 at Bent Creek)
E. coli - 1/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_JMS01A00 / James River / James River mainstem from the Wreck Island Creek confluence downstream to the watershed boundary at the mouth of Bent Creek.	5A	Escherichia coli	2010	L	6.26
VAW-H08R_JMS01A00 / James River / James River from Bent Creek to its confluence with the Tye River	5A	Escherichia coli	2010	L	9.67

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.93**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-03-BAC** **Beaver Creek**

Cause Location: Beaver Creek mainstem from its mouth on the James River upstream to an unnamed tributaries mouth at the Rt. 501 Bridge.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2-BCR000.20 (Ambient)
E. coli - 3/24 Exceedance Rate (2010 IR)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_BCR01A00 / Beaver Creek / Beaver Creek mainstem from its mouth on the James River upstream to an unnamed tributaries mouth at the Rt. 501 Bridge (JM12).	5A	Escherichia coli	2004	L	8.67

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.67**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-04-BAC** **Opossum Creek**

Cause Location: Opossum Creek mainstem from its mouth on the James River upstream to the Rt. 660 crossing.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35014, 12/04/2007

The James River Bacteria TMDL Study received U.S. EPA approval on 11/4/2007 [Fed. ID 35014] and SWCB approval on 12/04/2007 for these 1996 and 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35014, 11/04/2007

One station is located within the 3.17 miles of impaired waters. 2-OPP000.16 (Ambient)(Route 460 Bridge - Campbell County)

2-OPP000.16 (Ambient)(Route 460 Bridge - Campbell County) Three of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_OPP01A00 / Opossum Creek / Opossum Creek mainstem from its mouth on the James River upstream to the Rt. 660 crossing.	4A	Escherichia coli	2010	L	3.17

Opossum Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.17**

Sources:

Combined Sewer Overflows	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-05-BAC** **Stonewall Creek**

Cause Location: Stonewall Creek from its headwaters to its mouth on the James River

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Bent Creek, North Creek, Stonewall Creek Walkers Ford Creek, and Wreck Island Creek Bacteria TMDL Study (Stonewall Creek) received U.S. EPA approval on 9/30/2013 [Fed. ID 53774] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53774, 9/30/2013

One station is located within the 9.4 miles of impaired waters. 2-STW001.72 (Ambient) (Stonewall Cr @ Rt 605)

2-STW001.72 (Ambient) (Stonewall Cr @ Rt 605) No new data since 2016 data window. Six of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_STW01A08 / Stonewall Creek / Stonewall Creek from its headwaters to its mouth on the James River	4A	Escherichia coli	2008	L	9.39

Stonewall Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.39**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-06-BAC** **Little Beaver Creek**

Cause Location: Little Beaver Creek from its headwaters to its mouth on the James River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2-LTJ000.16 (James River TMDL Site)(Little Beaver Creek @ Rte. 662)
E. coli - 3/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_LTJ01A10 / Little Beaver Creek / Little Beaver Creek from its headwaters to its mouth on the James River.	5A	Escherichia coli	2010	L	7.13

Little Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-08-BAC** **Beck Creek**

Cause Location: Beck Creek from the confluence of the North and South Forks of Stovall Creek to its mouth.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2-BEK000.10 (Ambient) (Beck Creek, Route 622 Galtsmill Road) No additional data since the 2012 data window.
E. coli - 6/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_BEK01A06 / Beck Creek / Beck Creek from the confluence of the North and South Forks of Stovall Creek to its mouth.	5A	Escherichia coli	2012	L	6.28

Beck Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-09-BAC** **Partridge Creek**

Cause Location: Partridge Creek from its headwaters to the mouth.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2-PDG000.12 (Ambient) (Partridge Creek, Route 622 Galtsmill) No new data since 2012 data window.
E. coli - 5/15 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_PDG01A06 / Partridge Creek / Partridge Creek from its headwaters to the mouth.	5A	Escherichia coli	2012	L	10.40

Partridge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**10.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-10-BAC** **Archer Creek**

Cause Location: Archer Creek from its headwaters to its mouth on the James River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2BACH000.09 (Ambient)(Route 609)
E. coli - 2016 data window: 5/12 Exceedance Rate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_ACH01A16 / Archer Creek / Archer Creek from its headwaters to its mouth on the James River	5A	Escherichia coli	2016	L	7.46

Archer Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.46**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H05R-11-BAC** **Allens Creek**

Cause Location: Allens Creek from its headwaters to its mouth on the James River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2BANC000.09 (Ambient)(Route 622)
E. coli - 2016 data window: 5/12 Exceedance Rate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H05R_ANC01A16 / Allens Creek / Allens Creek from its headwaters to the mouth on the James River	5A	Escherichia coli	2016	L	7.18

Allens Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.18**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H06R-01-BAC** **Wreck Island Creek**

Cause Location: Wreck Island Creek from its headwaters to its mouth on the James River.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Bent Creek, North Creek, Stonewall Creek Walkers Ford Creek, and Wreck Island Creek Bacteria TMDL Study (Wreck Island Creek) received U.S. EPA approval on 9/30/2013 [Fed. ID 53771] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53771, 9/30/2013

Two stations are located within the 19.55 miles of impaired waters.
2-WIC000.40 (Ambient) (Route 605 Bridge, near Riverville)(2018) and 2-WIC012.60 (James River TMDL Monitoring) (Wreck Island Ck @ Rt 613)

2-WIC000.40 (Ambient)(Route 605 Bridge, near Riverville) ((2018) Three of 12 samples in excess of the instantaneous criterion; excursions range from 345 to greater than 17,000 cfu/100 ml.

2-WIC012.60 (James River TMDL Monitoring) (Wreck Island Ck @ Rt 613) Six of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H06R_WIC01A00 / Wreck Island Creek / Wreck Island Creek mainstem from its mouth on the James River to its confluence with Little Wreck Island Creek.	4A	Escherichia coli	2008	L	9.77
VAW-H06R_WIC02A10 / Wreck Island Creek / Wreck Island Creek from the confluence with Little Wreck Island Creek to its headwaters.	4A	Escherichia coli	2010	L	9.77

Wreck Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.54**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H06R-01-BEN** **Phelps Branch**

Cause Location: Phelps Branch from the State Route 659 crossing to its mouth on North Creek.

City / County: Appomattox Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Phelps Branch Sediment TMDL for a Benthic Impairment received U.S. EPA approval on 8/16/2013. [Fed. ID 53640] and SWCB approval on 9/30/2013 for this 2010 303(d) Listed impairment to the benthic community.

Station IDs:
2-PLP002.08 (2008 Bio) (100 m downstream of route 659)
IM
Incised stream. Past cattle access likely, though they are currently fenced out of stream. Good riffles but algae covered most rocks. High rate of sediment deposition.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H06R_PLP01A08 / Phelps Branch / Phelps Branch from its headwaters to its mouth on North Creek (JM16).	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.21

Phelps Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.21**

Sources:

Clean Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H06R-02-BAC** **North Creek**

Cause Location: North Creek from its headwaters to its confluence with Wreck Island Creek.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Bent Creek, North Creek, Stonewall Creek Walkers Ford Creek, and Wreck Island Creek Bacteria TMDL Study (North Creek) received U.S. EPA approval on 9/30/2013 [Fed. ID 53772] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53772, 09/30/2013

One station is located within the 5.87 miles of impaired waters. 2-NOT001.59 (James River TMDL Monitoring) (North Creek @ Rt 660).

2-NOT001.59 (James River TMDL Monitoring) (North Creek @ Rt 660) 10 of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H06R_NOT01A10 / North Creek / North Creek from its headwaters to its confluence with Wreck Island Creek (JM16).	4A	Escherichia coli	2010	L	5.87

North Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.87**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H07R-01-BAC** **Bent Creek**

Cause Location: Bent Creek mainstem from its mouth on the James River upstream to its headwaters.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Bent Creek, North Creek, Stonewall Creek Walkers Ford Creek, and Wreck Island Creek Bacteria TMDL Study (Bent Creek) received U.S. EPA approval on 9/30/2013 [Fed. ID 53773] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53773,09/30/2013

One station is located within the 13.82 miles of impaired waters. 2-BTC000.16 (Ambient) (Off Route 26, near confluence with James)

2-BTC000.16 (Ambient)(2018) ((Off Route 26, near confluence with James) - No new data since the 2014 data window. Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H07R_BTC01A00 / Bent Creek / Bent Creek mainstem from its mouth on the James River upstream to its headwaters (JM18).	4A	Escherichia coli	2008	L	13.82

Bent Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.82**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H08R-01-BAC** **Davids Creek**

Cause Location: David Creek from the confluence with Stevens Run to the mouth.

City / County: Appomattox Co. Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
2-DVD000.23 (Ambient)(Davids Creek, Route 605) Data collected within the 2018 data window:
E. coli - 7/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H08R_DVD01A00 / David Creek / David Creek from the confluence with Stevens Run to the mouth.	5A	Escherichia coli	2012	L	5.18

Davids Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.18**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H09R-01-BEN** **Montebello Spring Branch**

Cause Location: Montebello Spring Branch from the spring downstream to its confluence with Mill Creek. (Start Mile: .13 End Mile: 0.00 Total Impaired Size: .13 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to a severely impaired benthic assessment in 1998 at station 2-MSB000.01. This site was not visited in the 2018 cycle so the benthic impairment carries forward to 2014 Initial Listing Date: 1998; This impairment was included in the EPA approved TMDL for Trout Farm watersheds. Federal TMDL ID # 20746

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_MSB01A00 / Montebello Spring Branch / Montebello Spring Branch from the spring downstream to its confluence with Mill Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	0.13

Montebello Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.13**

Sources:

Aquaculture (Permitted)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H09R-01-PH** **Montebello Spring Branch**

Cause Location: Montebello Spring Branch from the spring downstream to its confluence with Mill Creek. (Start Mile: .13 End Mile: 0.00 Total Impaired Size: .13 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 2-XXM000.01 (2 excursions of 3 samples for pH in 2008. This site was not monitored in the 2018 cycle and the assessment will carry forward to the 2018 cycle). Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_MSB01A00 / Montebello Spring Branch / Montebello Spring Branch from the spring downstream to its confluence with Mill Creek.	5A	pH	2004	L	0.13

Montebello Spring Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H09R-02-BAC** **Hat Creek**

Cause Location: Hat Creek from the headwaters downstream to its confluence with the Tye River. (Start Mile: 9.52 End Mile: 0.00 Total Impaired Size: 9.52 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at station: 2-HAT000.14 (18 exceedences of 30 samples for e-coli). Initial Listing Date: 2004. This impairment is included in the EPA Approved Tye River Bacteria TMDL. Federal TMDL ID # 53760

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_HAT01A04 / Hat Creek / Hat Creek from the headwaters downstream to its confluence with the Tye River.	4A	Escherichia coli	2010	L	9.51

Hat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.51**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_HAT01A04 / Hat Creek / Hat Creek from the headwaters downstream to its confluence with the Tye River.	4A	Fecal Coliform	2004	L	9.51

Hat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.51**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H09R-02-BEN** **Hat Creek**

Cause Location: Hat Creek from the headwaters downstream to its confluence with the Tye River. (Start Mile: 9.52 End Mile: 0.00 Total Impaired Size: 9.52 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-HAT000.14 (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_HAT01A04 / Hat Creek / Hat Creek from the headwaters downstream to its confluence with the Tye River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	9.51

Hat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.51**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H09R-03-BAC** **Tye River**

Cause Location: Tye River from its confluence with Hat Creek downstream to its confluence with the Buffalo River. (Start Mile: 24.29 End Mile: 7.65 Total Impaired Size: 16.64 Miles) This segment was shortened in 2014 as a segment downstream returned to fully supported) (Subtracted 7.61 miles)

City / County: Amherst Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 2-TYE020.67 (12 exceedences of 36 for e-coli); 2-TYE008.77 (10 exceedences of 44 samples for e-coli) Initial Listing Date: 2004. Downstream segment removed in 2014. This impairment is included in the EPA Approved Tye River Bacteria TMDL Federal TMDL ID # 53760.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_TYE01A00 / Tye River / Tye River from its confluence with Piney River downstream to its confluence with the Buffalo River.	4A	Escherichia coli	2008	L	8.24
VAV-H09R_TYE02A00 / Tye River / Tye River from its confluence with Hat Creek downstream to its confluence with Piney River.	4A	Escherichia coli	2006	L	8.40

Tye River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.64**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H09R-04-BEN** **Tye River**

Cause Location: Tye River from its confluence with Silver Creek downstream to its confluence with the Piney River. (Start Mile: 31.99 End Mile: 15.89 Total Impaired Size: 16.1 Miles) This segment was lengthened in 2018 with the addition of a downstream assessment unit.

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-TYE020.67 (Impaired for VSCI) and 2-TYE028.94 (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_TYE02A00 / Tye River / Tye River from its confluence with Hat Creek downstream to its confluence with Piney River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	H	8.40
VAV-H09R_TYE03A00 / Tye River / Tye River from Tyro downstream to its confluence with Hat Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	6.95
VAV-H09R_TYE03B10 / Tye River / Tye River from its confluence with Silver Creek downstream to Tyro.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	0.75

Tye River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**16.10**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H09R-05-BEN** **Black Creek**

Cause Location: Black Creek from the headwaters downstream to its confluence with the Tye River. (Start Mile: 1.96 End Mile: 0.00 Total Impaired Size: 1.96 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station 2-BKC001.43 and 2-BKC001.55 (Impaired for VSCI). Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H09R_BKC01A14 / Black Creek / Black Creek from the headwaters downstream to its confluence with the Tye River.	5A	Benthic-Macroinvertebrate Bioassessments	2014	H	1.95

Black Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.95**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H10R-01-BAC** **Piney River**

Cause Location: Piney River from a point 13.40 miles upstream of the Tye River downstream to its confluence with the Tye River. (Start Mile: 13.40 End Mile: 0.00 Total Impaired Size: 13.40 Miles)

City / County: Amherst Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 2-PNY003.06 (2 exceedences of 12 samples for e-coli and 2-PNY005.29 (7 exceedences of 36 for e-coli). Initial Listing Date: 2008 This segment was lengthened in 2010. This segment is included in the EPA Approved Tye River Bacteria TMDL Federal TMDL ID # 53760.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H10R_PNY01A00 / Piney River / Piney River from the USGS gaging station downstream to its confluence with the Tye River.	4A	Escherichia coli	2008	L	5.29
VAV-H10R_PNY02A00 / Piney River / Piney River from its confluence with Indian Creek downstream to the USGS gaging station.	4A	Escherichia coli	2008	L	1.60
VAV-H10R_PNY03A04 / Piney River / Piney River from a point 13.4 miles upstream of the Tye River downstream to its confluence with Indian Creek.	4A	Escherichia coli	2010	L	6.50

Piney River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.39**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11L-01-DO** **Stonehouse Creek Reservoir**

Cause Location: Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
2-SHS001.00 (Lake Station)
DO - 6/38 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11L_SHS01A02 / Stonehouse Creek Reservoir / Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.	5A	Oxygen, Dissolved	2008	L	33.53

Stonehouse Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**33.53**	

Sources:

Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11L-01-PH** **Stonehouse Creek Reservoir**

Cause Location: Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Station ID:
2-SHS001.00 (Lake Station)
pH - 7/38 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11L_SHS01A02 / Stonehouse Creek Reservoir / Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.	5A	pH	2006	L	33.53

Stonehouse Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**33.53**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11L-02-CHLA** **Thrashers Creek Reservoir**

Cause Location: Thrashers Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

Station ID:
2-TRH000.40 (Lake Station)
Chlorophyll a - 2/2 Samples (90% Calculated over 2 Sample Yrs)
Total Phosphorus not assessed since no algaecide used

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11L_TRH01A02 / Thrashers Creek Reservoir / Thrashers Creek Reservoir from its impounding structure upstream to its backwaters.	5A	Chlorophyll-a	2014	L	31.95

Thrashers Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chlorophyll-a - Total Impaired Size by Water Type:		**31.95**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11L-02-PH** **Thrashers Creek Reservoir**

Cause Location: Thrashers Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Station ID:
2-TRH000.40 (Lake Station)
pH - 15/42 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11L_TRH01A02 / Thrashers Creek Reservoir / Thrashers Creek Reservoir from its impounding structure upstream to its backwaters.	5A	pH	2006	L	31.95

Thrashers Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**31.95**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11L-03-PH** **Mill Creek Reservoir**

Cause Location: Mill Creek Reservoir

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Station ID:
2-MIN000.98 (2011/2012 Lake Station)(Mill Cr Reservoir- Main Lake site @ dam)
pH - 10/46

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11L_MIN01A06 / Mill Creek Reservoir / Mill Creek Reservoir	5A	pH	2014	L	186.40

Mill Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**186.40**	

Sources:

Dam or Impoundment Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11R-01-BAC** **Buffalo River**

Cause Location: Buffalo River from the confluence of Long Branch to the confluence with Rutledge Creek

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hat Creek, Piney River, Rucker Run, Mill Creek, Rutledge Creek, Turner Creek, Buffalo River, and Tye River Bacteria TMDL Study (Buffalo River) received U.S. EPA approval on 9/20/2013 [Fed. ID 53766] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53766, 9/20/2013

Five stations are located within the 17.78 miles of impaired waters. 2-BUF011.95 (TMDL) (Rt 739 Bridge Boxwood Farm Road), 2-BUF013.53 (Ambient) (Route 29 Bridge), 2-BUF023.21 (Ambient)(Route 778 Bridge, NW of Amherst) , 2-BUF026.58 (TMDL)(2018)(At Route 610), and 2-BUF026.43 (TMDL)(2018) (Buffalo River @ Rt 60)

2-BUF011.95 (TMDL)(2018) (Rt 739 Bridge Boxwood Farm Road) - No new data since the 2014 data window: Four of 12 samples in excess of the instantaneous criterion.

2-BUF013.53 (Ambient) (Route 29 Bridge) - No new data since 2010 data window: Two of 12 samples in excess of the instantaneous criterion.

2-BUF023.21 (Ambient)(Route 778 Bridge, NW of Amherst)- No new data since 2012 data window: Five of 27 samples in excess of the instantaneous criterion.

2-BUF026.58 (TMDL)(2018)(At Route 610) - No new data since 2014 data window: 7 of 12 samples in excess of the instantaneous criterion.

2-BUF026.43 (TMDL)(2018) (Buffalo River @ Rt 60) - No new data since 2014 data window: 9 of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11R_BUF01A00 / Buffalo River / Buffalo River mainstem from the watershed boundary at the Rutledge Creek mouth upstream to the Town of Amherst WTP intake.	4A	Escherichia coli	2010	L	4.59
VAW-H11R_BUF02A00 / Buffalo River / Buffalo River mainstem from the Town of Amherst WTP intake upstream five miles, the WQS public water supply (PWS) designation.	4A	Escherichia coli	2010	L	5.26
VAW-H11R_BUF03A00 / Buffalo River / Buffalo River mainstem from the upstream end of the WQS public water supply (PWS) designation upstream to the mouth of Stonehouse Creek.	4A	Escherichia coli	2006	L	3.66
VAW-H11R_BUF03B14 / Buffalo River / Buffalo River from its confluence with Stonehouse Creek to its confluence with Franklin Creek.	4A	Escherichia coli	2014	L	2.17
VAW-H11R_BUF04A08 / Buffalo River / Buffalo River from its confluence with Long Branch downstream to its confluence with Franklin Creek.	4A	Escherichia coli	2014	L	2.09

Buffalo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.77**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11R-01-BEN** **Long Branch**

Cause Location: Long Branch from its headwaters to the mouth at Buffalo River

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Long Branch and Buffalo River (Long Branch) Sediment TMDL for a Benthic Impairment received U.S. EPA approval on 11/21/2013. [Fed. ID 55242] and SWCB approval on 3/28/2014 for these 2008 303(d) Listed impairments to the benthic community.

2-LOB000.37 (2001 Probabilistic Monitoring)(Amherst County Prop. Off Rt. 60)
IM - Seasonal difference noted for biological sampling.
2009-2012 Bio TMDL Sampling finds two Virginia Stream Condition Index (VSCI) surveys: 47.8 (Spring 2011) and 63.3 (Fall 2011). This stream has embedded riffles, noticeable sediment deposition, and is bordered on one side by a cow pasture.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11R_LOB01A04 / Long Branch / Long Branch from its headwaters to the mouth at Buffalo River	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.59

Long Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.59**

Sources:

Clean Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11R-02-BAC** **Mill Creek**

Cause Location: Mill Creek from its headwaters to the backwaters of Mill Creek Reservoir.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hat Creek, Piney River, Rucker Run, Mill Creek, Rutledge Creek, Turner Creek, Buffalo River, and Tye River Bacteria TMDL Study (Mill Creek) received U.S. EPA approval on 9/20/2013 [Fed. ID 53767] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53767, 9/20/2013

One station is located within the 4.19 miles of impaired waters. 2-MIN002.25 (Citmon Follow-up) (Mill Creek @ Rt 778 Lowesville Rd)

2-MIN002.25 (Citmon Follow-up)(Mill Creek @ Rt 778 Lowesville Rd) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11R_MIN01A08 / Mill Creek / Mill Creek from its headwaters to the backwaters of Mill Creek Reservoir.	4A	Escherichia coli	2008	L	4.15

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.15**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H11R-02-BEN** **Buffalo River**

Cause Location: Buffalo River from its confluence with Long Branch downstream to its confluence with Franklin Creek.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Long Branch and Buffalo River (Buffalo River) Sediment TMDL for a Benthic Impairment received U.S. EPA approval on 11/21/2013. [Fed. ID 55241] and SWCB approval on 3/28/20104 for these 2008 303(d) Listed impairments to the benthic community.

Station ID:
2-BUF026.43 (Bio)(Buffalo River @ Rt 60) - No additional data since the 2014 data window:
IM - Three 2011 Virginia Stream Condition Index (VSCI) surveys average 54.9. This stream has good riffles but algae are dominant, indicating potential nutrient enrichment. It also has excessive sediment deposition, likely due to its location in an agricultural watershed with pasture adjacent to the left bank.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H11R_BUF04A08 / Buffalo River / Buffalo River from its confluence with Long Branch downstream to its confluence with Franklin Creek.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.09

Buffalo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.09**

Sources:

Clean Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H12R-01-BAC** **Rutledge Creek**

Cause Location: Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hat Creek, Piney River, Rucker Run, Mill Creek, Rutledge Creek, Turner Creek, Buffalo River, and Tye River Bacteria TMDL Study (Rutledge Creek) received U.S. EPA approval on 9/20/2013 [Fed. ID 53764] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53764, 9/20/2013

One station is located within the 3.33 miles of impaired waters. 2-RTD003.08 (Ambient)(2018) (Below Amherst STP Outfall)

2-RTD003.08 (Ambient)(2018)(Below Amherst STP Outfall) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H12R_RTD01A00 / Rutledge Creek / Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.	4A	Escherichia coli	2012	L	3.32

Rutledge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.32**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H12R-01-BEN** **Rutledge Creek**

Cause Location: Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-RTD003.08 (Bio)(Below Amherst STP Outfall)
IM - 2007/2011 Bio
This site was highly embedded with unstable banks and poor bank vegetative protection. Available habitat was covered with periphyton and filamentous algae.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H12R_RTD01A00 / Rutledge Creek / Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	3.32

Rutledge Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.32**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H12R-03-BAC** **Buffalo River**

Cause Location: Rocky Creek to its mouth on the Tye River.

City / County: Amherst Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hat Creek, Piney River, Rucker Run, Mill Creek, Rutledge Creek, Turner Creek, Buffalo River, and Tye River Bacteria TMDL Study (Buffalo River) received U.S. EPA approval on 9/20/2013 [Fed. ID 55241] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 55241, 9/20/2013

One station is located within the 7.81 miles of impaired waters. 2-BUF002.10 (Ambient)(Route 657 at Gaging Station)

2-BUF002.10 (Ambient)(Route 657 at Gaging Station) - 2018 data window: 13 of 42 samples in excess of the instantaneous criterion.

Flow adjusted trend analysis (2016) reports a degrading trend in E.coli data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H12R_BUF01A00 / Buffalo River / Buffalo River mainstem from its mouth on the Tye River upstream to a low water dam near Route 657.	4A	Escherichia coli	2008	L	2.34
VAW-H12R_BUF02A02 / Buffalo River / Buffalo River from Rocky Creek to the dam at the Route 657 bridge.	4A	Escherichia coli	2008	L	5.46

Buffalo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.80**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H12R-04-BAC** **Turner Creek**

Cause Location: Turner Creek from its headwaters to the mouth on the Buffalo River

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hat Creek, Piney River, Rucker Run, Mill Creek, Rutledge Creek, Turner Creek, Buffalo River, and Tye River Bacteria TMDL Study (Turner Creek) received U.S. EPA approval on 9/20/2013 [Fed. ID 53765] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53765, 9/20/2013

One station is located within the 4.49 miles of impaired waters. 2-TNR000.25 (Ambient) (Turner Cr @ Rt 739 Boxwood Farm Rd)

2-TNR000.25 (Ambient) (Turner Cr @ Rt 739 Boxwood Farm Rd)- No additional data since the 2016 data window: 8 of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H12R_TNR01A08 / Turner Creek / Turner Creek from its headwaters to the mouth on the Buffalo River	4A	Escherichia coli	2008	L	4.49

Turner Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.49**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H12R-05-BAC** **Rutledge Creek**

Cause Location: Rutledge Creek from its confluence with Higginbottom Creek to its headwaters.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 53764, 9/20/2013

The Hat Creek, Piney River, Rucker Run, Mill Creek, Rutledge Creek, Turner Creek, Buffalo River, and Tye River Bacteria TMDL Study (Rutledge Creek) received U.S. EPA approval on 9/20/2013 [Fed. ID 53764] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2008 and 2010 303(d) Listed water for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 53764, 9/20/2013

One station is located within the 4.17 miles of impaired waters. 2-RTD007.61 (TMDL Station)(2018) (Rutledge Creek at Sweetbriar entrance)

2-RTD007.61 (TMDL Station)(2018)(Rutledge Creek at Sweetbriar entrance) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-H12R_RTD03A14 / Rutledge Creek / Rutledge Creek from its confluence with Higginbottom Creek to its headwaters.	4A	Escherichia coli	2014	L	4.16

Rutledge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.16**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H13L-01-DO** **Lake Nelson**

Cause Location: Lake Nelson (40.62 Acres)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to exceedences of the dissolved oxygen WQS at station: 2-XLU000.10 (12 exceedences of 52 samples for dissolved oxygen) Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H13L_XLU01A04 / Lake Nelson / Lake Nelson	5A	Oxygen, Dissolved	2016	L	40.62

Lake Nelson	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**40.62**	

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H13L-02-PH** **Lake Nelson**

Cause Location: Lake Nelson (40.62 Acres)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This lake is impaired due to excursions of the pH WQS at station: 2-XLU000.10 (6 exceedences of 56 samples for pH) Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H13L_XLU01A04 / Lake Nelson / Lake Nelson	5A	pH	2018	L	40.62

Lake Nelson		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	pH - Total Impaired Size by Water Type:		**40.62**	

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H13R-01-BAC** **Rucker Run**

Cause Location: Rucker Run from the headwaters downstream to its confluence with the Tye River. (Start Mile: 18.36 End Mile: 0.00 Total Impaired Size: 18.36 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to exceedences of the e-coli bacteria WQS at station(s): 2-RKR000.02 (4 exceedences of 24 for e-coli); 2-RKR011.46 (4 exceedences of 12 for e-coli) and 2BRKR012.86 (7 exceedences of 12 samples for e-coli) Initial Listing Date: 2004. This segment is included in the EPA Approved Tye River Bacteria TMDL Federal TMDL ID # 53760.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H13R_RKR01A00 / Rucker Run / Rucker Run from the headwaters downstream to its confluence with the Tye River.	4A	Escherichia coli	2012	L	18.35

Rucker Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**18.35**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H13R_RKR01A00 / Rucker Run / Rucker Run from the headwaters downstream to its confluence with the Tye River.	4A	Fecal Coliform	2004	L	18.35

Rucker Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**18.35**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H13R-02-BAC** **Bobs Creek**

Cause Location: Bobs Creek from the headwaters downstream to its confluence with Rucker Run. (Start Mile 4.35 End Mile: 0.00 Total Impaired Size: 4.35 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2BBOB000.19 (5 exceedences of 12 for e-coli). Initial Listing Date: 2014 This segment is included in the EPA Approved Tye River Bacteria TMDL Federal TMDL ID # 53760.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H13R_BOB01A10 / Bobs Creek / Bobs Creek from the headwaters downstream to its confluence with Rucker Run.	4A	Escherichia coli	2014	L	4.34

Bobs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.34**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H14R-01-BEN** **Mallorys Creek**

Cause Location: Mallorys Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 8.75 End Mile: 0.00 Total Impaired Size: 8.75 Miles)

City / County: Buckingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: (2-MLY005.39 (Impaired for VSCI). Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H14R_MLY01A14 / Mallorys Creek / Mallorys Creek from the headwaters downstream to its confluence with the James River.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	8.75

Mallorys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.75**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H14R-01-HG** **James River**

Cause Location: James River from its confluence with the Tye River downstream to its confluence with the Rockfish River. (Start Mile: 219.47 End Mile: 200.9 Total Impaired Size: 18.57 Miles)

City / County: Buckingham Co. Nelson Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This segment is impaired due to exceedences of mercury in fish tissue at station: 2-JMS213.00 (Hg is two species). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H14R_JMS01A18 / James River / James River from its confluence with the Tye River downstream to its confluence with Bishop Creek.	5A	Mercury in Fish Tissue	2010	L	13.48
VAV-H14R_JMS02A18 / James River / James River from its confluence with Bishop Creek downstream to its confluence with the Rockfish River.	5A	Mercury in Fish Tissue	2010	L	5.08

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**18.56**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H15R-01-BAC** **South Fork Rockfish River**

Cause Location: South Fork Rockfish River from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 11.55 End Mile: 0.00 Total Impaired Size: 11.55 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-RFS001.00 (23 exceedences of 71 samples for e-coli) and 2-RFS004.40 (2 exceedences of 12 samples for e-coli) . Initial Listing Date: 2004. This segment is included in the EPA Approved South Fork Rockfish River Bacteria TMDL Federal TMDL ID # 50831.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H15R_RFS01A00 / Rockfish River South Fork / South Fork Rockfish River from a point approximately 8 miles upstream of the Rockfish River downstream to its confluence with the Rockfish River.	4A	Escherichia coli	2008	L	7.81
VAV-H15R_RFS02A10 / Rockfish River South Fork / South Fork Rockfish River from the headwaters downstream to a point approximately 8 miles upstream of the Rockfish River.	4A	Escherichia coli	2008	L	3.74

South Fork Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.55**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H15R_RFS01A00 / Rockfish River South Fork / South Fork Rockfish River from a point approximately 8 miles upstream of the Rockfish River downstream to its confluence with the Rockfish River.	4A	Fecal Coliform	2004	L	7.81
VAV-H15R_RFS02A10 / Rockfish River South Fork / South Fork Rockfish River from the headwaters downstream to a point approximately 8 miles upstream of the Rockfish River.	4A	Fecal Coliform	2004	L	3.74

South Fork Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**11.55**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H15R-02-BAC** **North Fork Rockfish River**

Cause Location: North Fork Rockfish River from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 7.18 End Mile: 0.00 Total Impaired Size: 7.18 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-RFN000.52 (27 exceedences of 71 samples for e-coli). Initial Listing Date: 2006. This segment is included in the EPA Approved North Fork Rockfish River Bacteria TMDL Federal TMDL ID # 50829.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H15R_RFN01A00 / Rockfish River North Fork / North Fork Rockfish River from the headwaters downstream to its confluence with the Rockfish River.	4A	Escherichia coli	2006	L	7.18

North Fork Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.18**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H15R-03-BAC** **Taylor Creek**

Cause Location: Taylor Creek from the headwaters downstream to its confluence with Perry Creek. (Start Mile: 4.99 End Mile: 0.00 Total Impaired Size: 4.99 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-TLR000.50 (12 exceedences of 35 samples for e-coli). Initial Listing Date: 2012. This segment is included in the EPA Approved North Fork Rockfish River Bacteria TMDL Federal TMDL ID # 50829. This impairment was lengthened slightly in 2016 to correct a previous segmentation error.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H15R_TLR01A08 / Taylor Creek / Taylor Creek from the confluence of the two headwater tributaries downstream to its confluence with Perry Creek.	4A	Escherichia coli	2012	L	4.99

Taylor Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.99**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H15R-03-BEN** **Taylor Creek**

Cause Location: Taylor Creek from the headwaters downstream to its confluence with Perry Creek. (Start Mile: 4.99 End Mile: 0.00 Total Impaired Size: 4.99 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-TLR000.03 (Impaired for VSCI) and 2-TLR000.52 (Impaired for VSCI in 2014) Initial Listing Date: 2008. This impairment was lengthened slightly in 2016 to correct a previous segmentation error.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H15R_TLR01A08 / Taylor Creek / Taylor Creek from the confluence of the two headwater tributaries downstream to its confluence with Perry Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.99

Taylor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H15R-04-BAC** **Goodwin Creek**

Cause Location: Goodwin Creek from the headwaters downstream to its confluence with the North Fork Rockfish River. (Start Mile: 2.55 End Mile: 0.00 Total Impaired Size: 2.55 Miles)

City / County: Albemarle Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2BGOW000.76 (5 exceedences of 10 samples for e-coli) and 2BGOW001.00 (2 exceedences of 2 samples for e-coli). Initial Listing Date: 2016 This segment is included in the EPA Approved North Fork Rockfish River Bacteria TMDL. Federal TMDL ID # 50829.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H15R_GOW01A16 / Goodwin Creek / Goodwin Creek from the headwaters downstream to its confluence with the North Fork Rockfish River.	4A	Escherichia coli	2016	L	2.55

Goodwin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.55**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H16R-01-BAC** **Rockfish River**

Cause Location: Rockfish River from the headwaters downstream to its confluence with Davis Creek. (Start Mile: 29.14 End Mile: 23.36 Total Impaired Size: 5.78 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-RKF026.42 (18 exceedences of 71 samples for e-coli) and 2BRKF023.61 (5 exceedences of 11 samples for e-coli.). Initial Listing Date: 2006. This segment is included in the EPA Approved Rockfish River Bacteria TMDL Federal TMDL ID # 50828

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H16R_RKF02A00 / Rockfish River / Rockfish River from the headwaters downstream to its confluence with Davis Creek.	4A	Escherichia coli	2006	L	5.77

Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.77**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H16R-02-BAC** **Beaver Creek**

Cause Location: Beaver Creek from the confluence of its two headwater branches downstream to its confluence with the Rockfish River. (Start Mile 7.41 End Mile: 0.00 Total Impaired Size: 7.41 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-BVR000.83 (2 exceedences of 12 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H16R_BVC01A04 / Beaver Creek / Beaver Creek from the confluence of its two headwater branches downstream to its confluence with the Rockfish River.	5A	Escherichia coli	2012	L	7.41

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.41**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H16R-03-BAC** **Cove Creek**

Cause Location: Cove Creek from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 10.47 End Mile: 0.00 Total Impaired Size: 10.47 Miles)

City / County: Albemarle Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-COV003.44 (8 exceedences of 12 samples for e-coli). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H16R_COV01A00 / Cove Creek / Cove Creek from the headwaters downstream to its confluence with the Rockfish River.	5A	Escherichia coli	2012	L	10.46

Cove Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.46**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H16R-04-BAC** **Rockfish River**

Cause Location: Rockfish River from its confluence with Davis Creek downstream to its confluence with the James River. (Start Mile: 23.36 End Mile: 0.00 Total Impaired Size: 23.36 Miles) This segment was lengthened in 2018 with the addition of a downstream assessment unit.

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at stations: 2-RKF007.28 (2 exceedences of 12 samples for e-coli in 2016, no data in 2018); 2-RKF014.71 (2 exceedences of 12 samples for e-coli in 2016, no data in 2018) and 2-RKF000.19 (3 exceedences of 12 samples for e-coli) Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H16R_RKF01A00 / Rockfish River / Rockfish River from its confluence with Hog Creek downstream to its confluence with the James River.	5A	Escherichia coli	2018	L	6.06
VAV-H16R_RKF01B10 / Rockfish River / Rockfish River from its confluence with Cove Creek downstream to its confluence with the Hog Creek.	5A	Escherichia coli	2012	L	8.01
VAV-H16R_RKF01C10 / Rockfish River / Rockfish River from its confluence with Davis Creek downstream to its confluence with the Cove Creek.	5A	Escherichia coli	2012	L	9.27

Rockfish River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.34**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H16R-05-BAC** **Rockfish River UT**

Cause Location: Rockfish River UT (Lower Rockfish River watershed) from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 2.69 End Mile: 0.00 Total Impaired Size: 2.69 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-XRK001.64 (5 exceedences of 25 samples for e-coli) Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H16R_XRK01A14 / Rockfish River UT / Rockfish River UT located within the VAV-H16R (Lower Rockfish River) watershed.	5A	Escherichia coli	2016	L	2.69

Rockfish River UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.69**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H17L-01-DO** **Totier Creek Reservoir**

Cause Location: Totier Creek Reservoir (37.23 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to exceedences of the dissolved oxygen WQS in the Epilimnion at station: 2-TOT001.01 (11 exceedences of 43 samples for dissolved oxygen). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H17L_TOT01A04 / Totier Creek Reservoir / Totier Creek Reservoir	5A	Oxygen, Dissolved	2012	L	37.23

Totier Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**37.23**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H17R-01-BAC** **Totier Creek**

Cause Location: Totier Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 10.4 End Mile: 0.00 Total Impaired Size: 10.4 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-TOT002.61 (7 exceedences of 12 samples for e-coli). Initial Listing Date: 2002. This segment is included in the EPA approved James River watersheds bacteria TMDL. Federal TMDL ID # 33549

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H17R_TOT02A00 / Totier Creek / Totier Creek from the 5 mile upper limit of the PWS designation for the RWSA-Scottsville Public Water Intake downstream to the upper end of Totier Creek Reservoir.	4A	Escherichia coli	2008	L	4.01
VAV-H17R_TOT03A00 / Totier Creek / Totier Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the RWSA-Scottsville Public Water Intake.	4A	Escherichia coli	2008	L	5.59

Totier Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.60**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H17R_TOT01A00 / Totier Creek / Totier Creek from the RWSA-Scottsville Public Water Intake downstream to its confluence with the James River.	4A	Fecal Coliform	2002	L	0.71
VAV-H17R_TOT02A00 / Totier Creek / Totier Creek from the 5 mile upper limit of the PWS designation for the RWSA-Scottsville Public Water Intake downstream to the upper end of Totier Creek Reservoir.	4A	Fecal Coliform	2002	L	4.01
VAV-H17R_TOT03A00 / Totier Creek / Totier Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the RWSA-Scottsville Public Water Intake.	4A	Fecal Coliform	2002	L	5.59

Totier Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**10.31**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H17R-02-BAC** **James River**

Cause Location: James River from its confluence with the Rockfish River downstream to its confluence with the Rivanna River. (Start Mile 200.9 End Mile: 165.59 Total Impaired Size: 35.01 Miles)

City / County: Albemarle Co. Buckingham Co. Cumberland Co. Fluvanna Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station(s): 2-JMS189.31 (8 exceedences of 36 samples for e-coli); 2-JMS195.54 (2 exceedences of 12 samples for e-coli) and 2-JMS176.63 (12 exceedences of 36 samples for e-coli). Initial Listing Date: 2008

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H17R_JMS01A18 / James River / James River from its confluence with Totier Creek downstream to its confluence with the Hardware River.	5A	Escherichia coli	2008	L	8.13
VAV-H17R_JMS02A18 / James River / James River from its confluence with Ballinger Creek downstream to its confluence with Totier Creek.	5A	Escherichia coli	2008	L	4.82
VAV-H17R_JMS03A18 / James River / James River from its confluence with the Rockfish River downstream to its confluence with Ballinger Creek.	5A	Escherichia coli	2008	L	5.73
VAV-H20R_JMS01A02 / James River / James River from the Hardware River downstream to a point 5 miles above Fork Union Sanitary District raw water intake.	5A	Escherichia coli	2012	L	1.98
VAV-H20R_JMS02A02 / James River / The James River from a point 5 miles above Fork Union Sanitary District's raw water intake downstream to its confluence with the Slate River.	5A	Escherichia coli	2012	L	2.94
VAV-H20R_JMS02B18 / James River / The James River from its confluence with the Slate River downstream to the Fork Union Sanitary District's raw water intake.	5A	Escherichia coli	2012	L	2.15
VAV-H20R_JMS03A02 / James River / The James River from the Fork Union Sanitary District's raw water intake downstream to the confluence with the Rivanna River.	5A	Escherichia coli	2012	L	9.24

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**34.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H17R-03-BAC** **Ballinger Creek**

Cause Location: Ballinger Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 10.08 End Mile: 0.00 Total Impaired Size: 10.08 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-BLR003.00 (3 exceedences of 18 samples for e-coli) Initial Listing Date; 2004. This impairment is included in the EPA Approved James River (Slate River Watershed) Bacteria TMDL Federal TMDL ID # 33554.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H17R_BLR01A18 / Ballinger Creek / Ballinger Creek from the headwaters downstream to its confluence with the James River.	4A	Escherichia coli	2008	L	10.08

Ballinger Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.08**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H17R-05-BEN** **Totier Creek**

Cause Location: Totier Creek from the RWSA-Scottsville Public Water Intake downstream to its confluence with the James River. (Start Mile: .71 End Mile: 0.00 Total Impaired Size: .71 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthic at station: 2-TOT000.08 (Impaired for VSCI). Carries forward from 2008 Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H17R_TOT01A00 / Totier Creek / Totier Creek from the RWSA-Scottsville Public Water Intake downstream to its confluence with the James River.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	0.71

Totier Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.71**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H18R-01-BAC** **North Fork Hardware River**

Cause Location: North Fork Hardware River from the headwaters downstream to its confluence with the Hardware River. (Start Mile: 11.35 End Mile: 0.00 Total Impaired Size: 11.35)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 2-HNF000.10 (8 exceedences of 36 samples for e-coli) and 2-HNF005.03 (2 exceedences of 12 samples for e-coli). Initial Listing Date: 2004. This segment is included in the EPA approved North Fork Hardware River bacteria TMDL. Federal TMDL ID # 34144.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H18R_HNF01A00 / Hardware River North Fork / North Fork Hardware River form the headwaters downstream to its confluence with the Hardware River.	4A	Escherichia coli	2008	L	11.34

North Fork Hardware River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.34**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H18R_HNF01A00 / Hardware River North Fork / North Fork Hardware River form the headwaters downstream to its confluence with the Hardware River.	4A	Fecal Coliform	2004	L	11.34

North Fork Hardware River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**11.34**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H18R-02-BAC** **South Branch North Fork Hardware River & Tributaries**

Cause Location: South Branch North Fork Hardware River and tributaries from the headwaters downstream to its confluence with the North Fork Hardware River. (Start Mile: 24.01 End Mile: 0.00 Total Impaired Size: 24.01 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-HNS002.40 (5 exceedences of 9 samples for e-coli in 2012, no new data in 2018). Initial Listing Date: 2008. This segment is included in the North Fork Hardware River bacteria TMDL. Federal TMDL ID # 34144.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H18R_HNS01A08 / South Branch North Fork Hardware River / South Branch of the North Fork Hardware River (including tributaries) from the headwaters downstream to its confluence with the North Fork Hardware River.	4A	Escherichia coli	2008	L	24.01
VAV-H18R_XNH01A10 / X-trib to the South Branch North Fork Hardware River 1 / X-trib of the South Branch North Fork Hardware River and tributaries from their headwaters downstream to its confluence with the South Branch North Fork Hardware River.	4A	Escherichia coli	2012	L	1.76

South Branch North Fork Hardware River & Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**25.77**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H19R-01-BAC** **Hardware River**

Cause Location: Hardware River from the headwaters downstream to its confluence with the James River. (Start Mile: 23.24 End Mile: 0.00 Total Impaired Size: 23.24 Miles)

City / County: Albemarle Co. Fluvanna Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-HRD000.36 (4 exceedences of 24 samples for e-coli) and 2-HRD011.57 (12 exceedences of 48 samples for e-coli). Initial Listing Date: 2002. This segment is included in the EPA approved Hardware River bacteria TMDL. Federal TMDL ID # 34143.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H19R_HRD01A00 / Hardware River / Hardware River from the gaging station downstream to its confluence with the James River.	4A	Escherichia coli	2008	L	11.34
VAV-H19R_HRD02A10 / Hardware River / Hardware River from the headwaters downstream to the gaging station.	4A	Escherichia coli	2008	L	11.90

Hardware River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.24**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H19R_HRD01A00 / Hardware River / Hardware River from the gaging station downstream to its confluence with the James River.	4A	Fecal Coliform	2002	L	11.34
VAV-H19R_HRD02A10 / Hardware River / Hardware River from the headwaters downstream to the gaging station.	4A	Fecal Coliform	2002	L	11.90

Hardware River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**23.24**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H20R-01-BAC** **Bear Garden Creek**

Cause Location: Bear Garden Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 9.58 End Mile 0.00 Total Impaired Size: 9.58 Miles)

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-BSG000.58 (2 exceedences of 12 samples for e-coli in 2016, no data in 2018) Initial Listing Date: 2010. This segment is included in the EPA Approved Bear Garden Creek Bacteria TMDL. Federal TMDL ID # 41471.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H20R_BGC01A98 / Bear Garden Creek / Bear Garden Creek from the a point 5 miles above the Fork Union Sanitary District raw water intake to the mouth at the James River.	4A	Escherichia coli	2010	L	4.70
VAV-H20R_BGC02A04 / Bear Garden Creek / Bear Garden Creek from its headwaters downstream to a point 5 miles above the Fork Union Sanitary District's raw water intake.	4A	Escherichia coli	2010	L	4.88

Bear Garden Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.58**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H20R-02-BAC** **South Creek**

Cause Location: South Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 6.66 End Mile 0.00 Total Impaired Size: 6.66 Miles)

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station 2-SSX001.39 (4 exceedences of 12 samples for e-coli). Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H20R_SSX01A08 / South Creek / South Creek from its headwaters downstream to its confluence with the James River	5A	Escherichia coli	2014	L	6.66

South Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.66**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H20R-02-BEN** **North Creek**

Cause Location: North Creek from headwaters downstream to the first unnamed tributary confluence. (Start Mile: 5.30 End Mile: 1.98 Total Impaired Size: 3.32 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for benthics at station(s): 2-NOR003.28 (Impaired for VSCI) and 2-NOR003.59 (Impaired for VSCI). Initial Listing Date: 2008. This impairment is included in the EPA Approved North Creek Benthic TMDL, Federal TMDL ID #'s 63926 and 65244.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H20R_NOR01A02 / North Creek / North Creek from headwaters downstream to the first unnamed tributary confluence.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.32

North Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.32**

Sources:

Clean Sediments	Crop Production (Crop Land or Dry Land)	Erosion from Derelict Land (Barren Land)	Managed Pasture Grazing
Municipal Point Source Discharges	Non-Point Source	Unspecified Urban Stormwater	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21L-01-DO** **Troublesome Reservoir**

Cause Location: Troublesome Reservoir

City / County: Buckingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2016 cycle the segment was impaired for Dissolved Oxygen with an exceedance rate of 8/65 at station 2-TBM000.92.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21L_TBM01A06 / Troublesome Reservoir / Troublesome Reservoir	5A	Oxygen, Dissolved	2010	L	52.68

Troublesome Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**52.68**	

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-01-BAC** **Horsepen Creek**

Cause Location: Horsepen Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, Horsepen Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 2BHOX0062.

The impairment is considered nested within the James River (Slate River) Bacterial TMDL; therefore, it is considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_HOX01A08 / Horsepen Creek / Horsepen Creek from its headwaters to its mouth on the Slate River	4A	Escherichia coli	2016	L	5.86

Horsepen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.86**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-01-BEN** **Horsepen Creek**

Cause Location: Horsepen Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Horsepen Creek is impaired of the Aquatic Life Use due to benthic monitoring at 2BHOX000.62 during 2009 and 2012.

Biologist notes from 2009 indicated that the riffles were highly embedded and unstable, which was likely a result of relatively unstable stream banks and heavy local watershed erosion. Sediment is a likely stressor in this stream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_HOX01A08 / Horsepen Creek / Horsepen Creek from its headwaters to its mouth on the Slate River	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	5.86

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.86**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-02-BAC** **Walton Fork**

Cause Location: Walton Fork from its confluence with Ripley Creek to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Walton Fork downstream of the confluence with Ripley Fork was impaired of the Recreation Use during the 2018 cycle due to an E. coli exceedance rate of 4/12 at 2-WTN002.50.

The segment is located within the study area for the James River (Slate River) Watershed Bacterial TMDL, which was approved by the EPA on 9/20/2007 and by the SWCB on 7/31/2008. TMDL implementation would be expected to bring Walton Fork into compliance; therefore, the segment will be considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_WTN01A08 / Walton Fork / Walton Fork from its confluence with Ripley Creek to its mouth on the Slate River	4A	Escherichia coli	2018	L	2.99

Walton Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.99**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-02-BEN** **Walton Fork**

Cause Location: Walton Fork from its confluence with Ripley Creek to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Lower Walton Fork was impaired of the Aquatic Life Use in the 2016 cycle to benthic monitoring at 2-WTN002.50. This stream had riffles consisting of mostly gravel and a little cobble. There was excessive sedimentation throughout the stream and an abundance of periphyton.

2016 benthic monitoring at 2-WTN002.08 was inconclusive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_WTN01A08 / Walton Fork / Walton Fork from its confluence with Ripley Creek to its mouth on the Slate River	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.99

Walton Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-03-BAC** **North River**

Cause Location: The North River from the confluence with an unnamed tributary near Route 56 to its headwaters

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The North River from its headwaters at Meadow Creek to its mouth was impaired of the Recreation Use in the 2002 cycle. The impairment was subsequently addressed in the James River Watershed (Slate River) Bacterial TMDL which was approved by the EPA on 9/20/2007 and by the SWCB on 7/31/2008. The lower portion was later partially delisted in the 2008 cycle due to an acceptable E.coli exceedance rate (2/23) at 2-NTH001.65.

During the 2016 cycle, the E. coli exceedance rate was 4/12 at 2-NTH003.88. No additional data was collected in the 2018 cycle; however, the segment was shortened in the 2018 cycle to correct the location of the headwaters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_NTH02A08 / North River / The North River from the confluence with an unnamed tributary near Route 56 to its headwaters.	4A	Escherichia coli	2008	L	5.98

Segment shortened in 2018 cycle to correct headwaters

North River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.98**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-04-BAC** **Slate River**

Cause Location: The Slate River from the confluence with North River downstream to its confluence with Joshua Creek

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

A portion of the Slate River was first listed for the Recreation Use in the 2002 IR. The segment length was adjusted to Grease Creek downstream to Walton Fork in the 2004 cycle. The segment was addressed in the James River (Slate River Watershed) Bacterial TMDL which was approved by the EPA on 9/20/2007. A portion was partially delisted in the 2008 cycle and the impairment now extends from the North River to Walton Fork.

The E. coli exceedance rate was 3/6 at 2-SLT024.72 during the 2018 cycle.

NOTE:
During the 2008 cycle, a downstream portion of the Slate River from Walton Fork to Joshua Creek was considered impaired due to an E. coli exceedance rate of 3/22 at 2-SLT018.85. The segment was mistakenly combined with the upstream TMDL segment. In the 2016 cycle, the segment mistakenly remained impaired although the E. coli exceedance rate was acceptable (1/13 at 2-SLT018.85). Although no additional monitoring was conducted in the 2018 cycle, since this downstream segment was not addressed in the TMDL and previously met the WQS, it will be partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_SLT02A08 / Slate River / Slate River from Walton Fork upstream to its confluence with North River	4A	Escherichia coli	2012	L	6.25

Slate River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.25**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-05-BAC** **Slate River**

Cause Location: The Slate River from the confluence with Walton Fork downstream to its confluence with Joshua Creek.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

A portion of the Slate River was first listed for the Recreation Use in the 2002 IR. The segment length was adjusted to Grease Creek downstream to Walton Fork in the 2004 cycle. The segment was addressed in the James River (Slate River Watershed) Bacterial TMDL which was approved by the EPA on 9/20/2007.

During the 2008 cycle, a downstream portion of the Slate River from Walton Fork to Joshua Creek was considered impaired due to an E. coli exceedance rate of 3/22 at 2-SLT018.85. The segment was mistakenly combined with the upstream TMDL segment. It will be split off in the 2018 cycle and considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_SLT01A00 / Slate River / The Slate River from the confluence with Walton Fork downstream to its confluence with Joshua Creek	4A	Escherichia coli	2008	L	6.69

Slate River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.69**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H21R-06-BAC** **Grease Creek**

Cause Location: Grease Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33555, 09/20/2007

Grease Creek was initially impaired of the Recreation Use in the 2008 cycle based on an exceedance rate of 2/9 at 2-GRD001.62. It is considered nested in the Slate River Bacterial TMDL, which was approved by the EPA on 09/20/2007. During the 2014 cycle, the exceedance rate was 3/12 at station 2-GRD001.62. No additional monitoring occurred in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H21R_GRD01A08 / Grease Creek / Grease Creek from its headwaters to its mouth on the Slate River	4A	Escherichia coli	2008	L	10.73

Grease Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.73**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H22R-01-BAC** **Slate River**

Cause Location: Slate River from its mouth on the James River upstream to its confluence with Joshua Creek.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Slate River from the confluence with Sharps Creek downstream to its mouth was initially listed as impaired of the Recreation Use in the 2002 cycle due to fecal coliform exceedances at 2-SLT003.88.

he Slate River Bacterial TMDL was approved by the EPA on 9/20/2007 and by the SWCB on 7/31/2008.

The impairment was later converted to E. coli and was extended upstream to the confluence with Joshua Creek because of additional exceedances at 2-SLT014.52.

The E. coli exceedance rates during the 2018 cycle were:
13/35 at 2-SLT003.68
3/11 at 2-SLT014.52

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H22R_SLT01A06 / Slate River / Slate River from its confluence with Sharps Creek upstream to its confluence with Joshua Creek.	4A	Escherichia coli	2008	L	9.04
VAP-H22R_SLT02A02 / Slate River / The Slate River from the confluence with Sharps Creek to river mile 3.88.	4A	Escherichia coli	2012	L	3.26
VAP-H22R_SLT03A02 / Slate River / The Slate River from a point 5 miles upstream of the Fork Union Sanitary District raw water intake (Rivermile 3.88) to the mouth at the James River.	4A	Escherichia coli	2012	L	3.89

Slate River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.19**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H22R-02-BAC** **Muddy Creek**

Cause Location: Muddy Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33556, 09/20/2007

Muddy Creek was impaired of the Recreation Use in the 2008 cycle due to E. coli exceedances at 2-MYC000.50. The exceedance rate was 6/12 in the 2014 cycle; no additional monitoring has been conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H22R_MYC01A08 / Muddy Creek / Muddy Creek from its headwaters to its mouth on the Slate River	4A	Escherichia coli	2008	L	6.76

Muddy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.76**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H22R-03-BAC** **Turpin Creek**

Cause Location: Turpin Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33556, 09/20/2007

Turpin Creek was impaired of the Recreation Use in the 2008 cycle due to E. coli exceedances at 2-TPN003.59. The exceedance rate was 4/12 in the 2012 cycle; no additional monitoring has been conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H22R_TPN01A08 / Turpin Creek / Turpin Creek from its headwaters to its mouth on the Slate River	4A	Escherichia coli	2008	L	7.30

Turpin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.30**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H22R-04-BAC** **Hunts Creek**

Cause Location: Hunts Creek from its headwaters to its mouth on the Slate River.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33556, 9/20/2007

Hunts Creek was impaired of the Recreation Use in the 2014 cycle. The stream is located within the study area for Slate River Bacterial TMDL, which was approved by the EPA on 09/20/2007 and is considered nested (Category 4A.) The exceedance rate was 2/12 at 2-HUS002.24 in the 2014 cycle; no additional E. coli monitoring has been conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H22R_HUS01A06 / Hunts Creek / Hunts Creek from its headwaters to its mouth on the Slate River.	4A	Escherichia coli	2014	L	11.48

Hunts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.48**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23L-01-CHLA** **Lake Albemarle**

Cause Location: Lake Albemarle (Total Impaired Size: 37.01 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

This lake is impaired due to exceedences of the chlorophyll a (nutrients) Lake Nutrient Criteria at station:2-SIN000.44 (>35 ug/l two for two years). Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23L_SIN01A04 / Lake Albemarle / Lake Albemarle	5A	Chlorophyll-a	2016	L	37.01

Lake Albemarle **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**37.01**	

Sources:

Dam or Impoundment Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23L-01-DO** **Lake Albemarle**

Cause Location: Lake Albemarle (Total Impaired Size: 37.01 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to excursions of the dissolved oxygen WQS at station: 2-SIN000.44 (6 excursions of 39 samples for DO) Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23L_SIN01A04 / Lake Albemarle / Lake Albemarle	5A	Oxygen, Dissolved	2016	L	37.01

Lake Albemarle **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**37.01**	

Sources:

Dam or Impoundment Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23L-01-PH** **Lake Albemarle**

Cause Location: Lake Albemarle (Total Impaired Size: 37.01 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This lake is impaired due to exceedences of the pH WQS at station: 2-SIN000.44 (9 exceedences of 42 samples for pH) Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23L_SIN01A04 / Lake Albemarle / Lake Albemarle	5A	pH	2004	L	37.01

Lake Albemarle **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**37.01**	

Sources:

Dam or Impoundment Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-01-BEN** **Broad Axe Run**

Cause Location: Broad Axe Run and tributaries from the headwaters downstream to its confluence with the Mechums River. (Start Mile: 8.32 End Mile: 0.00 Total Impaired Size: 8.32 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-BRX000.66 (Impaired for VSCI). Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_BRX01A00 / Broad Axe Run / Broad Axe Run and tributaries from the headwaters downstream to its confluence with the Mechums River.	5A	Benthic-Macroinvertebrate Bioassessments	2004	H	8.31

Broad Axe Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.31**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-02-BEN** **Lickinghole Creek**

Cause Location: Lickinghole Creek from the headwaters downstream to its confluence with the Mechums River. (Start Mile: 8.94 End Mile: 0.00 Total Impaired Size: 8.94 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-LKN000.02 (Impaired for VSCI) and 2-LKN-LKN01-RCA (Impaired for VSCI based on Level III benthic data from Rivanna Conservation Alliance). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_LKN01A00 / Lickinghole Creek / Lickinghole Creek from the headwaters downstream to its confluence with the Mechums River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	8.93

Lickinghole Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.93**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-03-BAC** **Mechums River**

Cause Location: Mechums River from the headwaters downstream to its confluence with the Moormans River. (Start Mile: 26.36 End Mile: 0.00 Total Impaired Size: 26.36 Miles)

City / County: Albemarle Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-MCM005.12 (14 exceedences of 71 samples for e-coli) and 2-MCM018.92 (25 exceedences of 70 samples for e-coli). Initial Listing Date: 2006. The impairment size was lengthened in 2012 to add upstream assessment units. This segment is included in the EPA approved Mechums River bacteria TMDL. Federal TMDL ID # 35771.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_MCM01A00 / Mechums River / Mechums River from the pumping station below Lake Albemarle downstream to its confluence with the Moormans River.	4A	Escherichia coli	2006	L	7.26
VAV-H23R_MCM01B10 / Mechums River / Mechums River from its confluence with Lickinghole Creek downstream to the pumping station below Lake Albemarle.	4A	Escherichia coli	2006	L	3.92
VAV-H23R_MCM02A00 / Mechums River / Mechums River from its confluence with Stockton Creek downstream to its confluence with Lickinghole Creek.	4A	Escherichia coli	2012	L	2.07
VAV-H23R_MCM02B10 / Mechums River / Mechums River from the headwaters downstream to its confluence with Stockton Creek.	4A	Escherichia coli	2012	L	13.09

Mechums River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**26.34**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-03-BEN** **Mechums River**

Cause Location: Mechums River from the headwaters downstream to its confluence with Lickinghole Creek. (Start Mile: 26.36 End Mile: 11.19 Total Impaired Size: 15.17 Miles)

City / County: Albemarle Co. Nelson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-MCM018.92 (Impaired for VSCI) and 2-MCM-MCM11-RCA (Impaired for VSCI). Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_MCM02A00 / Mechums River / Mechums River from its confluence with Stockton Creek downstream to its confluence with Lickinghole Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2004	H	2.07
VAV-H23R_MCM02B10 / Mechums River / Mechums River from the headwaters downstream to its confluence with Stockton Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2004	H	13.09

Mechums River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.16**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-04-BEN** **Slabtown Branch**

Cause Location: Slabtown Branch and tribs from the headwaters downstream to its confluence with Lickinghole Creek. (Start Mile: 4.92 End Mile: 0.00 Total Impaired Size: 4.92 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-SLB-SLB01-RCA (Impaired for VSCI based on Level III benthic data from Rivanna Conservation Alliance). There are no new data available for assessment in 2018, thus the impairment carries forward to 2018. Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_SLB01A08 / Slabtown Branch / Slabtown Branch and tributaries from the headwaters downstream to the confluence with Lickinghole Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	4.92

Slabtown Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.92**

Sources:

Golf Courses Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-06-BEN** **Parrott Branch X-trib**

Cause Location: Parrott Branch X-trib from the headwaters downstream to its confluence with Parrott Branch. (Start Mile: 1.15 End Mile: 0.00 Total Impaired Size: 1.15 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-XPT-XPT01-RCA (Impaired for VSCI based on Level III benthic data from Rivanna Conservation Alliance). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_XPT01A10 / X-trib to Parrott Branch / X-trib to Parrott Branch from the headwaters downstream to its confluence with Parrott Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	1.15

Parrott Branch X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.15**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-07-BEN** **Spring Creek**

Cause Location: Spring Creek from the headwaters downstream to the upper end of Lake Albemarle. (Start Mile 3.48 End Mile: 0.00 Total Impaired Size: 3.48 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-XSI-XSI01-RCA (Impaired for VSCI). Initial Listing Date: 2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_SIN02A10 / Spring Creek / Spring Creek from the headwaters downstream to the upper end of Lake Albemarle.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	3.48

Spring Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H23R-08-BAC** **Stockton Creek**

Cause Location: Stockton Creek from the headwaters downstream to its confluence with the Mechums River. (Start Mile: 12.06 End Mile: 0.00 Total Impaired Size: 12.06 Miles)

City / County: Albemarle Co. Nelson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-SKM001.47 (8 exceedences of 12 samples for e-coli). Initial Listing Date: 2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H23R_SKM01A10 / Stockton Creek / Stockton Creek from the headwaters downstream to its confluence with the Mechums River.	5A	Escherichia coli	2014	L	12.06

Stockton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.06**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H24R-01-TEMP** **Moormans River North Fork/Pond Ridge Branch**

Cause Location: North Fork Moormans River and tributaries (including Pond Ridge Branch) from the headwaters downstream to the Charlottesville Reservoir. (Start Mile: 21.10 End Mile: 0.00 Total Impaired Size: 21.10 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 2BMNF000.10 (2 exceedences of 6 samples for temperature). Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H24R_MNF01A00 / Moormans River North Fork / North Fork Moormans River and tributaries (excluding Pond Ridge Branch) from the headwaters downstream to the Charlottesville Reservoir.	5A	Temperature, water	2014	L	19.07
VAV-H24R_PRG01A10 / Pond Ridge Branch / Pond Ridge Branch from the headwaters downstream to its confluence with the North Fork Moormans River.	5A	Temperature, water	2014	L	2.03

Moormans River North Fork/Pond Ridge Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**21.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H24R-02-BEN** **X-trib to Doyles River**

Cause Location: X-trib to Doyles River from the headwaters downstream to its confluence with the Doyles River. (Start Mile: 4.74 End Mile: 0.00 Total Impaired Size: 4.74 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-XDL-XDY01-RCA (Impaired for VSCI). Initial Listing Date: 2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H24R_XDL01A12 / X-trib to Doyles River / X-trib and tributaries to Doyles River from the headwaters downstream to its confluence with the Doyles River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	4.74

X-trib to Doyles River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.74**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H25R-01-BAC** **Buck Mountain Creek**

Cause Location: Buck Mountain Creek from the headwaters downstream to its confluence with the South Fork Rivanna River. (Start Mile: 10.59 End Mile 0.00 Total Impaired Size: 10.59 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-BKM002.01 (2 exceedences of 12 samples for e-coli). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H25R_BKM01A00 / Buck Mountain Creek / Buck Mountain Creek from its confluence with an unnamed tributary at Lick Mountain downstream to its confluence with the South Fork Rivanna River.	5A	Escherichia coli	2010	L	10.59

Buck Mountain Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.59**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H25R-02-BEN** **Piney Creek X-trib**

Cause Location: Piney Creek X-trib from its headwaters downstream to its confluence with Piney Creek. (Start Mile: 3.22 End Mile: 0.00 Total Impaired Size: 3.22 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-XPY-XPY01 -SW (Impaired for VSCI in 2016, no data in 2018) and 2-XPY-XPY02-SW (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H25R_XPY01A12 / Piney Creek X-trib / Piney Creek X-trib from the headwaters downstream to its confluence with Piney Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	3.22

Piney Creek X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26L-01-DO** **S. F. Rivanna River Reservoir**

Cause Location: S. F. Rivanna River Reservoir (Total Impaired Size 398.69 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to exceedences of the DO WQS at station(s): 2-RRS003.59 (19 exceedences of 53 samples for DO) and 2-RRS005.62 (5 exceedences of 56 samples for DO) Pooled data 24 exceedences of 109 samples) Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26L_01 / S F Rivanna River Reservoir / South Fork Rivanna River Reservoir	5A	Oxygen, Dissolved	2018	L	398.69

S. F. Rivanna River Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**398.69**	

Sources:

Natural Sources Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-01-BAC** **Ivy Creek**

Cause Location: Ivy Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the S. F. Rivanna Reservoir Intake. (Start Mile: 12.08 End Mile 2.57 Total Impaired Size: 9.51 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-IVC008.09 (4 exceedences of 12 samples for e-coli). Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_IVC02A00 / Ivy Creek / Ivy Creek from its confluence with Little Ivy Creek downstream to the 5 mile upper limit of the PWS designation for the RWSA-SF Rivanna River Public Water Intake.	5A	Escherichia coli	2014	H	4.02
VAV-H26R_IVC03A00 / Ivy Creek / Ivy Creek from the headwaters downstream to its confluence with Little Ivy Creek.	5A	Escherichia coli	2014	H	5.49

Ivy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.51**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-02-PH** **Ivy Creek**

Cause Location: Ivy Creek from the headwaters downstream to its confluence with Little Ivy Creek. (Start Mile: 12.08 End Mile: 6.59 Total Impaired Size: 5.49 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 2-IVC010.20 (2 excursions of 6 samples for pH in 2010, no new data in 2018, thus impairment carries forward to 2016). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_IVC03A00 / Ivy Creek / Ivy Creek from the headwaters downstream to its confluence with Little Ivy Creek.	5A	pH	2006	L	5.49

Ivy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.49**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-03-BEN** **Ivy Creek**

Cause Location: Ivy Creek from the headwaters downstream to its confluence with the South Fork Rivanna River Reservoir. (Start Mile: 12.08 End Mile: 0.00 Total Impaired Size: 12.08 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-IVC005.19 (Impaired for VSCI) and 2-IVC010.20 (Impaired for VSCI). Initial Listing Date: 2008. (This segment was lengthened in 2010)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_IVC01A00 / Ivy Creek / Ivy Creek from the 5 mile upper limit of the PWS designation for the RWSA-SF Rivanna River Public Water Intake downstream to its confluence with the South Fork Rivanna River Reservoir.	5A	Benthic-Macroinvertebrate Bioassessments	2008	H	2.56
VAV-H26R_IVC02A00 / Ivy Creek / Ivy Creek from its confluence with Little Ivy Creek downstream to the 5 mile upper limit of the PWS designation for the RWSA-SF Rivanna River Public Water Intake.	5A	Benthic-Macroinvertebrate Bioassessments	2008	H	4.02
VAV-H26R_IVC03A00 / Ivy Creek / Ivy Creek from the headwaters downstream to its confluence with Little Ivy Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	5.49

Ivy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.07**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-04-BEN** **South Fork Rivanna River**

Cause Location: South Fork Rivanna River from the RWSA SF Rivanna River Public Water Intake downstream to its confluence with the Rivanna River. (Start Mile: 3.47 End Mile: 0.00 Total Impaired Size: 3.47 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-RRS001.81 (Impaired for VSCI) and 2-RRS-RVN31-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_RRS01A00 / Rivanna River South Fork / South Fork Rivanna River from the RWSA SF Rivanna River Public Water Intake downstream to its confluence with the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	3.47

South Fork Rivanna River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.47**

Sources:

Dam or Impoundment	Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-05-BEN** **Powell Creek**

Cause Location: Powell Creek (including all tributaries) from the headwaters downstream to its confluence with the South Fork Rivanna River. (Start Mile: 10.36 End Mile: 0.00 Total Impaired Size: 10.36 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-PLC001.49 (Impaired for VSCI), 2-PLC-PWL01-RCA (Impaired for VSCI) and 2-PWC-PWL03-RCA (Impaired for VSCI). Initial Listing Date; 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_PLC01A10 / Powell Creek / Powell Creek and tributaries from the headwaters downstream to its confluence with the South Fork Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	10.36

Powell Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.36**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-06-BEN** **Naked Creek**

Cause Location: Naked Creek (including all tributaries) from the headwaters downstream to its confluence with the South Fork Rivanna Reservoir. (Start Mile: 9.82 End Mile 0.00 Total Impaired Size: 9.82 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-NKD-NKD02-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_NKD01A10 / Naked Creek / Naked Creek and tributaries from the headwaters downstream to its confluence with the South Fork Rivanna Reservoir.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	9.82

Naked Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.82**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-07-BEN** **South Fork Rivanna River X-trib**

Cause Location: South Fork Rivanna River X-trib from the headwaters downstream to its confluence with the South Fork Rivanna River. (Start Mile: 3.21 End Mile: 0.00 Total Impaired Size: 3.21 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-XRV-XZW01-SW (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_XRV01A10 / South Fork Rivanna River X-trib / South Fork Rivanna River X-trib (including tributaries) from the headwaters downstream to its confluence with the South Fork Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	3.20

South Fork Rivanna River X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.20**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-08-BEN** **Fishing Creek**

Cause Location: Fishing Creek and tributaries from the headwaters downstream to its confluence with the South Fork Rivanna Reservoir. (Start Mile: 12.53 End Mile: 0.00 Total Impaired Size: 12.53 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station(s): 2-FSH-FSH01-RCA (Impaired for VSCI) and 2-FSH-FSH02-RCA (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_FSH01A12 / Fishing Creek / Fishing Creek and tributaries from the headwaters downstream to its confluence with the South Fork Rivanna Reservoir.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	12.53

Fishing Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.53**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H26R-09-BEN** **Little Ivy Creek X-trib**

Cause Location: Little Ivy Creek X-trib from the headwaters downstream to its confluence with Little Ivy Creek. (Start Mile: 4.44 End Mile: 0.00 Total Impaired Size: 4.44 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-XLI-XLI01-RCA (Impaired for VSCI). Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H26R_XLI01A16 / Little Ivy Creek X-trib / Little Ivy Creek X-trib (including tributaries) from the headwaters downstream to its confluence with Little Ivy Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.44

Little Ivy Creek X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.44**

Sources:

Agriculture	Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27L-01-DO** **Chris Green Lake**

Cause Location: Chris Green Lake (Total Impaired Size 57.07 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to exceedences of the DO WQS at station 2-JCB000.80 (7 exceedences of 55 samples for DO).
Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27L_JCB01A08 / Chris Green Lake / Chris Green Lake	5A	Oxygen, Dissolved	2018	L	57.07

Chris Green Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**57.07**	

Sources:

Natural Sources Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-01-BEN** **Flat Branch X-trib**

Cause Location: Flat Branch X-trib from the headwaters downstream to its confluence with Flat Branch. (Start Mile: 2.03 End Mile: 0.00 Total Impaired Size: 2.03 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-XKL000.37 (Impaired for VSCI). Initial List Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_FTB01A08 / X-trib to Flat Branch / X-trib to Flat Branch from the headwaters (including tributaries) downstream to its confluence with Flat Branch.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	2.03

Flat Branch X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.03**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-02-BAC** **Swift Run**

Cause Location: Swift Run from its confluence with Welsh Run downstream to its confluence with the North Fork Rivanna River. (Start Mile: 1.91 End Mile: 0.00 Total Impaired Size: 1.91 Miles)

City / County: Albemarle Co. Greene Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-SFR000.60 (2 exceedences of 12 samples for e-coli). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_SFR01A00 / Swift Run / Swift Run from its confluence with Welsh Run downstream to its confluence with the North Fork Rivanna River.	5A	Escherichia coli	2010	H	1.91

Swift Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.91**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-02-BEN** **Swift Run**

Cause Location: Swift Run from its confluence with Welsh Run downstream to its confluence with the North Fork Rivanna River. (Start Mile: 1.91 End Mile: 0.00 Total Impaired Size: 1.91 Miles)

City / County: Albemarle Co. Greene Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-SFR000.60 (Impaired for VSCI) Initial Listing Date: 2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_SFR01A00 / Swift Run / Swift Run from its confluence with Welsh Run downstream to its confluence with the North Fork Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H, 2yr	1.91

Swift Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.91**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-03-BAC** **Preddy Creek**

Cause Location: Preddy Creek and North Branch Preddy Creek from the headwaters downstream to its confluence with the North Fork Rivanna River. (Start Mile: 13.72 End Mile: 0.00 Total Impaired Size: 13.72). This segment was lengthened in 2010 with additional upstream segments.

City / County: Albemarle Co. Greene Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-PRD000.21 (4 exceedences of 12) Initial Listing Date: 2006. This segment is included in the EPA approved Preddy Creek bacteria TMDL. Federal TMDL ID # 35770.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_PRD01A00 / Preddy Creek / Preddy Creek from the headwaters downstream to its confluence with the North Fork Rivanna River.	4A	Escherichia coli	2006	L	7.48
VAV-H27R_PRD02A06 / Preddy Creek North Branch / North Branch of Preddy Creek from the headwaters downstream to its confluence with Preddy Creek	4A	Escherichia coli	2010	L	6.24

Preddy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.72**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-03-BEN** **Preddy Creek North Branch**

Cause Location: Preddy Creek North Branch from the headwaters downstream to its confluence with Preddy Creek. (Start Mile: 6.24 End Mile: 0.00 Total Impaired Size: 6.24)

City / County: Albemarle Co. Greene Co. Orange Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-PRD004.42 (Impaired for VSCI), 2-PRD006.35 (Impaired for VSCI) and 2-PRD-PRD01-RCA (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_PRD02A06 / Preddy Creek North Branch / North Branch of Preddy Creek from the headwaters downstream to its confluence with Preddy Creek	5A	Benthic-Macroinvertebrate Bioassessments	2010	H, 2yr	6.24

Preddy Creek North Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.24**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-04-BAC** **North Fork Rivanna River**

Cause Location: North Fork Rivanna River from its confluence with the Lynch River downstream to its confluence with the Rivanna River. (Start Mile: 17.88 End Mile: 0.00 Total Impaired Size: 17.88 Miles)

City / County: Albemarle Co. Greene Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-RRN002.19 (17 exceedences of 70 samples for e-coli) and 2-RRN010.92 (2 exceedences of 12 samples for e-coli). Initial Listing Date: 2006. This segment was lengthened in 2010, however, this segment is included in the EPA approved North Fork Rivanna River bacteria TMDL. Federal TMDL ID # 35769.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_RRN01A00 / Rivanna River North Fork / North Fork Rivanna River from its confluence with Preddy Creek downstream to its confluence with the Rivanna River.	4A	Escherichia coli	2006	L	6.56
VAV-H27R_RRN01B10 / Rivanna River North Fork / North Fork Rivanna River from the RWSA NF Rivanna River Public Water Intake downstream to its confluence with the Preddy Creek.	4A	Escherichia coli	2006	L	3.98
VAV-H27R_RRN02A00 / Rivanna River North Fork / North Fork Rivanna River from its confluence with Swift Run downstream to the RWSA-NF Rivanna River Public Water Intake.	4A	Escherichia coli	2010	L	3.82
VAV-H27R_RRN03A10 / Rivanna River North Fork / North Fork Rivanna River from its confluence with the Lynch River downstream to its confluence with Swift Run.	4A	Escherichia coli	2010	L	3.51

North Fork Rivanna River		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation				
	Escherichia coli - Total Impaired Size by Water Type:			**17.87**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-05-BEN** **Marsh Run**

Cause Location: Marsh Run from the headwaters downstream to its confluence with the North Fork Rivanna River. (Start Mile: 3.65 End Mile: 0.00 Total Impaired Size: 3.65 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-MAR-XZY01-RCA (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_MAR01A10 / Marsh Run / Marsh Run from the headwaters downstream to its confluence with the North Fork Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	3.65

Marsh Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.65**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-06-BEN** **Blue Run**

Cause Location: Blue Run from the headwaters downstream to its confluence with Swift Run. (Start Mile: 8.72 End Mile: 0.00 Total Impaired Size: 8.72 Miles)

City / County: Greene Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-BLU-BLU02-RCA (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_BLU01A04 / Blue Run / Blue Run from the headwaters downstream to its confluence with Swift Run.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	8.72

Blue Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.72**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-07-BEN** **Stanardsville Run**

Cause Location: Stanardsville Run and tributaries from the headwaters downstream to its confluence with Blue Run. (Start Mile: 5.71 End Mile: 0.00 Total Impaired Size: 5.71 Miles)

City / County: Greene Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-SDV001.02 (Impaired for VSCI) and 2-SDV-SDV04-RCA (Impaired for VSCI). Initial Listing Date: 2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_SDV01A14 / Stanardsville Run / Stanardsville Run and tributaries from the headwaters downstream to its confluence with Blue Run.	5A	Benthic-Macroinvertebrate Bioassessments	2014	H	5.70

Stanardsville Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.70**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-08-BEN** **Preddy Creek**

Cause Location: Preddy Creek from the headwaters downstream to its confluence with the North Fork Rivanna River. (Start Mile: 7.48 End Mile: 0.00 Total Impaired Size: 7.48 Miles)

City / County: Albemarle Co. Orange Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-PRD-BRN01-RCA (Impaired for VSCI). Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_PRD01A00 / Preddy Creek / Preddy Creek from the headwaters downstream to its confluence with the North Fork Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	7.48

Preddy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.48**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-09-BEN** **North Fork Rivanna River**

Cause Location: North Fork Rivanna River from its confluence with the Lynch River downstream to the RWSA - North Fork Rivanna River Public Water Intake. (Start Mile: 17.87 End Mile: 10.68 Total Impaired Size: 7.19 Miles)

City / County: Albemarle Co. Greene Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-RRN012.89 (Impaired for VSCI) and 2-RRN-RRN06-RCA (Impaired for VSCI). Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_RRN02A00 / Rivanna River North Fork / North Fork Rivanna River from its confluence with Swift Run downstream to the RWSA-NF Rivanna River Public Water Intake.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	3.82
VAV-H27R_RRN03A10 / Rivanna River North Fork / North Fork Rivanna River from its confluence with the Lynch River downstream to its confluence with Swift Run.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	3.51

North Fork Rivanna River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.33**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-10-BEN** **Quarter Creek**

Cause Location: Quarter Creek from the dam outfall at Jonquil Road downstream to its confluence with Swift Run. (Start Mile: 1.58 End Mile: 0.00 Total Impaired Size: 1.58 Miles)

City / County: Greene Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-QTR-QTR03-RCA (Impaired for VSCI). Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_QTR01A16 / Quarter Creek / Quarter Creek from the dam outfall at Jonquil Road to its confluence with Swift Run.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	1.58

Quarter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.58**

Sources:

Non-Point Source	Upstream Impoundments (e.g., Pl-566 NRCS Structures)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H27R-11-BAC** **Foster Branch**

Cause Location: Foster Branch from the headwaters downstream to its confluence with the North Fork Rivanna River. (Start Mile: 4.26 End Mile: 4.26 Total Impaired Size: 4.26 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station(s): 2BFOS001.01 (2 exceedences of 12 samples for e-coli) Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H27R_FOS01A12 / Foster Branch / Foster Branch from the headwaters downstream to its confluence with the North Fork Rivanna River.	5A	Escherichia coli	2018	L	4.26

Foster Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.26**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-01-BEN** **Rivanna River/Moores Creek**

Cause Location: Rivanna River from its confluence with the North/South Fork Rivanna downstream to its confluence with an unnamed tributary just below the RWSA-Glemore STP. (Includes a .54 mile segment of Moores Creek). (Start Mile: 41.43/.54 End Mile: 30.02/0.00 Total Impaired Size: 11.41/.54 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-RVN-RVN11-RCA (Impaired for VSCI), 2-RVN033.65 (Impaired for VSCI) and 2-RVN-RVN01-RCA (Impaired for VSCI). Initial Listing Dates: 1996 and 2006. This segment is included in the EPA approved Rivanna River benthic TMDL. Federal TMDL ID # 34524/34525

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MSC01B12 / Moores Creek / Moores Creek from the RSWA Moores Creek STP bridge downstream to its confluence with the Rivanna River.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	0.54
VAV-H28R_RVN01A00 / Rivanna River / Rivanna River from its confluence with North/South Fork Rivanna downstream to its confluence with Moores Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	5.48
VAV-H29R_RVN04A00 / Rivanna River / Rivanna River from its confluence with Moores Creek downstream to its confluence with an unnamed tributary just below the RWSA-Glenmore STP.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	5.91

Rivanna River/Moores Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.93**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-02-BAC** **Moores Creek**

Cause Location: Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to its confluence with the Rivanna River. (Start Mile: 6.86 End Mile: 0.00 Total Impaired Size: 6.86 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-MSC000.60 (14 exceedences of 41 samples for e-coli). Initial Listing Date: 2002. This assessment unit was included in the EPA approved Moores Creek bacteria TMDL. Federal TMDL ID # 23392

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MSC01A00 / Moores Creek / Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to the RSWA Moores Creek STP bridge.	4A	Escherichia coli	2008	L	6.32
VAV-H28R_MSC01B12 / Moores Creek / Moores Creek from the RSWA Moores Creek STP bridge downstream to its confluence with the Rivanna River.	4A	Escherichia coli	2008	L	0.54

Moores Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.86**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MSC01A00 / Moores Creek / Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to the RSWA Moores Creek STP bridge.	4A	Fecal Coliform	2002	L	6.32
VAV-H28R_MSC01B12 / Moores Creek / Moores Creek from the RSWA Moores Creek STP bridge downstream to its confluence with the Rivanna River.	4A	Fecal Coliform	2002	L	0.54

Moores Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.86**

Sources:

Agriculture	Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-02-BEN** **Moores Creek**

Cause Location: Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to the RWSA Moores Creek STP bridge. (Start Mile: 6.86 End Mile: 0..54 Total Impaired Size: 6.32 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-MSC000.60 (Impaired for VSCI); 2-MSC-MSC04-RCA (Impaired for VSCI) and 2-MSC-MSV12-RCA (Impaired for VSCI). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MSC01A00 / Moores Creek / Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to the RSWA Moores Creek STP bridge.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	6.32

Moores Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.32**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-03-BAC** **Meadow Creek**

Cause Location: Meadow Creek from where it becomes a perennial stream downstream to its confluence with the Rivanna River. (Start Mile: 4.98 End Mile: 0.00 Total Impaired Size: 4.98 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-MWC000.60 (10 exceedences of 23 samples for e-coli). Initial Listing Date: 2002. This segment is included in the EPA approved Meadow Creek bacteria TMDL. Federal TMDL ID # 35779.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MWC01A00 / Meadow Creek / Meadow Creek from where it becomes a perennial stream downstream to its confluence with the Rivanna River.	4A	Escherichia coli	2008	L	4.98

Meadow Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.98**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MWC01A00 / Meadow Creek / Meadow Creek from where it becomes a perennial stream downstream to its confluence with the Rivanna River.	4A	Fecal Coliform	2002	L	4.98

Meadow Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.98**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-04-BEN** **Moores Creek X-trib**

Cause Location: Moores Creek X-trib from the headwaters downstream to its confluence with Moores Creek. (Start Mile: 1.66 End Mile: 0.00 Total Impaired Size: 1.66 Miles)

City / County: Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-XRC001.15 (Impaired for VSCI) and 2-XRC-XRC01-RCA (Impaired for VSCI). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_XRC01A04 / Moores Creek X-Trib / Moores Creek X-trib from the headwaters downstream to its confluence with Moores Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	1.66

Moores Creek X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.66**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-05-BEN** **Meadow Creek**

Cause Location: Meadow Creek from where it becomes a perennial stream downstream to its confluence with Moores Creek. (Start Mile: 4.98 End Mile: 0.00 Total Impaired Size: 4.98 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-MWC000.60 (Impaired for VSCI); 2-MWC-MWC03-RCA (Impaired for VSCI) 2-MWC-MWC07-RCA (Impaired for VSCI); 2-MWC-MWC05-RCA (Impaired for VSCI); 2-MWC-MWC06-RCA (Impaired for VSCI); 2-MWC-MWC08-RCA (Impaired for VSCI); 2-MWC-MWC09-RCA (Impaired for VSCI); 2-MWC-MWC10-RCA Impaired for VSCI). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MWC01A00 / Meadow Creek / Meadow Creek from where it becomes a perennial stream downstream to its confluence with the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	4.98

Meadow Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.98**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-06-BAC** **Rivanna River**

Cause Location: Rivanna River from its confluence with the North/South Fork Rivanna downstream to its confluence with Moores Creek. (Start Mile: 41.43 End Mile: 35.94 Total Impaired Size: 5.49 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-RVN037.54 (2 exceedences of 10 samples for e-coli in 2010, 0 of 2 in 2012, no new data in 2016/18, so impairment carries forward to 2018). Initial Listing Date: 2006. This segment is included in the EPA approved Rivanna River bacteria TMDL. Federal TMDL ID # 35768.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_RVN01A00 / Rivanna River / Rivanna River from its confluence with North/South Fork Rivanna downstream to its confluence with Moores Creek.	4A	Escherichia coli	2006	L	5.48

Rivanna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.48**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-07-BAC** **Schenks Branch**

Cause Location: Schenks Branch and tributaries from the headwaters downstream to its confluence with Meadow Creek. (Start Mile: 2.92 End Mile: 0.00 Total Impaired Size: 2.92 Miles)

City / County: Charlottesville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at stations: 2-SNK000.88 (3 exceedences of 3 samples for e-coli in 2014, no data in 2018) and 2-XSN000.08 (6 exceedences of 6 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_SNK01A02 / Schenk's Branch / Schenk's Branch and tributaries from the headwaters downstream to its confluence with Meadow Creek.	5A	Escherichia coli	2010	L	2.91

Schenks Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.91**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-07-BEN** **Schenks Branch**

Cause Location: Schenks Branch and tributaries from the headwaters downstream to its confluence with Meadow Creek. (Start Mile: 2.92 End Mile: 0.00 Total Impaired Size: 2.92 Miles)

City / County: Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-SNK000.88 (Impaired for VSCI); 2-XSN000.08 (Impaired for VSCI) and 2-SNK-SHV01-RCA (Impaired for VSCI). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_SNK01A02 / Schenk's Branch / Schenk's Branch and tributaries from the headwaters downstream to its confluence with Meadow Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.91

Schenks Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.91**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-08-BEN** **Biscuit Run**

Cause Location: Biscuit Run and tributaries from the tributary at the mobile home park downstream to its confluence with Moores Creek. (Start Mile 6.60 End Mile: 0.00 Total Impaired Size 6.60 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-BSC-BSC01-RCA (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_BSC01A00 / Biscuit Run / Biscuit Run and tributaries from the confluence with the tributary at the mobile home park downstream to its confluence with Moores Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	6.59

Biscuit Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.59**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-09-BEN** **Morey Creek**

Cause Location: Morey Creek from the headwaters downstream to its confluence with Moores Creek. (Start Mile: 2.93 End Mile: 0.00 Total Impaired Size: 2.93 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-MOY-MRY01-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_MOY01A02 / Morey Creek / Morey Creek from the headwaters downstream to its confluence with Moore's Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.93

Morey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.93**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-10-BEN** **Town Branch**

Cause Location: Town Branch and tributary from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 1.19 End Mile: 0.00 Total Impaired Size: 1.19 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-TWN-TWN01-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_TWN01A10 / Town Branch / Town Branch and tributary from the headwaters downstream to its confluence with the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.19

Town Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.19**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-11-BEN** **Meadow Creek X-trib**

Cause Location: Meadow Creek X-trib beginning near Rothery Street downstream to its confluence with Meadow Creek. (Start Mile: 1.78 End Mile 0.00 Total Impaired Size: 1.78 Miles)

City / County: Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-XMW-XMW01-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_XMW01A10 / Meadow Creek X-trib / Meadow Creek X-trib beginning near Rothery Street downstream to its confluence with Meadow Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.78

Meadow Creek X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.78**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-12-BEN** **X-trib to Moores Creek**

Cause Location: X-trib to Moores Creek from the outfall of the Ragged Mountain Reservoir downstream to Moores Creek. (Start Mile: 2.23 End Mile: 0.00 Total Impaired Size: 2.23 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-XMR-XMR01-RCA (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_XMR01A12 / X-trib to Moores Creek / X-trib to Moores Creek from the outfall of the Ragged Mountain Reservoir downstream to Moores Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.23

X-trib to Moores Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.23**

Sources:

Dam or Impoundment Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-13-BEN** **X-trib above Ragged Mountain Reservoir**

Cause Location: X-trib above Ragged Mountain Reservoir downstream to the north arm pool of the Ragged Mountain Reservoir. (Start Mile. .29 End Mile: 0.00 Total Impaired Size: .29 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-XGM-XGM01-RCA (Impaired for VSCI) Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_XGM01A18 / X-trib above Ragged Mountain Reservoir (North of I-64) / X-trib above Ragged Mountain Reservoir from the headwaters downstream to the pool of Ragged Mountain Reservoir.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.29

X-trib above Ragged Mountain Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-14-BEN** **UT to Meadow Creek X-trib**

Cause Location: UT to Meadow Creek X-trib from the headwaters downstream to Meadow Creek X-trib near Holy Comforter School. (Start Mile: .42 End Mile: 0.00 Total Impaired Size: .42 Miles.

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-XMB-INC01-RCA (Impaired for VSCI). Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_XMB01A18 / UT to Meadow Creek X-trib / UT to Meadow Creek X-trib from the headwaters downstream to Meadow Creek X-trib. (Near Holy Comforter School)	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.41

UT to Meadow Creek X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.41**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H28R-15-BEN** **Cow Branch**

Cause Location: Cow Branch from the headwaters downstream to its confluence with Moores Creek. (Start Mile: 2.47 End Mile: 0.00 Total Impaired Size: 2.47 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-CWB-CWB02-RCA (Impaired for VSCI) Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H28R_XRA01A02 / Cow Branch / Cow Branch from the headwaters downstream to its confluence with Moores Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.47

Cow Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H29R-03-BAC** **Buck Island Creek**

Cause Location: Buck Island Creek from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 9.17 End Mile: 0.00 Total Impaired Size: 9.17 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-BID002.11 (2 exceedences of 12 samples for e-coli) and 2-BID005.83 (6 exceedences of 9 samples for e-coli in 2012, no new data in 2016/18). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H29R_BID01A00 / Buck Island Creek / Buck Island Creek from the 5 mile upper limit of the PWS designation for the Lake Monticello Service Authority Public Water Intake downstream to its confluence with the Rivanna River.	5A	Escherichia coli	2008	L	2.65
VAV-H29R_BID02A00 / Buck Island Creek / Buck Island Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Lake Monticello Service Authority Public Water Intake.	5A	Escherichia coli	2008	L	6.51

Buck Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.16**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H29R-03-BEN** **Buck Island Creek**

Cause Location: Buck Island Creek from the 5 mile upper limit of the PWS designation for the Lake Monticello Service Authority Public Water Intake downstream to its confluence with the Rivanna River. (Start Mile: 2.66 End Mile: 0.00 Total Impaired Size: 2.66 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-BID-BKI01-RCA (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H29R_BID01A00 / Buck Island Creek / Buck Island Creek from the 5 mile upper limit of the PWS designation for the Lake Monticello Service Authority Public Water Intake downstream to its confluence with the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.65

Buck Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.65**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H29R-04-BEN** **Carroll Creek**

Cause Location: Carroll Creek and tributaries from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 18.46 End Mile: 0.00 Total Impaired Size: 18.46 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-CRR000.27 (Impaired for VSCI) and 2-CRR-CRL01-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H29R_CAR01A06 / Carroll Creek / Carroll Creek and tributaries from the headwaters downstream to its confluence with the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	18.45

Carroll Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**18.45**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H30R-01-BEN** **Mechunk Creek**

Cause Location: Mechunk Creek from its confluence with Jacks Branch downstream to the DOC water intake near the Route 250 bridge crossing. (Start Mile: 10.31 End Mile: 7.27 Total Impaired Size: 3.04 Miles) This impaired was shortened in 2018 with the delisting of the upstream segment.

City / County: Albemarle Co. Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-MCK007.47 (Impaired for VSCI) Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H30R_MCK02A10 / Mechunk Creek / Mechunk Creek from its confluence with Jacks Branch downstream to the DOC water intake near the Route 250 bridge crossing.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	3.04

Mechunk Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.04**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H30R-02-BEN** **East Prong Beaverdam Creek**

Cause Location: East Prong Beaverdam Creek and tributary from the headwaters downstream to its confluence with Beaverdam Creek. (Start Mile: 4.70 End Mile: 0.00 Total Impaired Size: 4.70 Miles)

City / County: Fluvanna Co. Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-BEP-BVE01-RCA (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H30R_BEP01A12 / East Prong Beaverdam Creek / East Prong Beaverdam Creek and tributary from the headwaters downstream to its confluence with Beaverdam Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.69

East Prong Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.69**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H30R-03-BEN** **Jacks Branch**

Cause Location: Jacks Branch and tributary from the headwaters downstream to its confluence with Mechunk Creek. (Start Mile 7.16 End Mile 0.00 Total Impaired Size: 7.16 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-JAK-JCK01-RCA (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H30R_JAK01A12 / Jacks Branch / Jacks Branch and tributary from the headwaters downstream to its confluence with Mechunk Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	7.16

Jacks Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.16**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H31R-02-BEN** **Carys Creek**

Cause Location: Carys Creek from the headwaters downstream to the confluence with a major tributary upstream of the Rivanna River. (Start Mile: 1.80 End Mile: 0.00 Total Impaired Size: 1.80 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-CRY000.69 (Impaired for VSCI) and 2-CRY-CYC01-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H31R_CRY01A08 / Carys Creek / Carys Creek from the headwaters downstream to the confluence with a major tributary upstream of the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.79

Carys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.79**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H31R-03-BEN** **X-trib to Boston Creek**

Cause Location: X-trib to Boston Creek from the headwaters downstream to its confluence with Boston Creek. (Lake Monticello) (Start Mile: 2.29 End Mile: 0.00 Total Impaired Size: 2.29 Miles)

City / County: Albemarle Co. Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-XYX-XYX01-RCA (Impaired for VSCI). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H31R_XYX01A10 / X-trib to Boston Creek (Lake Monticello) / X-trib to Boston Creek from the headwaters downstream to its confluence with Boston Creek. (Lake Monticello)	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.29

X-trib to Boston Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.29**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H31R-04-BEN** **X-trib to Rivanna River**

Cause Location: X-trib to the Rivanna River from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 1.00 End Mile: 0.00 Total Impaired Size 1.00 Mile)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-XRN-XZZ01-RCA (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H31R_XRN01A10 / X-trib to the Rivanna River / X-trib to the Rivanna River from the headwaters downstream to its confluence with the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.00

X-trib to Rivanna River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.00**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H31R-05-BAC** **Rivanna River**

Cause Location: Rivanna River from its confluence with Mechunk Creek downstream to its confluence with Cunningham Creek. (Start Mile: 23.72 End Mile: 15.34 Total Impaired Size: 8.38 Miles)

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-RVN015.97 (13 exceedences of 72 samples for e-coli). Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H31R_RVN02A00 / Rivanna River / Rivanna River from its confluence with Mechunk Creek downstream to its confluence with Cunningham Creek.	5A	Escherichia coli	2016	L	8.38

Rivanna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.38**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32L-01-DO** **Fluvanna Ruritan Lake**

Cause Location: Fluvanna Ruritan Lake (Total Impaired Size: 51.13 Acres)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to exceedences of the DO WQS at station: 2-CFK004.34 (10 exceedences of 45 samples for DO). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32L_00 / Fluvanna Ruritan Lake / Fluvanna Ruritan Lake	5A	Oxygen, Dissolved	2012	L	51.13

Fluvanna Ruritan Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**51.13**	

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32L-01-PH** **Fluvanna Ruritan Lake**

Cause Location: Fluvanna Ruritan Lake (Total Impaired Size: 51.13 Acres)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This lake is impaired due to excursions of the pH WQS at station: 2-CFK004.34 (5 excursions of 45 samples for pH). Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32L_00 / Fluvanna Ruritan Lake / Fluvanna Ruritan Lake	5A	pH	2006	L	51.13

Fluvanna Ruritan Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**51.13**	

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32R-02-BAC** **Middle Fork Cunningham Creek**

Cause Location: Middle Fork Cunningham Creek and tributary from the headwaters downstream to its confluence with Cunningham Creek. (Start Mile: 7.43 End Mile: 0.00 Total Impaired Size: 7.43 Miles)

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 2-CNM002.25 (6 exceedences of 18 samples for e-coli in 2010, 1 of 9 in 2012, no new data in 2018, remained impaired) and 2-CNM004.16 (2 exceedences of 12 samples for e-coli in 2010, 1 of 9 in 2012, no new data in 2018, remains impaired). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32R_CNM01A00 / Cunningham Creek Middle Fork / Middle Fork Cunningham Creek from its confluence with an unnamed tributary originating near Antioch downstream to its confluence with Cunningham Creek.	5A	Escherichia coli	2006	H, 2yr	3.40
VAV-H32R_CNM02A04 / Middle Fork Cunningham Creek / Middle Fork Cunningham Creek and tributary from the headwaters downstream to its confluence with an unnamed tributary originating near Antioch.	5A	Escherichia coli	2008	H, 2yr	4.02

Middle Fork Cunningham Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.42**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32R-02-BEN** **Middle Fork Cunningham Creek**

Cause Location: Middle Fork Cunningham Creek from its confluence with an unnamed tributary originating near Antioch downstream to its confluence with Cunningham Creek. (Start Mile: 3.41 End Mile: 0.00 Total Impaired Size: 3.41 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-CNM000.09 (Impaired for VSCI) and 2-CNM001.75 (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32R_CNM01A00 / Cunningham Creek Middle Fork / Middle Fork Cunningham Creek from its confluence with an unnamed tributary originating near Antioch downstream to its confluence with Cunningham Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H, 2yr	3.40

Middle Fork Cunningham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.40**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32R-03-BAC** **Middle Fork Cunningham Creek X-trib**

Cause Location: Middle Fork Cunningham Creek X-trib from the headwaters downstream to its confluence with the Middle Fork Cunningham Creek. (Start Mile: 3.77 End Mile: 0.00 Total Impaired Size: 3.77 Miles)

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-XPA000.57 (2 exceedences of 12 samples for e-coli, no data in 2016/18, impairment carries forward to 2016). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32R_XPA01A06 / X-trib to the Middle Fork Cunningham Creek / X-trib to the Middle Fork Cunningham Creek (including major tributary) from the headwaters downstream to its confluence with the Middle Fork Cunningham Creek.	5A	Escherichia coli	2008	H, 2yr	3.77

Middle Fork Cunningham Creek X-trib **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.77**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32R-04-BEN** **X-trib to North Fork Cunningham Creek**

Cause Location: X-trib to North Fork Cunningham Creek from the headwaters downstream to its confluence with the North Fork Cunningham Creek. (Start Mile: .59 End Mile: 0.00 Total Impaired Size: .59 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-XCF-XCF01-RCA (Impaired for VSCI). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32R_XCF01A10 / X-trib to North Fork Cunningham Creek / trib to North Fork Cunningham Creek from the headwaters downstream to its confluence with the North Fork Cunningham Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.59

X-trib to North Fork Cunningham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.59**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32R-05-BEN** **Cunningham Creek North Fork**

Cause Location: North Fork Cunningham Creek from the Fluvanna Ruritan Lake outfall downstream to its confluence with Cunningham Creek. (Start Mile: 4.18 End Mile: 0.00 Total Impaired Size: 4.18 Miles)

City / County: Albemarle Co. Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station 2-CFK001.31 (Impaired for VSCI). Initial Listing Date; 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32R_CFK01A00 / Cunningham Creek North Fork / North Fork Cunningham Creek from the Fluvanna Ruritan Lake outfall downstream to its confluence with Cunningham Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.18

Cunningham Creek North Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.18**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32R-06-BEN** **Cunningham Creek**

Cause Location: Cunningham Creek from the confluence of the Middle/South Fork Cunningham Creek downstream to its confluence with the Rivanna River. (Start Mile: 5.62 End Mile: 0.00 Total Impaired Size (5.62 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-CXB000.86 (Impaired for VSCI) Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32R_CXB01A00 / Cunningham Creek / Cunningham Creek from the confluence of the Middle/South Fork Cunningham Creek downstream to its confluence with the Rivanna River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	5.62

Cunningham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.62**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H32R-07-BEN** **South Fork Cunnigham Creek**

Cause Location: South Fork Cunningham Creek from the second x-trib downstream to its confluence with Cunningham Creek. (Start Mile: 1.58 End Mile: 0.00 Total Impaired Size: 1.58 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-CSF000.10 (Impaired for VSCI). Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-H32R_CSF01A00 / Cunningham Creek South Fork / South Fork Cunningham Creek from the second x-trib downstream to its confluence with Cunningham Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	1.58

South Fork Cunnigham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.58**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33L-01-CHLA** **Powhatan Lake**

Cause Location: Upper and lower

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

In 2014 the lake was impaired for aquatic life due to Chlorophyll a pooled violations at 2-STG000.21 and 2-STG000.91.

During the 2016 and 2018 cycle there was no new data so the segment remained impaired for Chlorophyll a.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33L_STG01A12 / Powhatan Lakes / Upper and Lower	5A	Chlorophyll-a	2014	L	61.36

Powhatan Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**61.36**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33L-01-DO** **Powhatan Lake**

Cause Location: Upper and lower

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2012 cycle the segment became a reservoir. The segment was impaired for aquatic life use due to DO violations at stations 2-STG000.21 and 2-STG000.91 with a pooled rate of 5/25.

During the 2014 cycle the segment remained impaired for aquatic life use due to DO violations at 2-STG000.21 and 2-STG000.91 with a pooled rate of 11/92.

During the 2016 and 2018 cycle there was no new data so the segment remained impaired for DO.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33L_STG01A12 / Powhatan Lakes / Upper and Lower	5A	Oxygen, Dissolved	2012	L	61.36

Powhatan Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**61.36**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-01-BAC** **Solomons Creek**

Cause Location: Solomons Creek from its headwaters downstream to its mouth at the James River.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Solomons Creek was assessed as not supporting of the Recreation Use goal in the 2010 cycle based on an E. coli exceedance rate of 7/12 at 2-SOL001.00 (Route 621.)

As this impairment is within the study area for the James River - Piedmont Region TMDL, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009, Solomons Creek is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_SOL01A10 / Solomons Creek / Headwaters to mouth at James River	4A	Escherichia coli	2010	L	4.05

Solomons Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.05**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-02-DO** **Deep Creek**

Cause Location: Segment begins at the confluence of Deep Creek with Sallee Creek, and extends downstream to the Route 684 bridge.

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Deep Creek from Maxey Mill Creek to the Route 684 bridge (rm 3.00) was assessed as impaired of the Aquatic Life Use because of a dissolved oxygen exceedance rate of 2/12 at 2-DCR003.00. The TMDL is due in 2020, but natural conditions are suspected.

The DO exceedance rates at other stations were acceptable in the 2010 cycle (2/26 at 2-DCR007.93 and 1/11 at 2-DCR013.89); therefore, the upstream segment was shortened to the confluence with Sallee Creek.

The exceedance rate at 2-DCR003.00 was 3/23 during the 2016 cycle.

Additional monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_DCR01A98 / Deep Creek / Deep Creek from Sallee Creek to the Route 684 bridge (river mile 3.00)	5C	Oxygen, Dissolved	2008	L	0.37

Deep Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.37**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-03-BAC** **Sallee Creek**

Cause Location: Sallee Creek from its headwaters to its mouth at Deep Creek.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Sallee Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 4/12 at 2-SLE002.65, which is located at the Route 60 bridge.

It is considered nested in the upper James River TMDL in the James River and Tributaries - Lower Piedmont Report, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_SLE01A00 / Sallee Creek / Sallee Creek from its headwaters to its mouth at Deep Creek.	4A	Escherichia coli	2014	L	7.08

Sallee Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.08**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-04-BAC** **XAQ - Deep Creek, UT**

Cause Location: The unnamed tributary XAQ from its headwaters to its mouth at Deep Creek.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the tributary was impaired of the Recreation Use due to an E. coli exceedance rate of 2/11 at station 2BXAQ001.17, which is located at Duke Road off of Route 684.

The stream is located within the study area for the James River and Tributaries - Lower Piedmont Region Bacterial TMDL, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. The impairment will be addressed during implementation; therefore, it is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_XAQ01A16 / XAQ - Deep Creek, UT / Headwaters to mouth at Deep Creek.	4A	Escherichia coli	2016	L	3.18

XAQ - Deep Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.18**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-05-BAC** **Davis Creek**

Cause Location: Davis Creek from its headwaters to its mouth at Muddy Creek.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Davis Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 2-DVS001.23, which is located at the Route 687 bridge.

No additional monitoring has been conducted.

As this area is within the study area for the James River - Piedmont Region TMDL which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009, Davis Creek is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_DVS01A00 / Davis Creek / Davis Creek from its headwaters to its mouth at Muddy Creek.	4A	Escherichia coli	2012	L	7.68

Davis Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.68**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-06-BAC** **James River**

Cause Location: The James River from its confluence with the Rivanna River downstream to the confluence with Big Lickinghole Creek.

City / County: Cumberland Co. Fluvanna Co. Goochland Co. Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the James River from the Rivanna River downstream to Big Lickinghole Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 8/48 at 2-JMS157.28, which is located at the Route 45 bridge at Cartersville.

The exceedance rate was acceptable in the 2018 cycle (2/56); however, it was 2/12 at station 2-JMS166.50 and the segment will remain impaired.

The TMDL was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009; therefore, it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_JMS01A98 / James River / The James River from its confluence with the Rivanna River at river mile 166.61 downstream to the confluence with Big Lickinghole Creek at river mile 143.35.	4A	Escherichia coli	2016	L	23.08

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.08**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-07-DO** **Muddy Creek**

Cause Location: Muddy Creek from the confluence with Davis Creek downstream to its mouth at the James River.

City / County: Cumberland Co. Powhatan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Muddy Creek was assessed as not supporting of the Aquatic Life Use in the 2018 cycle due to a dissolved oxygen exceedance rate of 4/12 at 2-MUY01.23, which is located at the Route 684 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_MUY01B00 / Muddy Creek / Muddy Creek from the confluence of Davis Creek downstream to the mouth at the James River.	5C	Oxygen, Dissolved	2018	L	3.58

Muddy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.58**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-08-BAC** **Steger Creek**

Cause Location: Steger Creek from its headwaters to the extent of backwater from Upper Powhatan Lake.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The upper portion of Steger Creek was impaired of the Recreation Use during the 2018 cycle due to an E. coli exceedance rate of 4/12 at monitoring station 2-STG002.00, which is located at the Route 684 bridge.

It is proposed for nesting in the upper James River TMDL in the James River and Tributaries - Lower Piedmont report, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_STG02A18 / Stegers Creek / Stegers Creek from its headwaters to the backwater of upper Powhatan Lake.	4A	Escherichia coli	2018	L	3.11

Steger Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.11**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H33R-09-BAC** **Gaddes Creek**

Cause Location: Gaddes Creek from its headwaters to its mouth at the James River.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Gaddes Creek was impaired of the Recreation Use during the 2018 cycle due to an E. coli exceedance rate of 2/12 at monitoring station 2BGAD001.12, which is located at the Cosby Road (Rt. 621) bridge.

It is proposed for nesting in the upper James River TMDL in the James River and Tributaries - Lower Piedmont report, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H33R_GAD01A18 / Gaddes Creek / Headwaters to mouth at the James River	4A	Escherichia coli	2018	L	2.75

Gaddes Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.75**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H34R-01-BAC** **Byrd Creek**

Cause Location: Segment comprises all of Byrd Creek, from its headwaters to its mouth at the Little River.

City / County: Fluvanna Co. Goochland Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Byrd Creek was initially considered fully supporting but threatened of the Recreation Use in 1998. It was later identified by the EPA for listing consideration. In the 2002 cycle, the segment was downgraded to impaired of the Recreation Use support goal based on fecal coliform standard exceedances recorded at the Route 603 bridge (2-BYR003.35); therefore the TMDL was due in 2010.

During the 2008 cycle, the impairment was converted to E. coli and the segment length was corrected.

Byrd Creek remained impaired during the 2010 cycle with the following exceedance rates:
2-BYR000.50 (2/10)
2-BYR003.35 (2/12)
2-BYR018.04 (1/11)
2-BYR021.58 (6/25)

Additional monitoring was conducted during the 2016 cycle. Byrd Creek remained impaired (4/22 at 2-BYR003.35).

The TMDL was completed as part of the James River and Tributaries - Lower Piedmont Bacterial TMDL, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. The segment is therefore considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H34R_BYR01A98 / Byrd Creek / Byrd Creek from its headwaters at the confluence of Kent Branch and Venable Creek to its mouth at the Little River (branch of the James River) at Elk Island.	4A	Escherichia coli	2008	L	19.36

Byrd Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.36**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H34R-03-BAC** **Venable Creek**

Cause Location: Venable Creek from its headwaters to its mouth at Byrd Creek.

City / County: Fluvanna Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Venable Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/12 at the Route 601 bridge (2-VNB001.89).

Venable Creek is a tributary of Byrd Creek, which is also impaired due to bacteria. The TMDL for Byrd Creek was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. The TMDL requires a 100% reduction in anthropogenic direct loads, 99% reductions for agriculture, residential and urban loads, and a 71% reduction in wildlife loads; therefore, Venable Creek is considered a nested water (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H34R_VNB01A08 / Venable Creek / Headwaters to mouth at Byrd Creek	4A	Escherichia coli	2008	L	8.06

Venable Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.06**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H34R-04-BAC** **Phils Creek**

Cause Location: Phils Creek from its headwaters to its mouth at Byrd Creek.

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Phils Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/12 at the Route 601 bridge (2-PHL001.46).

Phils Creek is a tributary of Byrd Creek, which is also impaired due to bacteria. The TMDL for Byrd Creek was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. The TMDL requires a 100% reduction in anthropogenic direct loads, 99% reductions for agriculture, residential and urban loads, and a 71% reduction in wildlife loads; therefore, Phils Creek is considered a nested water (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H34R_PHL01A08 / Phils Creek / Headwaters to mouth at Byrd Creek.	4A	Escherichia coli	2008	L	6.69

Phils Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.69**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H34R-04-BEN** **Phils Creek**

Cause Location: Phils Creek from its headwaters to its mouth at Byrd Creek.

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2016 cycle, Phils Creek was assessed as impaired of the Aquatic Life Use due to an altered benthic community at 2-PHL003.97, which is located at the Route 629 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H34R_PHL01A08 / Phils Creek / Headwaters to mouth at Byrd Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	6.69

Phils Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H34R-05-BAC** **Mill Creek**

Cause Location: Mills Creek from its headwaters to its mouth at Little Byrd Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Mills Creek was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 5/12 at the Route 609 bridge (2-MML001.31).

Mill Creek is located within the Byrd Creek watershed, which is also impaired due to bacteria. The TMDL for Byrd Creek was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. The TMDL requires a 100% reduction in anthropogenic direct loads, 99% reductions for agriculture, residential and urban loads, and a 71% reduction in wildlife loads; therefore, Mill Creek is considered a nested water (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H34R_MML01A08 / Mill Creek / Headwaters to mouth at Little Byrd Creek	4A	Escherichia coli	2008	L	5.99

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.99**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H35R-01-BAC** **Willis River**

Cause Location: Willis River from its headwaters to its confluence with Little Willis River

City / County: Buckingham Co. Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 1998 cycle, Willis River from the confluence with Reynolds Creek downstream to its mouth was impaired of the Recreation Use due to fecal coliform exceedances. The impairment was addressed in the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004.

The Willis River from its headwaters to the confluence with the Little Willis River was first listed for a bacterial TMDL in the 2004 cycle (fecal coliform). It converted to an E. coli impairment in the 2016 cycle. The exceedance rates are as follows in the 2018 cycle:

2-WLS042.78 - 11/16
2-WLS055.54 - 4/12

NOTE:
In previous cycles, the Recreation Use impairments on upstream Willis River were considered addressed in the TMDL. In the 2018 cycle, the upstream impairment was changed to nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H35R_WLS01A04 / Willis River / Willis River from its headwaters to Tongue Quarter Creek	4A	Escherichia coli	2016	L	12.25
VAP-H35R_WLS02A04 / Willis River / Willis River from Tongue Quarter Creek to the Little Willis River confluence	4A	Escherichia coli	2012	L	10.34

Willis River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**22.59**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal Point Source Discharges
- Non-Point Source
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H35R-02-BAC** **XQM - Willis River, UT**

Cause Location: An unnamed tributary to the Willis River near Route 638

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

NESTED 2018: 23393, 5/31/2002

XQM, an unnamed tributary of the Willis River was initially considered impaired of the Recreation Use due to a fecal exceedance rate of 3/9 at station 2-XQM000.03 in the 2004 cycle. The stream is located within the study area for the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004. In previous cycles, it was considered part of the TMDL, however in the 2018 cycle it was determined that the stream itself was not specifically addressed so the impairment will be considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H35R_XQM01A00 / XQM - Willis River, Unnamed Tributary / An unnamed tributary to the Willis River near Route 638	4A	Fecal Coliform	2004	L	1.68

XQM - Willis River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**1.68**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H35R-03-BAC** **Little Willis River**

Cause Location: The Little Willis River from Perkins Creek to its mouth at the Willis River.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little Willis River was initially considered impaired of the Recreation Use in the 2008 cycle due to an E. coli exceedance rate of 2/8 at 2-LWW004.14. The exceedance rate was 3/23 in the 2016 cycle. The stream is located within the study area for the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004 and is considered nested. No additional monitoring was conducted in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H35R_LWW01A08 / Little Willis River / Little Willis River from Perkins Creek to its mouth on the Willis River	4A	Escherichia coli	2008	L	6.13

Little Willis River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.13**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H35R-04-BAC** **Whispering Creek**

Cause Location: Whispering Creek from its headwaters to its mouth at the Willis River.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Whispering Creek was considered impaired of the Recreation Use in the 2014 cycle due to an E. coli exceedance rate of 4/12 at 2-WSP001.95. The stream is located within the study area for the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004 and is considered nested. No additional monitoring was conducted in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H35R_WSP01A08 / Whispering Creek / Whispering Creek from its headwaters to its mouth on the Willis River	4A	Escherichia coli	2014	L	13.46

Whispering Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.46**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-01-BAC** **Willis River**

Cause Location: Willis River from the confluence of Reynolds Creek to its mouth.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 1998 cycle, Willis River from the confluence with Reynolds Creek downstream to its mouth was impaired of the Recreation Use due to fecal coliform exceedances. The impairment was addressed in the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004.

During the 2018 cycle, the E. coli exceedance rate was 6/3 at 2-WLS004.27.

NOTE:
In previous cycles, the Recreation Use impairments on upstream Willis River were considered addressed in the TMDL. In addition, fact sheet H36R-01-BAC extended from the northern Cumberland State Forest boundary to the mouth. In the 2018 cycle, the length of this fact sheet is shortened to match the original TMDL segment (also see fact sheet H36R-07-BAC) and the upstream areas were changed to nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_WLS01A00 / Willis River / The Willis River from the Reynolds Creek confluence to its mouth at the James River.	4A	Escherichia coli	2006	L	14.88

Segment expanded in the 2018 cycle.

Willis River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.88**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-02-BAC** **Randolph Creek**

Cause Location: Randolph Creek from the headwaters to the upstream limit of Sports Lake.

City / County: Buckingham Co. Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The upper portion of Randolph Creek was considered impaired of the Recreation Use in the 2002 cycle due to fecal coliform exceedances at hog farm special study stations PL-21A and PL-21B. The impairment converted to E. coli during the 2006 cycle.

During the 2018 cycle, the E. coli exceedance rate is 5/18 at 2-RND004.39.

In previous cycles, the Recreation Use impairment on Randolph Creek was considered addressed in the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/20025 and by the SWCB on 6/17/2004. In the 2018 cycle, the impairment was changed to nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_RND01A00 / Randolph Creek / Randolph Creek from the headwaters to the upstream limit of Sports Lake.	4A	Escherichia coli	2006	L	11.80

Randolph Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.80**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-02-BEN** **Randolph Creek**

Cause Location: Randolph Creek from the headwaters to the upstream limit of Sports Lake.

City / County: Buckingham Co. Cumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The upper portion of Randolph Creek was considered impaired of the Aquatic Life Use in the 2008 cycle based on the results of benthic monitoring at 2-RND003.57, a 2001 probabilistic monitoring station.

The habitat assessment indicated sediment impacts.

No additional monitoring has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_RND01A00 / Randolph Creek / Randolph Creek from the headwaters to the upstream limit of Sports Lake.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	11.80

Randolph Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-03-BEN** **Buffalo Creek**

Cause Location: Buffalo Creek from its headwaters to its mouth at the Willis River

City / County: Buckingham Co. Cumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2013 benthic macroinvertebrate sampling at 2-BFC001.11 showed marginal available habitat and moderate sediment deposition.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_BFC01A08 / Buffalo Creek / Buffalo Creek from its headwaters to its mouth on the Willis River	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	7.10

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-04-BAC** **Hatcher Creek**

Cause Location: Hatcher Creek from the headwaters to its mouth at the Willis River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Hatcher Creek was considered impaired of the Recreation Use in the 2014 cycle due to an E. coli exceedance rate of 2/12 at 2-HCH004.81. The stream is located within the study area for the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004 and is considered nested. No additional monitoring was conducted in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_HCH01A04 / Hatcher Creek / Hatcher Creek from the headwaters to its mouth at the Willis River	4A	Escherichia coli	2010	L	10.18

Hatcher Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.18**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-05-BAC** **Reynolds Creek**

Cause Location: Reynolds Creek from its headwaters to its mouth at the Willis River

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Reynolds Creek was impaired of the Recreation Use in the 2012 cycle due to an E. coli exceedance rate of 3/12 at 2-RLD000.48.

No additional monitoring has been conducted.

The stream is located within the study area for the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004 and is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_RLD01A06 / Reynolds Creek / Reynolds Creek from its headwaters to the Cumberland State Forest Boundary	4A	Escherichia coli	2012	L	4.14
VAP-H36R_RLD01C10 / Reynolds Creek / Reynolds Creek from the Cumberland State Forest Boundary to the mouth at the Willis River	4A	Escherichia coli	2012	L	2.70

Reynolds Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.84**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-05-BEN** **Reynolds Creek**

Cause Location: Reynolds Creek from its headwaters to its mouth at the Willis River

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Reynolds Creek was impaired of the Aquatic Life Use in the 2014 cycle due to monitoring at 2-RLD000.48 in 2009 and 2012. This stream is in the Cumberland State Forest. It is characterized by marginal bank stability, excessive sediment deposition, and marginal epifaunal substrate. Biologist notes from 2009 and 2012 indicate very unstable habitat, mostly consisting of leaf packs and woody debris that were covered in sediment. Heavy local watershed erosion was also noted. In 2012 there was noted beaver activity affecting habitat availability.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_RLD01A06 / Reynolds Creek / Reynolds Creek from its headwaters to the Cumberland State Forest Boundary	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	4.14
VAP-H36R_RLD01C10 / Reynolds Creek / Reynolds Creek from the Cumberland State Forest Boundary to the mouth at the Willis River	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.70

Reynolds Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.84**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-06-BEN** **Bigger Creek**

Cause Location: Bigger Creek from its headwaters to the mouth on Reynolds Creek.

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Bigger Creek is impaired of the Aquatic Life Use based on monitoring at 2-BIO000.45 in 2009 and 2014. This site is in the Cumberland State Forest and had marginal bank stability, pronounced sediment deposition, and suboptimal epifaunal substrate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_BIO01A08 / Bigger Creek / Bigger Creek from its headwaters to the Cumberland State Forest Boundary.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	1.20
VAP-H36R_BIO01C10 / Bigger Creek / Bigger Creek from the Cumberland State Forest Boundary to the mouth on Reynolds Creek	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	3.23

Bigger Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.43**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-07-BAC** **Willis River**

Cause Location: Willis River from the southern boundary of the Cumberland State Forest downstream to the confluence of Reynolds Creek.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 1998 cycle, Willis River from the confluence with Reynolds Creek downstream to its mouth was impaired of the Recreation Use due to fecal coliform exceedances. The impairment was addressed in the Willis River Fecal Coliform TMDL, which was approved by the EPA on 5/31/2002 and by the SWCB on 6/17/2004.

NOTE:
In previous cycles, the Recreation Use impairments on upstream Willis River were considered addressed in the TMDL. In addition, fact sheet H36R-01-BAC extended from the northern Cumberland State Forest boundary to the mouth. In the 2018 cycle, the length of this fact sheet is shortened to match the original TMDL segment and the upstream areas were changed to nested.

New fact sheet H26R-07-BAC extends from the southern boundary of the Cumberland State Forest downstream to Reynolds Creek. The E. coli exceedance rates were as follows in the 2018 cycle:
2-WLS021.48 - 1/12 (acceptable)
2-WLS023.10 - 0/1
2-WLS025.32 - 8/36 (IM)
2-WLS030.32 - 5/12 in 2012 cycle (IM)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_WLS01B08 / Willis River / The Willis River from the southern boundary of the Cumberland State Forest downstream to its confluence with Reynolds Creek.	4A	Escherichia coli	2008	L	18.13

Segment joined in 2018 cycle.

Willis River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**18.13**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-07-BEN** **Bonbrook Creek**

Cause Location: The mainstem of Bonbrook Creek.

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2018 cycle, Bonbrook Creek was impaired of the Aquatic Life Use based on benthic macroinvertebrate sampling at 2-BRK001.00. This site is in the Cumberland State Forest and exhibited marginal bank stability, pronounced sediment deposition, and marginal epifaunal substrate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_BRK01A08 / Bonbrook Creek / Bonbrook Creek from its headwaters to its mouth on the Willis River, excluding portion within the Cumberland State Forest.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	4.12
VAP-H36R_BRK01C10 / Bonbrook Creek / Bonbrook Creek within the Cumberland State Forest Boundary	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.57

Bonbrook Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H36R-08-DO** **Bear Creek**

Cause Location: Bear Creek from its headwater to the extent of backwater from Bear Creek Lake.

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2018 cycle, upper Bear Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/26 at DCR station 2-BRC-BC-2-DCR.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H36R_BRC01A18 / Bear Creek / Bear Creek from its headwaters to the backwater of Bear Creek Lake.	5C	Oxygen, Dissolved	2018	L	3.67

Bear Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.67**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H37R-01-BAC** **Big Lickinghole, Little Lickinghole, & White Hall Creeks**

Cause Location: The mainstems of Big Lickinghole Creek downstream of Old Miss Branch, Little Lickinghole Creek, and White Hall Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The creeks were initially considered impaired of the Recreation Use support goals during the 2002 cycle based on water quality monitoring performed at the confluence of Big Lickinghole Creek and Little Lickinghole Creek (2-BLG002.60).

During the 2008 cycle, TMDL monitoring for E. coli was conducted throughout the watershed. Although several stations on the creeks had acceptable violation rates, including the original listing station 2-BLG002.60 which had a violation rate of 2/23, the original segmentation was maintained. The impairment converted to E. coli. It was determined that a portion of Little Lickinghole Creek that had been included in the original impairment is actually called White Hall Creek. Since a TMDL station on White Hall Creek showed impairment, the stream continued to be included in the segment.

The TMDL was completed during the 2010 cycle as part of the James River and Tributaries - Lower Piedmont Region TMDL, which was adopted by the EPA on 6/11/2008 and by the SWCB on 4/28/2009 (Category 4A.)

The following were the violation rates on the streams during the 2010 cycle.
2-BLG002.60 - 2/23
2-BLG006.41 - 3/12 (IM)
2-BLG008.60 - 1/12
2-BLG011.41 - 0/1
2-BLG012.33 - 0/12
2-LIH005.28 - 4/24 (IM)
2-WHC000.46 - 2/12 (IM)

Based on the acceptable violation rates on Big Lickinghole Creek at the upstream stations, the portion of the stream upstream of Old Miss Branch were delisted and classified as Category 2C.

The segment remained impaired in the 2014 cycle based on an E. coli exceedance rate of 3/12 at 2-LIH005.28. Monitoring in the 2016 cycle at station 2-WHC000.46 was acceptable (0/11); therefore, further monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H37R_BLG01A98 / Big Lickinghole Creek/Little Lickinghole Creek/White Hall Cr / Big Lickinghole (BLG), Little Lickinghole (LIH) and White Hall Creeks (WHC), excluding BLG upstream of Old Miss Branch.	4A	Escherichia coli	2008	L	22.53

Big Lickinghole, Little Lickinghole, & White Hall Creeks	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**22.53**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H37R-02-BAC** **Tarred Rat Creek**

Cause Location: The mainstem of Tarred Rat Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Tarred Rat Creek was monitored for E. coli as a part of the Big Lickinghole and Little Lickinghole Creeks' TMDL. The creek was assessed as not supporting of the Recreation Use based on an E. coli exceedance rate of 3/11 at the Route 687 bridge (2-TRT001.23).

The TMDL was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. The Big and Little Lickinghole Creeks require a 100% reduction in anthropogenic direct loads, 99% reductions in agricultural, residential, and urban loads, and a 53% reduction in wildlife loads. Due to the large reductions, implementation is expected to address the Tarred Rat Creek impairment as well; therefore, the segment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H37R_TRT01A08 / Tarred Rat Creek / Headwaters to mouth at Little Lickinghole Creek	4A	Escherichia coli	2008	L	3.30

Tarred Rat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.30**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-01-BAC** **Little Creek**

Cause Location: Little Creek below its confluence with Cheneys Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Little Creek below its confluence with Cheneys Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/11 at 2-LLI000.58, which is located off Route 607.

The stream is within the study area for the James River - Lower Piedmont Region Bacterial TMDL which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009; therefore, it is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_LLI01A12 / Little Creek / Cheneys Creek to mouth at James River	4A	Escherichia coli	2012	L	0.65

Little Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.65**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-02-BAC** **Mohawk Creek**

Cause Location: Mohawk Creek from its headwaters to its mouth at the James River.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Mohawk Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 4/12 at 2-MOH001.73, which is located at Route 617.

The stream is within the study area for the James River - Lower Piedmont Region Bacterial TMDL which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009; therefore, it is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_MOH01A12 / Mohawk Creek / Headwaters to mouth at James River	4A	Escherichia coli	2012	L	4.69

Mohawk Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.69**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-03-BAC** **Beaverdam Creek**

Cause Location: Segment comprises all of Beaverdam Creek.

City / County: Goochland Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Beaverdam Creek was considered impaired of the Recreation Use goal during the 2004 cycle based on a fecal coliform violation rate of 4/21 at the first bridge downstream of Route 6 (2-BDC000.79).

During the 2008 cycle, additional monitoring was conducted and the impairment converted to E. coli. The exceedance rate was 6/22 at 2-BDC000.79 and 2/12 at the Route 639 bridge (2-BDC003.52) during the 2010 cycle.

The TMDL was completed as part of the James River and Tributaries - Lower Piedmont Region Bacterial TMDL which was approved by the EPA on 6/11/2008 and by the SWCB on 4/29/2009. The impairment is considered Category 4A.

Additional monitoring was conducted during the 2014 cycle at 2-BDC000.79; the exceedance rate was 5/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_BDC01A98 / Beaverdam Creek / Beaverdam Creek from its headwaters to the James River.	4A	Escherichia coli	2008	L	8.74

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.74**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-04-BAC** **Fine Creek**

Cause Location: Fine Creek from its headwaters to its mouth at the James River.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Fine Creek was impaired of the Recreation Use in the 2018 cycle due to an E. coli exceedance rate of 5/38 at 2-FIN000.81.

The TMDL was developed as part of the James River and Tributaries - Lower Piedmont Region Bacterial TMDL. The TMDL was approved by the EPA on 6/11/2008 and by the SWCB on 4/29/2009. Therefore, the segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_FIN01A98 / Fine Creek / Fine Creek from its headwaters to its mouth.	4A	Escherichia coli	2018	L	10.46

Fine Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.46**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-05-BAC** **XVV - UT to XNH (James River, UT)**

Cause Location: Segment comprises the unnamed tributary XVV from the Four Seasons laundry lagoon discharge to the mouth

City / County: Goochland Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The tributary was assessed as not supporting of the Recreation Use in the 2004 cycle based on fecal coliform exceedances (2/2) in the ditch below the Four Seasons Laundry lagoon.

The stream is within the study area for the James River - Lower Piedmont Region Bacterial TMDL, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009; therefore, the impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_XVV01A04 / UT to UT (XNH) to James River / Roadside ditch downstream of Four Seasons Laundry lagoon.	4A	Fecal Coliform	2004	L	0.41

XVV - UT to XNH (James River, UT)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**0.41**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-06-BAC** **Courthouse Creek**

Cause Location: Segment comprises all of Courthouse Creek from its headwaters to the confluence with Beaverdam Creek.

City / County: Goochland Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Courthouse Creek was initially assessed as impaired of the Recreation Use in the 2006 cycle due to E. coli exceedances at the Route 634 bridge (2-CTS003.23.)

During the 2008 cycle, the exceedance rate was 3/22 at 2-CTS003.23 and 6/12 at station 2-CTS007.27, which is located at the Route 633 bridge.

The TMDL for Beaverdam Creek, to which Courthouse Creek is a tributary, was completed as part of the James River and Tributaries - Lower Piedmont Region Bacterial TMDL. The TMDL was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. Because the Beaverdam Creek impairment requires a 100% reduction in anthropogenic direct sources, 99% reductions in agricultural, residential, and urban sources, and a 77% reduction in wildlife sources within the watershed, it is believed that the implementation will also address the Courthouse Creek impairment. The segment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_CTS01A06 / Courthouse Creek / Headwaters to mouth at Beaverdam Creek	4A	Escherichia coli	2006	L	10.33

Courthouse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.33**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-07-DO** **Branch Creek**

Cause Location: Branch Creek from its headwaters to its mouth at Fine Creek.

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Branch Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/10 at the Route 615 bridge (2-BNH001.76).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_BNH01A08 / Branch Creek / Headwaters to mouth at Fine Creek	5C	Oxygen, Dissolved	2008	L	5.51

Branch Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.51**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H38R-08-BAC** **James River**

Cause Location: The James River from the confluence with Mohawk Creek to river mile 137.00

City / County: Goochland Co. Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River from Mohawk Creek downstream to rivermile 137 was impaired of the Recreation Use in the 2018 cycle (4/14 at 2BJMS136.77). The segment is included in the James River Piedmont Region Bacterial TMDL, which was approved by the EPA on 6/11/2008 and by the SWCB on 4/28/2009. It is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H38R_JMS02A04 / James River / James River from the confluence with Mohawk Creek to river mile 137.00	4A	Escherichia coli	2018	L	3.75

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.75**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-01-PH** **Broad Branch**

Cause Location: Broad Branch from its headwaters to the dam above Route 623.

City / County: Goochland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

In 2006, Broad Branch was assessed as not supporting the Aquatic Life Use due to three high pH exceedances in the summer of 2003 at 2-BOD003.31, which is located downstream of a pond draining a golf course.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_BOD02A06 / Broad Branch / Broad Branch from its headwaters to the dam upstream of Route 623.	5A	pH	2006	L	2.63

Broad Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.63**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-02-BAC** **Tuckahoe Creek and Major Tributaries**

Cause Location: Various streams within the Tuckahoe Creek watershed

City / County: Goochland Co. Henrico Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

Tuckahoe Creek from Route 6 to its mouth at the James River was fully supporting but threatened of the Swimmable Use during the 1998 cycle due to fecal coliform exceedances at 2-TKO004.69. The creek was mistakenly included on Attachment A Part 1 of the Consent Decree.

In 2002, the portion of Tuckahoe Creek from the Route 6 bridge upstream to the confluence with Little Tuckahoe Creek, Little Tuckahoe Creek, and the upper portion of Deep Run were added to the impaired waters list. The TMDLs (13.75 total miles) were due by 2014.

Pre-TMDL monitoring in the watershed was conducted of the impaired and previously threatened segments during the year 2004 cycle. Broad Branch was added as an impairment.

Tuckahoe Creek upstream of Little Tuckahoe Creek was impaired in the 2006 cycle based on monitoring at 2-TKO010.24.

During the 2008 cycle, several of the impairments converted to E. coli.

In the 2010 cycle, the exceedance rate at 2-TKO004.69 fell to 4/40; therefore, Tuckahoe Creek from Little Tuckahoe Creek downstream to its mouth was partially delisted (8.98 miles).

During the 2014 cycle, there was no additional monitoring conducted at Broad Branch; therefore, the fecal coliform impairment is carried over. E. coli monitoring confirmed the lower Deep Run impairment with an exceedance rate of 5/12 at 2-DPR001.00. Upper Deep Run remained impaired of the Recreation Use due to an E. coli violation rate of 4/10 at both stations 2-DPR002.46 and 2-DPR004.38 during the 2010 cycle; there has been no additional monitoring; therefore, the impairment is carried over. The exceedance rate on the upper portion of Tuckahoe Creek was 4/12 at 2-TKO010.64. Tuckahoe Creek from Little Tuckahoe Creek downstream to its mouth was relisted in the 2014 cycle based on an exceedance rate of 3/23 at 2-TKO004.69. Little Tuckahoe Creek remains impaired for E. coli with exceedances at 2-LIY001.73 and is assessed as Cat. 4A; the exceedance rate was 6/11 during the 2014 cycle.

The "Bacteria TMDL for Tuckahoe Creek, Little Tuckahoe Creek, Anderson, Broad, Georges, and Readers Branches, and Deep Run Henrico, Goochland, and Hanover Counties, Virginia" was approved by the EPA on 9/20/2004 and by the SWCB on 7/31/2008. The report allocates E. coli between nonpoint source, municipal (MS4) urban runoff, and a municipal discharger. The TMDL includes the entire watershed. All bacteria-impaired segments are assessed as Cat. 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_DPR01A00 / Deep Run / Deep Run from its headwaters to the pond at river mile 1.47.	4A	Escherichia coli	2002	L	4.16
VAP-H39R_DPR02A00 / Deep Run / Deep Run from the dam at river mile 1.47 to the confluence with Tuckahoe Creek.	4A	Escherichia coli	2012	L	1.49
VAP-H39R_LIY01A00 / Little Tuckahoe Creek / Little Tuckahoe Creek from its headwaters to the confluence with Tuckahoe Creek.	4A	Escherichia coli	2002	L	6.02
VAP-H39R_TKO01A98 / Tuckahoe Creek / Tuckahoe Creek from the headwaters to the confluence with Little Tuckahoe Creek.	4A	Escherichia coli	2006	L	7.70
VAP-H39R_TKO03A98 / Tuckahoe Creek / Confluence with Little Tuckahoe Creek to mouth at James River.	4A	Escherichia coli	2014	L	8.97

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Tuckahoe Creek and Major Tributaries

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**28.34**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_BOD01A00 / Broad Branch / Broad Branch from the dam upstream of Route 623 to the confluence with Tuckahoe Creek.	4A	Fecal Coliform	2004	L	2.42
VAP-H39R_BOD02A06 / Broad Branch / Broad Branch from its headwaters to the dam upstream of Route 623.	4A	Fecal Coliform	2004	L	2.63

Tuckahoe Creek and Major Tributaries

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.05**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial Point Source Discharge
- Municipal Point Source Discharges
- Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-02-DO** **Tuckahoe Creek Watershed**

Cause Location: Various streams within the Tuckahoe Creek watershed

City / County: Goochland Co. Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

There have been widespread dissolved oxygen exceedances on separate segments within the watershed.

The Tuckahoe Creek Natural Conditions Assessment report was completed in November 2005 to determine the source of the dissolved oxygen impairments. The report recommends delisting Deep Run and Little Tuckahoe Creek, reclassifying Tuckahoe Creek from Little Tuckahoe Creek to its mainstem as Class VII waters due to swamp conditions, and assessing multiple streams within the watershed as Category 4C waters due to natural low flow conditions. A portion of Tuckahoe Creek was delisted in the 2006 cycle due to acceptable dissolved oxygen exceedance rates.

Tuckahoe Creek was reclassified as Class VII swampwaters during the 2010 cycle.

During the 2014 cycle, the exceedance rate is 2/11 at 2-LIY001.73; therefore, Little Tuckahoe Creek was relisted as impaired of the Aquatic Life Use (see H39R-24-DO).

Additional field data was collected in the 2016 cycle at 2-XUT000.62. The dissolved oxygen exceedance rate was acceptable (1/11); therefore, it was partially delisted. The Class VII portion of Tuckahoe Creek was delisted in the 2016 cycle. Per Virginia's Water Quality Standards (9VAC25-260-50), numeric dissolved oxygen standards only apply to Class VII waters when there is sufficient evidence the narrative criterion is not protective of aquatic life uses. To date, this Class VII water has not exhibited a need for a site-specific DO criterion, so the DO impairment has been removed.

The report attributes the low dissolved oxygen in Stony Run to natural low-flow conditions and recommends the segment be assessed as a Cat. 4C water. Additional monitoring was conducted at 2-SNJ000.19 in the 2016 cycle; however, there was insufficient data for assessment (1/9). One additional sample was collected at 2-SNJ001.41 (DO 0/1.) The exceedance rate was acceptable during the 2018 cycle (1/21 at 2-SNJ000.19); therefore Stony Run will be partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_BOD01A00 / Broad Branch / Broad Branch from the dam upstream of Route 623 to the confluence with Tuckahoe Creek.	4C	Oxygen, Dissolved			2.42
VAP-H39R_BOD02A06 / Broad Branch / Broad Branch from its headwaters to the dam upstream of Route 623.	4C	Oxygen, Dissolved			2.63
VAP-H39R_GER01A02 / Georges Branch / Headwaters to mouth at Tuckahoe Creek	4C	Oxygen, Dissolved			1.86
VAP-H39R_RDR01A02 / Readers Branch / Headwaters to mouth at Little Tuckahoe Creek	4C	Oxygen, Dissolved			3.14
VAP-H39R_TKE01A04 / Tuckahoe Creek, East Branch / Eastern Branch Tuckahoe Creek from the confluence with Tuckahoe Creek to the confluence with the James River (Kanawha Canal) near Boshers Dam.	4C	Oxygen, Dissolved			3.48
VAP-H39R_XHP01A04 / XHP - UT to XCZ (Tuckahoe Creek, UT) / Mainstem from headwaters to mouth at XCZ	4C	Oxygen, Dissolved			1.73
VAP-H39R_XUR01A04 / UT to Tuckahoe Creek / Headwaters to mouth	4C	Oxygen, Dissolved			2.66

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Tuckahoe Creek Watershed

Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**17.92**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-04-BAC** **Rattlesnake Creek**

Cause Location: The mainstem of Rattlesnake Creek from its headwaters to its mouth at the James River.

City / County: Chesterfield Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Rattlesnake Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 4/11 at station 2-RTL000.04, which is located at Riverside Drive.

The creek is within the study area for the James River and Tributaries - City of Richmond TMDL, which was approved by the EPA on 11/4/2010. Although the impairment was not specifically addressed, it will be included in the implementation phase of the TMDL and is therefore considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_RTL01A08 / Rattlesnake Creek / Headwaters to mouth at James River	4A	Escherichia coli	2010	L	2.23

Rattlesnake Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.23**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-05-BEN** **Powhite Creek**

Cause Location: Powhite Creek from its headwaters to its mouth at the James River.

City / County: Chesterfield Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Powhite Creek was assessed as not supporting of the Aquatic Life Use goal due to impairment of the benthic community at station 2-PWT001.97, which is a freshwater probabilistic monitoring station.

The station was replaced by 2-PWT001.23 because the location is a more appropriate stream type (non-swampy). Monitoring at 2-PWT001.23 in 2012-2013 also indicated impairment, as did 2016 monitoring at 2-PWT001.40.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_PWT01A98 / Powhite Creek / The mainstem of Powhite Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	8.13

Powhite Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-06-BAC** **Reedy Creek**

Cause Location: Segment comprises Reedy Creek from its headwaters to its mouth at the James River.

City / County: Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Reedy Creek was initially listed as threatened of the Recreation Use during the year 1998 cycle due to fecal coliform exceedances. The segment was downgraded to impaired in the year 2002 assessment based on exceedances at Riverside Drive in the City of Richmond (2-RDD000.19). The impairment converted to E. coli in the 2006 cycle.

Additional E. coli monitoring was conducted in preparation for the TMDL. During the 2010 cycle, the segment remained impaired with the following violation rates:
2-RDD000.19 - 10/34
2-RDD000.99 - 5/12
2-RDD001.57 - 22/24
2-RDD002.61 - 5/12
2-RDD003.61 - 5/12

The Reedy Creek impairment was addressed in the James River and Tributaries - City of Richmond TMDL, which was approved by the EPA on 11/4/2010. The stream is considered Category 4A.

The segment remains impaired during the 2018 cycle.
4/11 at 2-RDD000.76
17/30 at 2-RDD-RC1-ACB
20/29 at 2-RDD-RC3-ACB
15/29 at 2-RDD-RC4-ACB

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_RDD01A00 / Reedy Creek / Reedy Creek from its headwaters to the tributary upstream of Roanoke Street.	4A	Escherichia coli	2006	L	2.37
VAP-H39R_RDD01B10 / Reedy Creek / Reedy Creek from the tributary upstream of Roanoke Street to Roanoke Street.	4A	Escherichia coli	2006	L	0.35
VAP-H39R_RDD01C10 / Reedy Creek / Reedy Creek from Roanoke Street to the James River.	4A	Escherichia coli	2006	L	1.08

Reedy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.80**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-06-PH** **Reedy Creek**

Cause Location: Reedy Creek from the tributary upstream of Roanoke Street downstream to Roanoke Street.

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2010 cycle, the portion of Reedy Creek around station 2-RDD000.99 was assessed as impaired of the Aquatic Life Use due to elevated pH levels.

The source of the pH impairment was considered unknown. However, the pH exceedances were 9.6 and 9.8 SU, which is substantially higher than at other stations on Reedy Creek and may be due to pooled water in the channelized stream.

The segment length was adjusted in the 2014 cycle to end at Roanoke Street because sampling at all other stations within Reedy Creek remain acceptable, including ACB station 2-RDD-RC1-ACB which is just downstream.

No additional monitoring has been collected at 2-RDD000.99.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_RDD01B10 / Reedy Creek / Reedy Creek from the tributary upstream of Roanoke Street to Roanoke Street.	5A	pH	2010	L	0.35

Reedy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.35**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-07-BAC** **XZE - James River, UT**

Cause Location: The tributary from its headwaters to its mouth at the James River.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, the tributary was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 4/11 at station 2-XZE000.19, which is located at a private drive downstream of Tarrington.

The stream is located within the study area for the James River - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. The impairment will be addressed during the implementation phase of the TMDL; therefore, it is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XZE01A10 / James River, UT / Headwaters to mouth at James River	4A	Escherichia coli	2010	L	1.31

XZE - James River, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.31**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-08-BAC** **James River**

Cause Location: Segment begins at the Boulevard Bridge at river mile 113.20 and extends downstream to the fall line of the James River.

City / County: Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The James River was initially assessed not supporting of the Recreation use support goal in 1998 based on the results of a summer special study in the fall zone. The special study was designed to monitor the effects of summertime rain and combined sewer overflow (CSO) events on water quality in the James River and to monitor the effects of Richmond's CSO abatement efforts. The special study data used representative conditions before completion of CSO abatement projects.

In the 2018 cycle, the segment remains impaired. The exceedance rates are as follows:

2-JMS112.79 - 4/41 (S)
2-JMS112.33 - 8/42
2-JMS111.47 - 7/34
2-JMS111.17 - 9/39
2-JMS110.44 - 15/64
2-JMS110.34 - 14/65

In addition, E. coli screening value exceedances were found at several level II citizen monitoring stations.

The James River - City of Richmond Bacterial TMDL was approved by the EPA on 11/4/2010; therefore, the segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JMS03A98 / James River / The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.	4A	Escherichia coli	2006	L	2.94
State Scenic River					
VAP-H39R_JMS03B14 / James River - South Channel / The south channel of the James River from the Belle Island dam to the Brown's Island dam.	4A	Escherichia coli	2006	L	0.94
State Scenic River					

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.88**

Sources:

Combined Sewer Overflows | Municipal Point Source Discharges | Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-08-DO** **XAB - Salles Creek, UT**

Cause Location: The tributary from its headwaters to its mouth at Salles Creek.

City / County: Chesterfield Co. Goochland Co. Henrico Co. Powhatan Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2010 cycle, the unnamed tributary was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at 2-SAL001.93, which is located at Route 711.

The violation rate was 3/19 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XAB01A10 / XAB - Salles Creek, UT / Headwaters to mouth at Salles Creek	5A	Oxygen, Dissolved	2010	L	0.10

XAB - Salles Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-08-PH** **XAB - Salles Creek, UT**

Cause Location: The tributary from its headwaters to its mouth at Salles Creek.

City / County: Chesterfield Co. Goochland Co. Henrico Co. Powhatan Co. Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2010 cycle, the unnamed tributary was assessed as not supporting of the Aquatic Life Use due to pH exceedances at 2-SAL001.93, which is located at Route 711. The exceedance rate was 9/19 during the 2012 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XAB01A10 / XAB - Salles Creek, UT / Headwaters to mouth at Salles Creek	5A	pH	2010	L	0.10

XAB - Salles Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-09-DO** **James River - South Channel**

Cause Location: The south channel of the James River around Belle Isle.

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

In the 2012 cycle, the James River from the Boulevard Bridge downstream to the fall line was assessed as not supporting of the Aquatic Life Use because of low dissolved oxygen at 2-JMS111.48. The station is located on the south channel of the James River below the Canoe Run CSO outfall.

All other stations within the segment had acceptable exceedance rates. Therefore, the south channel was separated during the 2014 cycle. The impairment is limited to the south channel between the Belle Island Dam and the Brown's Island dam. The north channel was partially delisted.

The exceedance rate was 9/54 at 2-JMS111.48 during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JMS03B14 / James River - South Channel / The south channel of the James River from the Belle Island dam to the Brown's Island dam.	5A	Oxygen, Dissolved	2012	L	0.94

State Scenic River

James River - South Channel **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.94**

Sources:

Combined Sewer Overflows Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-10-BAC** **Bernards Creek**

Cause Location: The mainstem of Bernards Creek.

City / County: Chesterfield Co. Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Bernards Creek was initially assessed as impaired of the Recreation Use during the 2004 cycle based on fecal coliform exceedances at the Route 711 bridge (2-BOR001.73).

During the 2008 cycle, E. coli monitoring at 2-BOR001.73 was acceptable (1/11), however monitoring at the Route 607 bridge had an exceedance rate of 2/12 and the impairment was converted to E. coli.

In the 2014 cycle, exceedance rates were 4/27 at 2-BOR001.73 and 3/3 at downstream station 2-BOR000.02.

The TMDL was approved by the EPA on 11/4/2010. Bernards Creek is considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_BOR01A02 / Bernards Creek / Headwaters to mouth at James River	4A	Escherichia coli	2008	L	8.12

Bernards Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.12**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-10-DO** **Bernards Creek**

Cause Location: The mainstem of Bernards Creek.

City / County: Chesterfield Co. Powhatan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2014 cycle, Bernards Creek was impaired of the Aquatic Life Use due to dissolved oxygen exceedances at 2-BOR001.73, which is located at the Route 711 bridge. Monitoring near the mouth was acceptable (0/3 at 2-BOR000.02).

The exceedance rate was 4/27 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_BOR01A02 / Bernards Creek / Headwaters to mouth at James River	5A	Oxygen, Dissolved	2014	L	8.12

Bernards Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-11-HG** **James River**

Cause Location: The James River from the rivermile 128.14 near the confluence with Norwood Creek downstream to the confluence with Tuckahoe Creek.

City / County: Goochland Co. Powhatan Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The segment was assessed as not supporting of the Fish Consumption Use in the 2010 cycle due to mercury exceedances in redbreast sunfish and quillback carpsucker in 2003 and smallmouth bass in 2005. The monitoring occurred at station 2-JMS127.50, which is located at the end of Route 652 at Watkins Landing.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JMS02B04 / James River / The James River from river mile 128.14 to the confluence with Tuckahoe Creek.	5A	Mercury in Fish Tissue	2010	L	4.37

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**4.37**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-12-BAC** **Salles Creek**

Cause Location: The mainstem of Salles Creek from its headwaters to its mouth at the James River.

City / County: Chesterfield Co. Goochland Co. Henrico Co. Powhatan Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Salles Creek was assessed as not supporting of the Recreation Use due to E. coli violations at station 2-SAL000.12, which is located at the Chesterfield County sewer line.

During the 2012 cycle, the violation rate was 9/22.

The creek is within the study area for the James River and Tributaries - City of Richmond TMDL, which was approved by the EPA on 11/4/2010. Although the impairment was not specifically addressed, it will be included in the implementation phase of the TMDL and is therefore considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_SAL01A08 / Salles Creek / Headwaters to mouth at James River	4A	Escherichia coli	2010	L	1.96

Salles Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.96**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-13-BAC** **Genito Creek**

Cause Location: Genito Creek from its headwaters to its mouth at the James River.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Genito Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/10 at the Route 6 bridge (2-GEN000.69). The exceedance rate was 4/12 during the 2014 cycle.

Genito Creek is located within the study area for the James River - City of Richmond Bacterial TMDL which was approved by the EPA on 11/4/2010. Although the impairment was not specifically addressed, all bacterial impairments within the study area will be addressed during implementation; therefore, it is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_GEN01A00 / Genito Creek / Genito Creek from its headwaters to the James River, including the West Fork Genito Creek.	4A	Escherichia coli	2008	L	6.81

Genito Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.81**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-13-BEN** **Stony Run**

Cause Location: Stony Run from its headwaters to the extent of backwater at the pond.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, upper Stony Run was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community at 2-SNJ001.88 (downstream of Church Road). Additional sampling in 2012 confirmed the impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_SNJ01A04 / Stony Run / Headwaters to extent of backwater of pond	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	1.01

Stony Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.01**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-14-BAC** **Jones Creek**

Cause Location: Jones Creek from its headwaters downstream to its mouth at the extent of backwater of Woodberry Pond.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Jones Creek was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 3/11 at 2-JOH004.04, which is located at Route 628.

The stream is located within the study area for the James River - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. The impairment will be addressed during the implementation phase of the TMDL; therefore, it is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JOH01A08 / Jones Creek / Headwaters downstream to mouth at Woodberry Pond.	4A	Escherichia coli	2012	L	8.19

Jones Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.19**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-14-BEN** **Jones Creek**

Cause Location: Jones Creek from its headwaters downstream to its mouth at the extent of backwater of Woodberry Pond.

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Jones Creek was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community at 2005 freshwater probabilistic monitoring station 2-JOH004.23.

Additional monitoring in 2012 and 2013 confirmed the impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JOH01A08 / Jones Creek / Headwaters downstream to mouth at Woodberry Pond.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	8.19

Jones Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.19**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-15-BEN** **XYT - Stony Run, UT**

Cause Location: The unnamed tributary from its headwaters to its mouth at Stony Run.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle the tributary was assessed as impaired of the Aquatic Life Use due to impairment of the benthic communities at stations 2-XYT000.04 and 2-XYT000.29, which were located downstream and upstream of the Barrington pipeline spill.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XYT01A08 / Stony Run, UT (XYT) / Headwaters to mouth at Stony Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	1.27

XYT - Stony Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.27**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-16-HG** **James River**

Cause Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

During the 2010 cycle, the James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use due to mercury exceedances in 1 sp. in 2004 at 2-JMS109.98 and 3 sp. in 2003, 2 sp. in 2004 & 2 sp in 2006 at 2-JMS110.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JMS03A98 / James River / The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.	5A	Mercury in Fish Tissue	2010	L	2.94
State Scenic River					
VAP-H39R_JMS03B14 / James River - South Channel / The south channel of the James River from the Belle Island dam to the Brown's Island dam.	5A	Mercury in Fish Tissue	2010	L	0.94
State Scenic River					

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**3.88**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-17-CDANE James River**

Cause Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) / VA Category: Chlordane / 5A

During the 2010 cycle, the James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use due to chlordane exceedances in 1 sp. in 2003 and 2 sp. in 2005 (carp and striped bass) at 2-JMS110.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JMS03A98 / James River / The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.	5A	Chlordane	2010	L	2.94
State Scenic River					
VAP-H39R_JMS03B14 / James River - South Channel / The south channel of the James River from the Belle Island dam to the Brown's Island dam.	5A	Chlordane	2010	L	0.94
State Scenic River					

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			**3.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-17-DDE** **James River**

Cause Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) / VA Category: DDE / 5A

During the 2010 cycle, the James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use due to DDE exceedances in carp in 2002 and blue catfish in 2003 at 2-JMS110.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JMS03A98 / James River / The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.	5A	DDE	2010	L	2.94
State Scenic River					
VAP-H39R_JMS03B14 / James River - South Channel / The south channel of the James River from the Belle Island dam to the Brown's Island dam.	5A	DDE	2010	L	0.94
State Scenic River					

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDE - Total Impaired Size by Water Type:			**3.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-17-DDT** **James River**

Cause Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) / VA Category: DDT / 5A

During the 2010 cycle, the James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use due to DDT exceedances in carp in 2002, blue catfish in 2003, and striped bass in 2005 at 2-JMS110.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_JMS03A98 / James River / The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.	5A	DDT	2010	L	2.94
State Scenic River					
VAP-H39R_JMS03B14 / James River - South Channel / The south channel of the James River from the Belle Island dam to the Brown's Island dam.	5A	DDT	2010	L	0.94
State Scenic River					

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDT - Total Impaired Size by Water Type:			**3.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-18-BAC** **XHP - Tuckahoe Creek, UT**

Cause Location: Headwaters to mouth at tributary XCZ

City / County: Goochland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Tributary XHP has been assessed as not supporting of the Recreation Use since the 2006 cycle based on E. coli exceedances at 2-XHP000.42. The "Bacteria TMDL for Tuckahoe Creek, Little Tuckahoe Creek, Anderson, Broad, Georges, and Readers Branches, and Deep Run Henrico, Goochland, and Hanover Counties, Virginia" was approved by the EPA on 9/20/2004 and by the SWCB on 7/31/2008. The report allocates E. coli between nonpoint source and urban runoff. The allocation includes the entire watershed. The segment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XHP01A04 / XHP - UT to XCZ (Tuckahoe Creek, UT) / Mainstem from headwaters to mouth at XCZ	4A	Escherichia coli	2006	L	1.73

XHP - Tuckahoe Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.73**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-19-DO** **Deep Run**

Cause Location: Deep Run from the dam at river mile 1.47 to its mouth at Tuckahoe Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Deep Run was impaired of the Aquatic Life Use during the 2012 cycle due to a dissolved oxygen exceedance rate of 2/12 at 2-DPR001.00, which is located at the Route 6 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_DPR02A00 / Deep Run / Deep Run from the dam at river mile 1.47 to the confluence with Tuckahoe Creek.	5C	Oxygen, Dissolved	2012	L	1.49

Deep Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-20-BAC** **Norwood Creek**

Cause Location: Norwood Creek from the confluence with Woodberry Pond to its mouth at the James River

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Norwood Creek from Dutoy Creek to mouth was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 2/13 at 2-NWD002.27, which is located at Route 711. Monitoring at station 2-NWD005.84 was acceptable.

In the 2014 cycle, there were E. coli exceedances as well at station 2-NWD005.84 (3/12). The impairment was extended upstream to Woodberry Pond dam.

The stream is located within the study area for the James River - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. The impairment will be addressed during the implementation phase of the TMDL; therefore, it is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_NWD01B12 / Norwood Creek / Mainstem of Norwood Creek from Woodberry Pond dam to mouth.	4A	Escherichia coli	2012	L	6.36

Norwood Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.36**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-21-BAC** **XAB - Salles Creek, UT**

Cause Location: The unnamed tributary in its entirety.

City / County: Chesterfield Co. Goochland Co. Henrico Co. Powhatan Co. Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, an unnamed tributary of Salles Creek was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 3/18 at 2-SAL001.93, which is located on the UT at Route 711.

The stream is located within the study area for the James River - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. The impairment will be addressed during the implementation phase of the TMDL; therefore, it is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XAB01A10 / XAB - Salles Creek, UT / Headwaters to mouth at Salles Creek	4A	Escherichia coli	2012	L	0.10

XAB - Salles Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.10**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-22-BAC** **Manchester Canal**

Cause Location: Manchester Canal

City / County: Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the Manchester Canal was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/2 at station 2-MAN000.19 which is located at Stockton Street.

The stream is located within the study area for the James River - City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010. The impairment will be addressed during the implementation phase of the TMDL; therefore, it is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_MAN01A12 / Manchester Canal (aka Walker Creek) / Manchester Canal	4A	Escherichia coli	2012	L	0.85

Manchester Canal **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.85**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-23-BAC** **Michauk Creek**

Cause Location: Michauk Creek from its headwaters to its mouth at Bernards Creek

City / County: Chesterfield Co. Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Michauk Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 4/12 at station 2-MCU002.95, which is located at Rt. 5147.

The stream is located within the Bernards Creek Watershed, which was addressed in the James River - City of Richmond Bacterial TMDL. The TMDL was approved by the EPA on 11/4/2010. The impairment will be addressed during the implementation phase of the TMDL; therefore, it is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_MCU01A12 / Michauk Creek / Headwaters to mouth at Bernards Creek	4A	Escherichia coli	2012	L	4.48

Michauk Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.48**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-25-BAC** **XCK - Reedy Creek, UT (aka Crooked Branch)**

Cause Location: Headwaters to its mouth at Reedy Creek

City / County: Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, the unnamed tributary (aka Crooked Branch) was impaired of the Recreation Use due to E. coli exceedances at 2-CKD-CB1-ACB, which is located 500 feet downstream of Crutchfield Street. The station is sampled by the Alliance for the Chesapeake Bay.

Reedy Creek was addressed in the James River and Tributaries - City of Richmond TMDL, which was approved by the EPA on 11/4/2010. The tributary is considered nested.

The exceedance rate was 11/40 during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XCK01A14 / XCK - Reedy Creek, UT (aka Crooked Branch) / Headwaters to mouth at Reedy Creek	4A	Escherichia coli	2014	L	1.25

XCK - Reedy Creek, UT (aka Crooked Branch) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.25**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-27-BEN** **Deep Run**

Cause Location: Deep Run from its headwaters to the extent of backwater at the pond.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2016 cycle, upper Deep Run was impaired of the Aquatic Life Use due to an altered benthic community at 2-DPR003.75, which is located at the northern edge of Deep Run Park.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_DPR01A00 / Deep Run / Deep Run from its headwaters to the pond at river mile 1.47.	5A	Benthic-Macroinvertebrate Bioassessments	2016	M	4.16

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.16**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-28-BEN** **Stony Run**

Cause Location: Deep Run from the dam of the pond downstream to the mouth at Tuckahoe Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2016 cycle, lower Stony Run was impaired of the Aquatic Life Use due to an altered benthic community at 2-SNJ000.19, which is located at Falcon Bridge Road.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_SNJ02A04 / Stony Run / Dam of pond downstream to the mouth at Tuckahoe Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	1.35

Stony Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.35**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-29-BAC** **XBH - Reedy Creek, UT**

Cause Location: Headwaters to its mouth at Reedy Creek

City / County: Richmond City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the unnamed tributary was impaired of the Recreation Use due to an E. coli exceedance rate of 12/13 at 2BXBH-UT1-ACB, which is located at Bassett Avenue and West 46th Street. The station is sampled by the Alliance for the Chesapeake Bay.

The exceedance rate increased to 17/18 during the 2018 cycle.

Reedy Creek was addressed in the James River and Tributaries - City of Richmond TMDL, which was approved by the EPA on 11/4/2010. The tributary is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XBH01A14 / XBH - Reedy Creek, UT / Headwaters to mouth at Reedy Creek	4A	Escherichia coli	2016	L	0.11

XBH - Reedy Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.11**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-29-DO** **XBH - Reedy Creek, UT**

Cause Location: Headwaters to its mouth at Reedy Creek

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2016 cycle, the unnamed tributary was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/13 at 2BXBH-UT1-ACB, which is located at Bassett Avenue and West 46th Street. The station is sampled by the Alliance for the Chesapeake Bay.

In the 2018 cycle, the exceedance rate was acceptable at DEQ station 2BXBH000.12 (0/3); therefore, additional monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_XBH01A14 / XBH - Reedy Creek, UT / Headwaters to mouth at Reedy Creek	5A	Oxygen, Dissolved	2016	L	0.11

XBH - Reedy Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.11**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* H39R-30-DO** **Dover Creek**

Cause Location: Dover Creek from the Dover Creek Lake dam to the mouth at the Little River.

City / County: Goochland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2018 cycle, lower Dover Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/10 at 2-DOV000.42, which is located at the Route 6 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-H39R_DOV01B00 / Dover Creek / Dover Creek from the Dover Creek Lake dam to the mouth at the Little River.	5A	Oxygen, Dissolved	2018	L	0.93

Dover Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.93**

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I01R-01-TEMP** **Jackson River**

Cause Location: Jackson River from its confluence with Dry Branch downstream to the upper end of Lake Moomaw. (Start Mile: 84.37 End Mile: 55.5 Total Impaired Size: 28.87 Miles). This impairment was lengthened in 2010 with the addition of an impaired upstream assessment unit.

City / County: Bath Co. Highland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

This segment is impaired due to exceedences of the temperature WQS at station: 2-JKS058.60 (5 exceedences of 35 samples for temperature) and 2-JKS074.27 (3 exceedences of 12 samples for temperature in 2014, no new data in 2016/18). Initial Listing Date: 2004. This impairment is believed to be natural.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I01R_JKS01A00 / Jackson River / Jackson River from its confluence with Castle Run downstream to the upper end of Lake Moomaw.	5C	Temperature, water	2004	L	13.49
VAV-I01R_JKS02A00 / Jackson River / Jackson River from its confluence with Dry Branch downstream to its confluence with Castle Run.	5C	Temperature, water	2010	L	15.37

Jackson River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**28.86**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I01R-02-TEMP** **Bolar Run**

Cause Location: Bolar Run from the upper Bolar Spring downstream to its confluence with the Jackson River. (Start Mile: 2.10 End Mile: 0.00 Total Impaired Size: 2.10 Miles). This impairment was shortened following review of WQS and an upstream mountainous zone assessment unit was de-listed.

City / County: Bath Co. Highland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

This segment is impaired due to exceedences of the temperature WQS at station: 2-BOL000.97 (3 exceedences of 12 samples for temperature in 2008, 0 exceedences of 3 samples for temperature in 2010, no data in 2018, impairment carries forward). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I01R_BOL01A04 / Bolar Run / Bolar Run from the upper Bolar Spring downstream to its confluence with the Jackson River.	5C	Temperature, water	2006	L	2.09

Bolar Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**2.09**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I01R-03-BAC** **Jackson River**

Cause Location: Jackson River from its confluence with Castle Run downstream to the upper end of Lake Moomaw. (Start Mile: 68.99 End Mile: 55.5 Total Impaired Size: 13.49 Miles.

City / County: Bath Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-JKS058.60 (4 exceedences of 35 samples for e-coli). Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I01R_JKS01A00 / Jackson River / Jackson River from its confluence with Castle Run downstream to the upper end of Lake Moomaw.	5A	Escherichia coli	2018	L	13.49

Jackson River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.49**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I02R-02-BAC** **Back Creek**

Cause Location: Back Creek from the headwaters downstream to its confluence with East Back Creek. (Start Mile: 41.28 End Mile: 26.21 Total Impaired Size: 15.07 Miles)

City / County: Highland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-BCC026.08 (2 exceedences of 12 samples for e-coli). Initial Listing Date: 2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I02R_BCC03A00 / Back Creek / Back Creek from a point 37.1 miles upstream of the Jackson River downstream to its confluence with East Back Creek.	5A	Escherichia coli	2010	L	12.28
VAV-I02R_BCC04A10 / Back Creek / Back Creek from the headwaters downstream to a point 37.1 miles upstream of the Jackson River.	5A	Escherichia coli	2010	L	2.77

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.05**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I04R-01-BAC** **Falling Spring**

Cause Location: Falling Spring Creek mainstem from its mouth to confluence of an unnamed tributary located at 37°52'48" / 79°54'52".

City / County: Alleghany Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station 2-FAS001.08 (Rt. 640 Bridge at Falling Spring Community) There are no additional data beyond the 2008 Integrated Report where 2 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion from 7 samples within the 2008 and 2010 data windows. The exceeding values are 250 and 580 cfu/100 ml. This 2008 initial 303(d) Listing is for 5.10 miles in Alleghany County.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I04R_FAS01A00 / Falling Spring Creek / Falling Spring Creek mainstem from its mouth to confluence of an unnamed tributary located at 37°52'48" / 79°54'52" (JU10).	5A	Escherichia coli	2008	H	5.10

Falling Spring **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.10**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I04R-01-TEMP** **Falling Spring**

Cause Location: Falling Spring Creek mainstem from its mouth to confluence of an unnamed tributary located at 37°52'48" / 79°54'52" (JU10).

City / County: Alleghany Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4C

The 2018 data window finds the initial Aquatic Life Use listing for exceedances of the Class VI 20°C Natural Trout Waters criterion. The impairment is categorized '4C' (Impaired or threatened for one or more designated uses but does not require a TMDL because the water is a suspected swampwater awaiting applicable aquatic life criteria or because the impairment is determined to be caused by natural conditions. This category also includes impairments not caused by a pollutant) due to the influence from a thermal cave. Coldwater springs enter this stream which support the presence of trout further downstream.

2-FAS002.75 (Upstream of Hydro Diversion) - 3 of 11 temperature observations exceed the Class VI Natural Trout Waters criterion within the 2018 data window. Excursions are: 20.8°C (8/13/15), 20.4°C (8/26/15), and 21.2°C (9/1/15).

2-FAS002.67 (Downstream of Hydro Diversion) - 3 of 11 temperature observations exceed the Class VI Natural Trout Waters criterion within the 2018 data window. Excursions are: 20.8°C (8/13/15), 20.2°C (8/26/15), and 21.0°C (9/1/15).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I04R_FAS01A00 / Falling Spring Creek / Falling Spring Creek mainstem from its mouth to confluence of an unnamed tributary located at 37°52'48" / 79°54'52" (JU10).	4C	Temperature, water			5.10
	4C	Temperature, water	2018	L	5.10

Falling Spring **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**10.20**

Sources:

Natural Sources	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I09R-01-BAC** **Smith Creek**

Cause Location: Smith Creek mainstem from its mouth on the Jackson River upstream 1.20 miles; the beginning of the WQS natural trout section.

City / County: Alleghany Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

2-SMH000.08 (Ridgeway Street - Clifton Forge) There are no additional data beyond the 2006 Integrated Report (IR) and no escherichia coli (E.coli) data available. The 2004 303(d) Listed waters (1.17 miles) remain. Fecal coliform bacteria (FC) exceeded the former 400 cfu/100 ml instantaneous criterion in 8 of 16 observations with values ranging from 500 to 3500 cfu/100 ml. Three of 3 FC samples exceed in 2010 based on the former criterion ranging from 500 to 1600 cfu/100 ml. The 2008 data window produces the same end results where FC exceeds the former instantaneous criterion in 7 of 15 observations with a range of exceedance from 500 to 3500 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters] when data become available.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I09R_SMH01A00 / Smith Creek / Smith Creek mainstem from its mouth on the Jackson River upstream ~1.20 miles; the beginning of the WQS natural trout section (JU24).	5A	Fecal Coliform	2004	H	1.21

Smith Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.21**

Sources:

- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I09R-01-BEN** **Jackson River**

Cause Location: Jackson River mainstem from the Westvaco main processing outfall downstream to the confluence of Karnes Creek.

City / County: Alleghany Co. Covington City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Jackson River General Standard - Benthic TMDL received U.S. EPA approval on 7/21/2010. The SWCB approved the Benthic TMDL on 12/9/2010. Federal IDs follow below by 2012 Assessment Units. The original 1996 VAW-I04R and VAW-I09R impairments were combined into one in 2002.

The 1996/1998 originally 303(d) Listed impairments to the benthic community are believed due to nutrient and organic enrichment (deposition) for 24.18 miles. Based on previous ambient station solids data, the nutrients and organics are mainly dissolved. Maxima have been greatly reduced since 1996.

The waters are delisted (shortened- Category 2C) for 9.81 miles from the mouth of Karnes Creek downstream to the confluence of the Cowpasture and Jackson Rivers. The delisting is based on Virginia Stream Condition Index (VSCI) scores of the 1996-1998 Listed reach currently achieving VSCI scores above 60 from station 2-JKS006.67. VSCI scores at 2-JKS006.67 have steadily increased since 2001. Improvements at discharging facilities have had a positive effect on the benthic community. Both the 2006 and 2012 flow adjusted trend analysis show a significant declining trend for total phosphorus and total nitrogen in both upstream station 2-JKS023.61 and downstream station 2-JKS000.38. 2007 - 2010 VSCI scores from 4 surveys have an average of 64.10. Benthic trend analysis also shows improving conditions at 2-JKS006.67 (+10 points) over the time period of 1994 - 2010. The VSCI is a multi-metric statewide stream index of biotic integrity that is based on data collected from minimally impacted reference sites throughout Virginia. This index shows that an SCI score of 60.0 is the lower limit for reference (or, unimpaired) conditions in a benthic community.

Federal IDs by Assessment Unit:
VAW-I04R_JKS01A00 - Total Phosphorus - 38981. Total Nitrogen - 39001.
VAW-I09R_JKS01A00 - Total Phosphorus - 39017. Total Nitrogen - 39022 Delist 2012- 3.53 miles.
VAW-I09R_JKS02A00 - Total Phosphorus - 38996. Total Nitrogen - 39003. Delist 2012- 1.74 miles.
VAW-I09R_JKS03A00 - Total Phosphorus - 38997. Total Nitrogen - 39004. Delist 2012- 4.71 miles.
VAW-I09R_JKS03B10 - Total Phosphorus - 38997. Total Nitrogen - 39004.
VAW-I09R_JKS04A00 - Total Phosphorus - 38995. Total Nitrogen - 39002.
VAW-I09R_JKS05A00 - Total Phosphorus - 38998. Total Nitrogen - 39005.
VAW-I09R_JKS06A00 - Total Phosphorus - 38999. Total Nitrogen - 39006.

Benthic Assessment station locations are:
2-JKS000.38 - Rt. 727 Bridge - near Iron Gate (I09R)
2-JKS006.67 - Low Water Bridge - near Dabney Lancaster CC (I09R)
2-JKS013.29 - Off Rt. 696 above Lowmoor (I09R)
2-JKS018.68 - Rt. 18 Bridge at Covington (I09R)
2-JKS020.41- Upper Horse Shoe at Rayon Terrace (I09R)
2-JKS022.78- Fudge's Bridge, Rt. 154, Covington (I09R)
2-JKS023.61 - City Park - Covington at gage (I09R)

General Standard (Benthic):
2-JKS023.61- 2018 IR finds 6 VSCI surveys (2011-2016 Fall only) averaging 34.3. The 2016 Integrated Report (IR) finds 6 VSCI surveys (2010-2014) with an average score of 32.8. One spring (2010) and 5 fall surveys (2010-2014) lie within the 2016 data window. Seven VSCI surveys (2007-2008 & 2010-2012) within the 2014 data window score an average of 34.4. The 2012 data window reports an average Virginia Stream Condition Index (VSCI) score of 35.95 from 5 surveys (2006-2008 & 2010). The lowest score occurs in spring 2007 at 32.92 and the highest 38.47 fall 2008. Seven VSCI surveys (2003 - 2008) for 2010 have an average score of 45.15 with the lowest score in spring 2007 32.92 and highest score 57.38 spring 2004. The 2008 Integrated Report (IR) assessed 7 VSCI surveys (2001 - 2006) with an average score of 34.36; lowest score spring 2001 at 31.03 and highest score 52.38 spring 2004. The invertebrate community is dominated by taxa that are tolerant of environments with low dissolved oxygen and elevated levels of organic pollution (i.e. Tubificidae, Tricladida, Chironomidae, Lumbriculidae and Simulidae). The VSCI scores display a negative alteration in the taxonomic diversity and pollution sensitivity of the benthic community. Recent improvement in the historical trend of the benthic community may be due to a reduction in

cooling water discharges and efforts in the watershed to reduce nutrient discharge to the river. However, a recently discovered and repaired sewer line contributed pollution to the river and may be responsible for the VSCI decline since 2007.

Both 2006 and 2012 flow adjusted trend analysis find significant declining trends for total phosphorus (TP) and total nitrogen (TN) at 2-JKS023.61. The 2016 assessment finds 4 elevated total phosphorus (>0.20 mg/l) values ranging from 0.24 to 0.52 mg/l from 36 observations. Elevated total phosphorus values range from 0.24 to 0.52 mg/l in 2014 from 6 of 36 observations. The 2012 data window finds 5 of 41 total phosphorus samples are elevated above 0.20 mg/l ranging from 0.24 to 0.52 mg/l; although maxima are reduced. An 'Observed effect' is noted for these waters. Past values above 0.20 have been greater than 1.40 mg/l. The 2010 assessment finds elevated total phosphorus levels in 6 of 40 samples are above 0.20 mg/l. The maximum value is 0.40 mg/l and the lowest 0.28 mg/l. 2008 elevated total phosphorus levels were 17 of 51 samples- 'Observed Effect'. The maximum value is 1.40 mg/l and the lowest 0.23 mg/l.

2-JKS022.78- There are no additional data beyond the 2010 IR where elevated TP values greater than 0.20 mg/l are found in 2 of 12 samples with elevated values at 0.28 and 0.39 mg/l.

2-JKS020.41- A 2007 probability station. Bio 'IM' 2 VSCI surveys (2007), average score 48.13. The invertebrate community at this site is dominated by taxa that are tolerant of environments with low dissolved oxygen and high levels of organic pollution (i.e. Tricladida and Asellidae).

2-JKS018.68- Bio 'IM' The addition of Fall 2015 and 2016 VSCI surveys within the 2018 data window results in an average VSCI of 52.4. Five fall VSCI surveys (2010-2014) within the 2016 data window have an average score of 49.8. Six VSCI surveys (2007-2008 & 2010-2012) within the 2014 data window produce an average score of 49.4. The 2012 assessment finds from 5 surveys (2006-2008 & 2010) an average score of 50.37. Five VSCI surveys within the 2010 data window (2004, 2006-2008) have an average score of 54.28. The 2008 assessment reports 2 VSCI scores from the fall of 2004 (67.3) and 2006 (51.8). The benthic community shows some improvement at this station relative to the station at City Park (2-JKS023.61). However, the benthic community remains dominated by pollution tolerant taxa.

Two of 31 total phosphorus observations are elevated (>0.20 mg/l) at 0.25 and 0.41 mg/l within the 2016 data window. 2014 TP data reveal elevated TP results greater than 0.20 mg/l in 3 of 32 samples at 0.22, 0.30 and 0.41 mg/l. Two total phosphorus observations are elevated within the 2012 data window from 22 samples. Samples greater than 0.20 mg/l are 0.22 and 0.30 mg/l. The 2010 assessment finds 2 of 16 total phosphorus observations are elevated with values the same as 2012. 2008 assessment TP results find no elevated TP levels above 0.20 mg/l from 9 observations (no additional data). The 2006 IR reported 6 of 18 observations greater than 0.20 mg/l. Elevated TP values ranged from 0.30 to 0.70 mg/l- 'Observed Effect'.

2-JKS013.29- The 2018 data window includes 5 Fall VSCI surveys (2012-2016) averaging 56.8. The 2016 average VSCI score is 56.6. Four surveys conducted in the fall (2010-2014) find impairment with a range of scores from 54.59 to 58.10. The 2014 IR reports 5 VSCI surveys (2007-2008, 2010 & 2012) with an average score of 53.1. Scores range from a low of 36.7 (spring 2007) to a high of 59.4 (fall 2007). Lower VSCI scores are the result of the low taxonomic diversity and lack of pollution sensitive taxa. Recent improvement in the historical trend of the benthic community may be due to a reduction in cooling water discharges and efforts in the watershed to reduce nutrient discharge to the river. The decline in the VSCI score from 2007 to 2010 is likely a result of a broken sewer line contributing untreated sewage to the river. Repairs occurred and the VSCI score is improving.
The average VSCI score within the 2012 data window (2006-2008 & 2010) is 54.04. The lowest score is 36.7 (spring 2007) and the highest 61.26 (fall 2006). 2010 results also find an impaired condition with the lowest at 38.6; fall 2004 and the highest 61.26; fall 2006 from 6 VSCI survey scores (2003, 2004, 2006 & 2007). The 2008 IR found impairment from 4 VSCI surveys (2003 - 2004 & 2006). The Low Moor station through the 2008 assessment has consistently had lower assessment scores and higher numbers of pollution tolerant organisms than at 2-JKS018.68. The 2006 sample showed an increase in pollution sensitive taxa and a decrease in pollution tolerant taxa.

Elevated total phosphorus values of 0.43 and 0.71 mg/l are found within the 2016 data window from 13 observations. Two TP observations from a total of 13 are greater than 0.20 mg/l at 0.43 and 0.70 mg/L in 2014. There are no additional total phosphorous data within the 2010 or 2012 data windows. 2008 elevated TP samples are found in 6 of 12 samples with excessive values ranging from 0.29 to 1.41 mg/l- 'Observed Effect'.

2-JKS006.67- Bio 'FS' The 2018 IR adds 2015 and 2016 VSCI surveys resulting in VSCIs of 72.2 and 60.0, respectively. Five fall VSCI surveys (2010-2014) find continued full support of the Aquatic Life Use within the 2016 data window. The average score is 62.7. 2014 VSCI survey data (2007 - 2012) show continued improvement with an average 6 year score of 64.6. The 2012 assessment finds 'full support' from 4 VSCI surveys (2007-2008 & 2010) with an average score of 64.1. 2010 results also find 'full support' from 6 VSCI surveys (2003-2008) with an average score of 61.2. Benthic trend analysis also shows improving conditions (+10 points) over the time period of 1994 - 2010. VSCI scores have increased by 14 points from 2000-2005; and

James River Basin

with an additional increase of 11 points from 2006-2010. There have been slight differences in scores over the current 6-year period. Spring scores have been lower than fall scores. Lower VSCI scores are the result of the decrease in pollution sensitive taxa. Recent improvements in the benthic community may be due to a reduction in cooling water discharges and efforts to reduce nutrient discharge to the river. A recently discovered and repaired sewer line may be responsible for the VSCI decline since 2007. The waters in this portion of the of the original 303(d) Listing (9.81 miles) are delisted with the 2012 assessment based on VSCI scores from both the 2010 and 2012 assessments, Benthic trend analysis and 2006/2012 flow adjusted trend analysis at upstream station 2-JKS023.61 and downstream station 2-JKS000.38.

2-JKS000.38- 2006 and 2012 flow adjusted trend analysis reveals significant declining trends in total phosphorus and total nitrogen at this station. The 2012, 2014 and 2016 Integrated Reports (IR) find no elevated TP observations (greater than 0.20 mg/L) from 36 samples each. The 2010 assessment finds a single elevated TP observation from 38 observations at 0.22 mg/l. The 2008 assessment reported elevated TP observations in 15 of 50 observations- 'Observed Effect'. Values above 0.20 mg/l ranged from 0.22 to 1.24 mg/l.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I04R_JKS01A00 / Jackson River / Jackson River mainstem from the Westvaco main processing outfall downstream to Dunlap Creek mouth at the watershed boundary with I09R (JU11).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.47
VAW-I09R_JKS03B10 / Jackson River / Jackson River mainstem from upstream of the Lowmoor community downstream to near the mouth of Karnes Creek (JU21).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	3.37
VAW-I09R_JKS04A00 / Jackson River / Jackson River mainstem from the Covington STP outfall downstream to just above the Lowmoor community (JU21).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	5.91
VAW-I09R_JKS04B14 / Jackson River / Jackson River mainstem from the Potts Creek confluence downstream to the Covington STP outfall (JU21).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.31
VAW-I09R_JKS05A00 / Jackson River / Jackson River mainstem from downstream of the Fudge's Bridge to the Potts Creek confluence with the Jackson River (JU21).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	3.01
VAW-I09R_JKS06A00 / Jackson River / Jackson River mainstem from the watershed boundary (I04R) at the mouth of Dunlap Creek downstream to just below the Lexington Avenue Bridge (JU21).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.66

Jackson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.73**

Sources:

- Industrial Point Source Discharge
- Municipal (Urbanized High Density Area)
- Municipal Point Source Discharges

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***Cause Group Code:* I09R-01-DO** **Jackson River**

Cause Location: Jackson River mainstem from the Westvaco main processing outfall downstream to just above the Lowmoor community.

City / County: Alleghany Co. Covington City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The original 1998 IDs, VAW-I04R and VAW-I09R, 1996 303(d) Listed dissolved oxygen impairment was combined into one in 2002 for 11.19 miles.

2010 Assessment station locations are:
2-JKS013.29 - Off Rt. 696 above Lowmoor (I09R)
2-JKS018.68 - Rt. 18 Bridge at Covington (I09R)
2-JKS022.15 - Industrial Park behind Walmart
2-JKS023.61 - City Park - Covington at gage (I09R)

Diurnal swings in dissolved oxygen (DO) cause nonsupport of the aquatic life use for a total of 11.19 miles extending from river mile 24.21 (I04R- 0.46 miles) to 13.02 (I09R- 10.73 miles) (37°46'49.59/079°55'40.00").

The DO impairment remains for final determination of Use Support via the TMDL Study. 2012 flow adjusted trend analysis finds a significant increasing trend for dissolved oxygen. The 2016 flow adjusted trend analysis reports an improving DO trend at 2-JKS023.61.

2-JKS023.61- 0 excursions of the minimum DO criterion (4.0 mg/L) are found in the 2018, 2016, 2014, 2012, 2010, or 2008 data windows. However diurnal effects have been noted in previous assessments. The 2004 IR reports DO exceeds the WQS minimum of 4.0 mg/l in 6 of 26 1998 special study observations as well as those described below at 2-JKS022.15.

Both the 2006 and 2012 flow adjusted trend analysis reveals significant declining trends in total phosphorus and total nitrogen at 2-JKS023.61. However elevated total phosphorus (TP) levels continue resulting in 'Observed Effects'. The 2018 data window finds 3 of 36 elevated TP observations. The 2016 assessment finds 4 elevated total phosphorus (>0.20 mg/l) values ranging from 0.24 to 0.52 mg/l from 36 observations. TP results within the 2014 data window find 6 of 38 TP samples are elevated greater than 0.20 mg/l. Values range from 0.24 - 0.52 mg/l. The 2012 assessment reports TP results find 5 of 41 samples greater than 0.20 mg/l. Elevated TP samples range from 0.24 to 0.52 mg/l. The 2010 assessment finds 6 of 40 observations above 0.20 mg/l. Excessive values range from 0.28 to 0.40 mg/l. 2008 elevated TP levels are found in 17 of 51 samples with a maximum value of 1.40 mg/l and minimum of 0.23 mg/l. 2006 TP concentrations are elevated in 25 of 48 samples with excessive values also ranging from 0.23 to 1.40 mg/l.

2-JKS022.15- 2004 IR reports 1998 DO Recordings find 222 excursions of the minimum 4.0 mg/l WQS criterion from 481 measurements; Diurnal affects are noted. These data are older than 5 years.

2-JKS018.68- The 2018, 2016, 2014, 2012, 2010, or 2008 Irs report no excursions of the DO minimum criterion (4.0 mg/L) from 63 measurements. However 3 measurements below 6.0 mg/l are recorded in 2015. Diurnal effects have been noted in previous assessments.

Two of 31 total phosphorus observations are elevated (>0.20 mg/l) at 0.25 and 0.41 mg/l within the 2016 and 2018 data windows. 2014 elevated TP results greater than 0.20 mg/l are 3 of 32 obs. At 0.22, 0.30 and 0.41 mg/l. 2012 TP data are 2 of 22 measurements.; elevated at 0.22 and 0.30 mg/l. Two of 16 TP samples are elevated above 0.20 mg/l with the 2010 assessment. Excessive values range from 0.22 to 0.30 mg/l. 2008 TP assessment results find no elevated TP levels from 9 observations with no additional data beyond the 2006 IR. The 2006 IR reports 6 of 18 observations in excess of 0.20 mg/l. TP excursions ranged from 0.30 to 0.70 mg/l.

2-JKS013.29- The 2018, 2016, 2012, 2010 and 2008 Irs record 0 exceedances of the minimum DO criterion of 4 mg/l. However diurnal effects have been noted in previous assessments.

Elevated total phosphorus values of 0.43 and 0.71 mg/l are found within the 2016 data window from 13 observations. Two TP observations from a total of 13 in 2014 are greater than 0.20 mg/l at 0.43 and 0.70 mg/L. Only 1 elevated TP value (0.43 mg/l) from 9 samples is recorded in 2012. Two TP samples are within the 2010 data window with none greater than 0.20 mg/l. The

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2008 IR reports elevated TP above 0.20 mg/l in 6 of 12 samples with excessive values ranging from 0.29 to 1.41 mg/l.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I04R_JKS01A00 / Jackson River / Jackson River mainstem from the Westvaco main processing outfall downstream to Dunlap Creek mouth at the watershed boundary with I09R (JU11).	5A	Oxygen, Dissolved	1996	H	0.47
VAW-I09R_JKS04A00 / Jackson River / Jackson River mainstem from the Covington STP outfall downstream to just above the Lowmoor community (JU21).	5A	Oxygen, Dissolved	1996	H	5.91
VAW-I09R_JKS04B14 / Jackson River / Jackson River mainstem from the Potts Creek confluence downstream to the Covington STP outfall (JU21).	5A	Oxygen, Dissolved	1996	H	0.31
VAW-I09R_JKS05A00 / Jackson River / Jackson River mainstem from downstream of the Fudge's Bridge to the Potts Creek confluence with the Jackson River (JU21).	5A	Oxygen, Dissolved	1996	H	3.01
VAW-I09R_JKS06A00 / Jackson River / Jackson River mainstem from the watershed boundary (I04R) at the mouth of Dunlap Creek downstream to just below the Lexington Avenue Bridge (JU21).	5A	Oxygen, Dissolved	1996	H	1.66

Jackson River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**11.36**

Sources:

- Industrial Point Source Discharge
- Municipal Point Source Discharges

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James River Basin

***Cause Group Code:* I09R-01-PCB** **Jackson River**

Cause Location: The Jackson River from the Covington water intake downstream to just above the Lowmoor community.

City / County: Alleghany Co. Covington City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The 2008 Integrated Report (IR) produces the initial 303(d) Listing of these waters for a total of 12.63 miles.

2-JKS023.88 (Covington City Park) 2005 fish tissue collections find exceedances above the former WQS based PCB TV of 54 ppb (VDH 50) from a single species. Two carp are found with tissue values of 66.4 (68.0 cm) and 71.3 ppb (61.31 cm). Application of the new WQS of 20 ppb adds 3 additional carp sizes (63.9 cm) exceeding at 28.81 ppb, (63.2 cm) at 35.96 and (51-58 cm) at 37.48 ppb. There are no additional data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I04R_JKS01A00 / Jackson River / Jackson River mainstem from the Westvaco main processing outfall downstream to Dunlap Creek mouth at the watershed boundary with I09R (JU11).	5A	PCB in Fish Tissue	2008	L	0.47
VAW-I04R_JKS02A00 / Jackson River / Jackson River mainstem from the Covington water intake downstream to Westvaco main processing outfall (JU11).	5A	PCB in Fish Tissue	2008	L	1.27
VAW-I09R_JKS04A00 / Jackson River / Jackson River mainstem from the Covington STP outfall downstream to just above the Lowmoor community (JU21).	5A	PCB in Fish Tissue	2008	L	5.91
VAW-I09R_JKS04B14 / Jackson River / Jackson River mainstem from the Potts Creek confluence downstream to the Covington STP outfall (JU21).	5A	PCB in Fish Tissue	2008	L	0.31
VAW-I09R_JKS05A00 / Jackson River / Jackson River mainstem from downstream of the Fudge's Bridge to the Potts Creek confluence with the Jackson River (JU21).	5A	PCB in Fish Tissue	2008	L	3.01
VAW-I09R_JKS06A00 / Jackson River / Jackson River mainstem from the watershed boundary (I04R) at the mouth of Dunlap Creek downstream to just below the Lexington Avenue Bridge (JU21).	5A	PCB in Fish Tissue	2008	L	1.66

Jackson River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**12.63**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I09R-02-BAC** **Jackson River**

Cause Location: Jackson River mainstem from the Covington water intake downstream to just below the Lexington Avenue Bridge.

City / County: Alleghany Co. Covington City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The original 3.38 mile waters were 1998 303(d) listed for fecal coliform (FC) bacteria and delisted for bacteria October 2005 as approved by the U.S. EPA (Fed. ID - NA) where only 1 exceedance from 24 observations are reported via the 2006 Integrated Report (IR) for escherichia coli (E. coli) bacteria.

The bacteria impairment returned with the 2008 Integrated Report (IR) based on E. coli excursions at 2-JKS023.61. Data within the 2010 data window results in an additional extension of the impairment from stations 2-JKS018.68 and 2-JKS015.60. The impairment extends a total of 12.63 miles.

2-JKS023.61 (Covington City Park) 7 of 35 E.coli samples exceed within the 2018 data window. Fourteen of 36 E.coli observations exceed the WQS instantaneous criterion of 235 cfu/100 ml. The range of exceeding values is from 425 cfu/100 ml to 24,196. The 2014 IR records 16 of 36 E.coli samples in excess of the instantaneous criterion. Excessive values range from 320 to greater than 2000 cfu/100 ml. Seventeen of 37 E.coli samples exceed the instantaneous criterion within the 2012 data window. Excessive values range from 250 cfu/100 ml to greater than 2000. 2010 results produce 9 of 33 Escherichia coli (E. coli) observations in excess of the instantaneous criterion. Exceeding values range from 320 to 1400 cfu/100 ml. 2008 IR found 4 of 27 E. coli observations in excess of the instantaneous criterion. Exceeding values range from 250 to 1400 cfu/100 ml.

2-JKS018.68 (Rt. 8 Bridge at Covington) 9 of 36 E.coli samples exceed during the 2018 data window. Six of 24 E.coli samples exceed the instantaneous criterion within the 2016 data window. Excessive values range from 275 to greater than 2000 cfu/100 ml. The 2014 data window finds E.coli exceeds 235 cfu/100 ml instantaneous criterion in 7 of 24 samples. Excursions range from 250 to 950 cfu/100 ml. There are no additional E.coli data within the 2012 data window. Three of 12 E. coli observations exceed the instantaneous criterion ranging from 550 to 380 cfu/100 ml in 2010.

2-JKS015.60 (K-Mart Parking Lot, SE corner) There are no additional E.coli data within the 2012, 2014 or 2016 data windows. 2010 E. coli observations exceed the 235 cfu/100 ml criterion in 2 of 12 observations. Exceeding values range from 250 to 450 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I04R_JKS01A00 / Jackson River / Jackson River mainstem from the Westvaco main processing outfall downstream to Dunlap Creek mouth at the watershed boundary with I09R (JU11).	5A	Escherichia coli	2008	H	0.47
VAW-I04R_JKS02A00 / Jackson River / Jackson River mainstem from the Covington water intake downstream to Westvaco main processing outfall (JU11).	5A	Escherichia coli	2008	H	1.27
VAW-I09R_JKS04A00 / Jackson River / Jackson River mainstem from the Covington STP outfall downstream to just above the Lowmoor community (JU21).	5A	Escherichia coli	2010	H	5.91
VAW-I09R_JKS04B14 / Jackson River / Jackson River mainstem from the Potts Creek confluence downstream to the Covington STP outfall (JU21).	5A	Escherichia coli	2010	H	0.31
VAW-I09R_JKS05A00 / Jackson River / Jackson River mainstem from downstream of the Fudge's Bridge to the Potts Creek confluence with the Jackson River (JU21).	5A	Escherichia coli	2010	H	3.01
VAW-I09R_JKS06A00 / Jackson River / Jackson River mainstem from the watershed boundary (I04R) at the mouth of Dunlap Creek	5A	Escherichia coli	2008	H	1.66

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downstream to just below the Lexington Avenue Bridge (JU21).

Jackson River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.63**

Sources:

- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I09R-02-TEMP** **Wilson Creek**

Cause Location: Wilson Creek from the headwaters downstream to the upper end of Douthat Lake pool. (Start Mile: 14.23 End Mile: 7.48 Total Impaired Size: 6.75 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

This segment is considered impaired due to exceedences of the temperature WQS. This is carried from the 2006 assessment as no new data are available in the 2018 cycle as well and is believed to be natural. Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I09R_WLN03A06 / Wilson Creek Upper / Wilson Creek from the headwaters downstream to the upper end of Douthat Lake pool.	5C	Temperature, water	2004	L	6.74

Wilson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.74**

Sources:

Drought-related Impacts Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I10R-01-TEMP** **Potts Creek**

Cause Location: Potts Creek from the Paint Bank Branch confluence downstream to the Alleghany / Craig County Line.

City / County: Alleghany Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

2-POT030.66- (Above the Route 18 Bridge near campsite). There is no additional data beyond the 2016 Integrated Report (IR) where 2 of 12 temperature observations exceed the Class V temperature criterion. The 2 excursions are 21.1°C (7/01/2014) and 21.7°C (9/04/2014). There are no additional data beyond the 2008 Integrated Report. No excursions of the Class V 21°C criterion are found from 3 remaining measurements within the 2012 data window. The 2010 (12 measurements) and 2008 (13 measurements) IRs find the same temperature excursions as in the 2006 IR initial 303(d) Listing where the Class V Temp criterion of 21 °C exceeds in 3 of 12 measurements. Temperature exceedances occur in July and September of 2003 and 2004 ranging from 21.7 to 23 °C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I10R_POT03A02 / Potts Creek / Potts Creek from the Alleghany / Craig County Line upstream to the confluence of Paint Bank Branch Class V (JU18).	5C	Temperature, water	2006	L	5.66

Potts Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**5.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I11R-01-BAC** **Potts Creek**

Cause Location: Potts Creek mainstem from its confluence on the Jackson River upstream to an unnamed tributary draining Kimberlin Flat; PWS end (JU20).

City / County: Alleghany Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This initial 5.09 mile 2018 303(d) Listing is a result of escherichia coli (E.coli) samples in excess of the WQS 235 cfu/10 ml instantaneous criterion. The Recreational Use is not being met in this section of Potts Creek.

2-POT000.12 (Rt. 18 Bridge near Covington, VA) - The 2018 data window finds excursions of the E.coli criterion in 4 of 36 samples. Exceedances range from 323 to greater than 1,000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I11R_POT01A00 / Potts Creek / Potts Creek mainstem from its confluence on the Jackson River upstream to an unnamed tributary draining Kimberlin Flat; PWS end (JU20).	5A	Escherichia coli	2018	L	5.09

Potts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.09**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I12R-01-BAC** **Cowpasture River**

Cause Location: Cowpasture River from the headwaters downstream to its confluence with Shaws Fork. (Start Mile: 87.78 End Mile: 75.48 Total Impaired Size: 8.3 Miles)

City / County: Bath Co. Highland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-CWP075.64 (2 exceedences of 12 samples for e-coli) Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I12R_CWP02A10 / Cowpasture River / Cowpasture River from the headwaters downstream to its confluence with Shaws Fork.	5A	Escherichia coli	2016	L	8.30

Cowpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.30**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I13R-01-BAC** **Bullpasture River**

Cause Location: Bullpasture River from the headwaters downstream to just below its confluence with the Davis Run. (Start Mile: 24.56 End Mile: 12.62 Total Impaired Size: 11.94 Miles) This impairment length was shortened in 2010, lower section fully supporting.

City / County: Bath Co. Highland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is considered impaired due to exceedences of the e-coli bacteria standard at stations: 2-BLP015.32 (3 exceedences of 12 samples). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I13R_BLP02A10 / Bullpasture River / Bullpasture River from the headwaters downstream to just below its confluence with Davis Run.	5A	Escherichia coli	2006	H, 2yr	11.94

Bullpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.94**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I13R-02-TEMP** **Bullpasture River**

Cause Location: Bullpasture River from the headwaters downstream to just below its confluence with the Davis Run. (Start Mile: 24.56 End Mile: 12.62 Total Impaired Size: 11.94 Miles) This impairment length was shortened in 2018, lower section fully supporting.

City / County: Bath Co. Highland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at stations: 2-BLP015.32 (3 exceedences of 11 samples for temperature). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I13R_BLP02A10 / Bullpasture River / Bullpasture River from the headwaters downstream to just below its confluence with Davis Run.	5A	Temperature, water	2012	L	11.94

Bullpasture River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**11.94**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I14R-01-BEN** **Pheasanty Run**

Cause Location: Pheasanty Run from the Coursey Springs Fish Farm discharge downstream to its confluence with the Cowpasture River. (Start Mile: .42 End Mile: 0.00 Total Impaired Size: .42 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to a severely impaired benthic assessment in 1998. Benthic surveys at this site have not been completed since. Initial Listing Date: 1998; This impairment is included in the EPA approved TMDL for Fish Farms. Federal TMDL ID # 21069

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I14R_PTY01A00 / Pheasanty Run / Pheasanty Run from the Coursey Springs Fish Farm discharge downstream to its confluence with the Cowpasture River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	0.41

Pheasanty Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.41**

Sources:

Aquaculture (Permitted)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I14R-04-PH** **Laurel Run**

Cause Location: Laurel Run from the headwaters downstream to its confluence with Dry Run. (Start Mile: 2.03 End Mile: 0.00 Total Impaired Size: 2.03 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA VT10 (2 excursions of 14 samples for pH) Data now outside the 2018 assessment data window, however, the impairment carries forward. Initial Listing Date 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I14R_LAA01A02 / Laurel Run / Laurel Run from the headwaters downstream to its confluence with Dry Run.	5A	pH	2006	L	2.03

Laurel Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.03**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I15R-01-BAC** **Stuart Run**

Cause Location: Stuart Run from the headwaters downstream to its confluence with the Cowpasture River. (Start Mile: 18.3 End Mile: 0.00 Total Impaired Size: 18.3 Miles)

City / County: Bath Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station 2-STU000.29 (2 exceedences of 12 samples for e-coli) Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I15R_STU01A00 / Stuart Run / Stuart Run from the headwaters downstream to its confluence with the Cowpasture River.	5A	Escherichia coli	2018	L	18.30

Stuart Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.30**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I16R-01-PH** **Porters Mill Creek**

Cause Location: Porters Mill Creek and headwater tributary from the headwaters downstream to its confluence with Mill Creek. (Start Mile: 4.85 End Mile: 0.00 Total Impaired Size: 4.85 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA VT15 (10 excursions of 14 samples for pH) in 2010. This data is now outside the assessment data window for 2018, however, the impairment carries forward to 2016. Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I16R_XRI01A02 / Porters Mill Creek / Porters Mill Creek and tributary from the headwaters downstream to its confluence with Mill Creek.	5A	pH	2006	L	4.85

Porters Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.85**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I18R-03-BAC** **Sinking Creek**

Cause Location: Sinking Creek mainstem from its mouth on the James River upstream to the Route 697 crossing (JU38).

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This 2014 initial 303(d) Listing is a result of bacteria exceedances causing impairment of the Recreational Use.

2-SKG001.04 (Lower Ford - near Gala) There are no additional data beyond the 2014 Integrated Report (IR) where escherichia coli (E.coli) exceedances occur in 2 of 12 samples. Values in excess of the 235 cfu/10 ml instantaneous criterion are 400 and 1075 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I18R_SKG01A00 / Sinking Creek / Sinking Creek mainstem from its mouth on the James River upstream to the Route 697 crossing (JU38).	5A	Escherichia coli	2014	H, 2yr	6.42

Sinking Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.42**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Rural (Residential Areas)	Unspecified Domestic Waste
Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I19R-01-BAC** **Craig Creek**

Cause Location: Craig Creek mainstem from the mouth of Turnpike Creek extending downstream to the Rt. 311 crossing located downstream of the Abbott community.

City / County: Craig Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The 2004 initial Listing basis is 3 of 27 fecal coliform (FC) samples exceeding the former 400 cfu/100 ml WQS instantaneous criterion. The maximum reported is 1100 cfu/100 ml with the remaining values at 900 and 500. These 2004 7.91 mile 303(d) Listed waters remain impaired for bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

2-CRG062.29- (Rt. 311 Bridge nearest New Castle) The 2018 data window find 9 of 23 E.coli samples in exceedance of the 235 cru/100 ml instantaneous criterion. Excursions range from 243 to 1050 cfu/100 ml. The 2014 data window produces 7 of 24 escherichia coli (E.coli) samples exceeding the 235 cfu/100 ml WQS instantaneous criterion. The exceeding values range from 280 to 1050 cfu/100 ml. The 2010 and 2012 assessments find 2 of 12 Escherichia coli (E.coli) samples exceeding the current 235 cfu/100 ml WQS instantaneous criterion. E.coli exceeding values are 280 and 400 cfu/100 ml. Data within the 2006 and 2008 data windows find 1 FC excursion (1100 cfu/100 ml) of the former instantaneous criterion of 400 cfu/100 ml from 15 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I19R_CRG02A02 / Craig Creek / Craig Creek mainstem from downstream of Abbott and the Rt. 311 crossing upstream to the confluence of Trout Creek (JU43).	5A	Escherichia coli	2004	H, 2yr	6.55
VAW-I19R_CRG02A14 / Craig Creek / Craig Creek mainstem from Trout Creek upstream to the confluence of Turnpike Creek (JU41).	5A	Escherichia coli	2004	H, 2yr	1.35

Craig Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.90**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I22R-01-BAC** **Barbours Creek**

Cause Location: Barbours Creek from just downstream of the Rt. 617 and 611 junction at the mouth of Valley Branch on downstream to its mouth on Craig Creek. (New Castle Quad).

City / County: Craig Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

The 7.15 mile bacteria impairment initially 303(d) Listed in 2004 remains.

2-BAR000.60- (Rt. 614 Bridge) .coli exceeds the 235 cfu/100 ml instantaneous criterion in 2 of 11 samples within the 2018 data window. Excursions are 359 cfu/100 ml and 368 cfu/100 ml. The 2004 IR reports the maximum fecal coliform (FC) of 1100 cfu/100 ml and a second at 500; both exceed the former WQS instantaneous criterion of 400 cfu/100 ml from 18 samples. The 2006 IR finds no excursions of the former WQS FC instantaneous criterion from 9 samples. The 2008 data window finds no excursions of the aforementioned from 3 samples. There are no bacteria data within the 2010, 2012, 2014 or 2016 assessment data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I22R_BAR01A00 / Barbours Creek / Barbours Creek from its mouth on Craig Creek upstream to the I23 Watershed Boundary located just downstream of the Rt. 617 and 611 junction at the mouth of Valley Branch JU47.	5A	Fecal Coliform	2004	H, 2yr	7.15

Barbours Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.15**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I22R-01-PH** **Mill Creek**

Cause Location: Mill Creek mainstem from ~2.0 miles upstream of its mouth on Craig Creek upstream to its headwaters and above the upstream most pond.

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

2-MIU002.97 (Upstream of Upper pond and downstream of former iron mine) 3 2010-2011 observations each of pH are in excess of the WQS acidic minimum criterion of 6.0 Standard Units (SU) at 5.2, 5.4 and 4.4 SU. This is a 2012 initial Listing. There are no additional data and the Aquatic Life Use remains impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I22R_MIU02A02 / Mill Creek / Mill Creek mainstem from ~2.0 miles upstream of its mouth on Craig Creek upstream to its headwaters and above the upstream most pond (JU48).	5A	pH	2012	L	4.24

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.24**

Sources:

Mine Tailings

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I22R-01-TEMP** **Barbours Creek**

Cause Location: Barbours Creek from its mouth on +Craig Creek upstream to the I23 Watershed Boundary located just downstream of the Rt. 617 and 611 junction at the mouth of Valley Branch.

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The original 7.15 mile temperature impairment continues with the 2014 Integrated Report (IR). The 2006 IR extended the impairment 6.29 miles (2-BAR010.10 - I23R) from the initial 2002 303(d) Listing (2-BAR000.60 - I22R). The 6.29 mile upstream extension is de-listed with the 2012 Integrated Report with station 2-BAR010.10 recording no exceeding Class VI temperatures of the 20°C WQS criterion from 15 observations.

2-BAR000.60- (Rt. 614 Bridge) The 2018 data window finds 2 of 11 observations exceed the Class VI 20°C natural trout waters criterion at 21.2°C (6/15/15) and 20.8°C (8/10/15). Prior to the 2018 IR, there are no additional data beyond the 2004 IR. The 2004 assessment finds temperature exceeds the WQS 20°C natural trout water criterion in 3 of 18 observations with a maximum of 22°C on 7/10/00. Each of the remaining 2 temperature excursions occur on 7/08/98 (20.6°C) and 7/12/99 (20.5°C). The 2006 IR data window reveals 1 of 9 temperature measurements in excess of the Class VI criterion. The 2008 data window finds no excursions from 3 measurements. There are no additional data within the 2016 assessment data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I22R_BAR01A00 / Barbours Creek / Barbours Creek from its mouth on Craig Creek upstream to the I23 Watershed Boundary located just downstream of the Rt. 617 and 611 junction at the mouth of Valley Branch JU47.	5C	Temperature, water	2002	L	7.15

Barbours Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**7.15**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I22R-02-BAC** **Craig Creek**

Cause Location: Craig Creek from the mouth of Johns Creek downstream to Barbours Creek confluence with Craig Creek

City / County: Craig Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

2-CRG048.53 (Below New Castle STP) - Escherichia coli (E.coli) exceedances are found in 2 of 12 samples within the 2018 data window. Values in excess of the 235 cfu/100 ml instantaneous criterion are 355 and 638 cfu/100 ml. The 2012 initial 303(d) Listing results from escherichia coli (E.coli) exceedances from 2 of 12 samples within the 2012 data window. Values in excess of the 235 cfu/10 ml instantaneous criterion are 320 and 700 cfu/100 ml. A downstream station 2-CRG042.34 (Rt. 614 Bridge) records a single exceedance of greater than 2000 cfu/100 ml from 24 samples within the 2014 data window. The exceedance indicates potential for impairment although not impaired via Guidance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I22R_CRG05A02 / Craig Creek / Craig Creek mainstem from the confluence of Mill Creek upstream to the Barbours Creek mouth (JU48).	5A	Escherichia coli	2012	H, 2yr	5.38
VAW-I22R_CRG05B14 / Craig Creek / Craig Creek mainstem from the confluence of Barbours Creek upstream to the Johns Creek mouth (JU46).	5A	Escherichia coli	2012	H, 2yr	6.05

Craig Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.43**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Unspecified Domestic Waste	Wastes from Pets
Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I22R-03-BEN** **Crawford Branch**

Cause Location: Crawford Branch mainstem from its headwaters downstream to its confluence with Craig Creek

City / County: Botetourt Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

A Level 3 US Forest Service site 6570 located approximately 0.19 miles from the Crawford Branch mouth on Craig Creek finds the benthic community impaired. A single 1999 MAIS survey score is 11; rating Poor/Fair or moderately impaired; there are no additional data beyond the 2004 Integrated Report (IR). These data are outside the 2006, 2008, 2010, 2012 and 2014 assessment data windows. Comments provided by the US Forest Service recommends not listing this site as drought conditions produced results indicating impairment thus Category 4C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I22R_CRD01A04 / Crawford Branch / Crawford Branch headwaters downstream to its mouth on Craig Creek (JU50).	4C	Benthic-Macroinvertebrate Bioassessments			1.87

Crawford Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.87**

Sources:

Drought-related Impacts

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I22R-04-BAC** **Little Patterson Creek**

Cause Location: Little Patterson Creek from just upstream of the Rt. 684 (Sugar Tree Hollow Rd.) crossing downstream to its confluence with Patterson Creek.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The 2004 Integrated Report (IR) initially 303(d) Lists the 4.24 mile fecal coliform (FC) bacteria impairment. Escherichia coli replaces the fecal coliform impairment with the 2012 IR.

Station 2-LIP001.00 (Rt. 682 Bridge - Sugartree Hollow Rd.) 7 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. There are no additional data within the 2014 or 2016 data windows. Five of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2012 data window. Exceeding values range from 250 to 1300 cfu/100 ml. The 2004 IR reports FC exceeds the former 400 cfu/100 ml WQS instantaneous criterion in 2 of 9 samples. The 2 exceedances are 2800 (2001) and 2100 cfu/100 ml (2001). In both the 2006 and 2008 assessments FC exceeds in 2 of 12 samples with the same excursions as in previous cycles. No additional data extended into the 2010 data window where 3 observations did not exceed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I22R_LIP01A04 / Little Patterson Creek / Little Patterson Creek from just upstream of the Rt. 684 (Sugar Tree Hollow Rd.) crossing downstream to its confluence with Patterson Creek (JU49).	5A	Escherichia coli	2012	H, 2yr	4.24

Little Patterson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.24**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I22R-05-BAC** **Craig Creek**

Cause Location: Craig Creek mainstem from the mouth of Wilson Branch downstream to the Craig Creek confluence with the James River.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This 2016 303(d) initial Listing is due to impairment of the Recreational Use based on escherichia coli (E.coli) bacteria excursions of the WQS instantaneous criterion.

2-CRG016.90 (Rt. 817 pull off from Rt. 615) 3 of 22 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml. Values in excess of the criterion range from 546 to greater than 2,000 cfu/100 ml. The 2016 Integrated Report (IR) finds 2 of 11 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml. Values in excess of the criterion are 546 and 650 cfu/100 ml.

2-CRG001.20 (Rt. 818 Bridge) E.coli exceed the 235 cfu/100 ml instantaneous criterion in 4 of 23 samples within the 2018 data window. The 2016 data window reveals 2 of 11 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion are 325 and 830 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I22R_CRG01A00 / Craig Creek / Craig Creek mainstem from its mouth on the James River upstream to the mouth of Roaring Run (JU50).	5A	Escherichia coli	2016	L	5.96
VAW-I22R_CRG02A00 / Craig Creek / Craig Creek mainstem from the mouth of Roaring Run upstream to the mouth of Stony Run (JU50).	5A	Escherichia coli	2016	L	6.23
VAW-I22R_CRG02B10 / Craig Creek / Craig Creek from Lemons Branch (Silent Dell community) downstream to the Stony Run confluence (Horton community) near the USGS gaging station (JU48).	5A	Escherichia coli	2016	L	4.67
VAW-I22R_CRG03A14 / Lower Craig Creek / Craig Creek mainstem from Wilson Branch downstream to the Lemons Branch mouth (JU48).	5A	Escherichia coli	2016	L	10.70

Craig Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**27.56**

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I23R-01-PH** **Cove Branch**

Cause Location: Cove Branch mainstem from its confluence with Barbours Creek upstream to its headwaters (JU47).

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

This 2018 data window initial pH listing is based on data collection during at station 2-CVA002.15. The benthic macroinvertebrate community was sampled in order to validate initial 2008 data window findings by the U.S. Forest Service and results in a de-list for benthic macroinvertebrate communities within the 2018 data window. The pH measurements collected result in this 6.04 mile listing.

2-CVA002.15 (Cove Branch at Potts Arm Trail Crossing, Craig Co.) - 2 of 2 Ph measurements are below the Ph 6.0 SU water quality criterion. The excursions are 5.6 (4/1/2015) and 5.5 (10/27/2015).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I23R_CVA01A02 / Cove Branch / Cove Branch mainstem from its confluence with Barbours Creek upstream to its headwaters (JU47).	4C	pH			6.04
	4C	pH	2018	L	6.04

Cove Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**12.08**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I24R-01-BAC** **Lapsley Run**

Cause Location: Lapsley Run from its confluence with the James River upstream to its headwaters.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

2-LAP001.20 (Rt. 726 Bridge) The 2016 Integrated Report (IR) finds 6 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 275 to 1325 cfu/100 ml. There were no additional data within the 2010, 2012 or 2014 assessment cycles. E.coli exceed the WQS instantaneous criterion in 3 of 9 samples within the 2008 data window. These excursions cause the 2008 initial 303(d) Listing of these waters for 9.01 miles. E.coli values in excess of the criterion are: 800, 420 and 250 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I24R_LAP01A08 / Lapsley Run / Lapsley Run from its confluence with the James River upstream to its headwaters (JU51).	5A	Escherichia coli	2008	H, 2yr	9.01

Lapsley Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.01**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I25R-01-BAC** **Catawba Creek**

Cause Location: Catawba Creek from the confluence of Little Catawba Creek downstream to the Town of Fincastle POTW (JU53).

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Three Catawba Creek stations find non-supporting fecal coliform (FC) bacteria results through the 2008-2012 data windows. In previous cycles 2 of the stations below (2-CAT000.34 & 2-CAT023.83) have sufficient escherichia coli (E.coli) data to assess. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

2014 escherichia coli (E.coli) data are sufficient to partially delist the lower portion of Catawba Creek from the Town of Fincastle POTW downstream to the confluence of Catawba Creek with the James River (11.71 miles). Station 2-CAT000.34 (Bridge near Salisbury Furnace) records 2 of 24 E.coli samples exceeding the WQS instantaneous criterion with a exceedance rate of 8.30%. The remaining waters exhibit impairment for the Recreational Use.

The original 2002 FC bacteria impairment was extended both upstream and downstream with the 2004 assessment. The extension downstream is from the Fincastle POTW to the Catawba Creek confluence with the James River (11.71 miles); now delisted. The upstream extension is from the confluence of Little Catawba Creek downstream to the Roanoke Cement outfalls on Catawba Creek (0.81 miles). The original 2002 11.87 mile impairment began at the Roanoke Cement Co. water intake on Catawba Creek (37°28'12"/80°00'18") extending downstream to the Town Branch confluence with Catawba Creek (37°31'01"/79°52'45").

2-CAT023.83- (Rt. 779 Bridge near Gage) 9 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. There are no additional data within the 2016 data window where 6 of 12 E.coli remaining samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. The 2014 assessment finds 8 of 24 escherichia coli (E.coli) samples exceed the instantaneous criterion. Excursions range from 280 to 1950 cfu/100 ml. There are no additional data within the 2012 data window. 2010 data report 2 of 12 E.coli observations in excess of the 235 cfu/100 ml instantaneous criterion with data through 2008. Exceeding values are 280 and 480 cfu/100 ml. FC exceeds in 4 of 12 observations with additional data through May 2003 in 2008. Each excursion is in excess of the former WQS 400 cfu/100 ml instantaneous criterion. The maximum exceedance is 1900 cfu/100 ml and the minimum is 500 (2004 upstream extension). The 2006 Integrated Report (IR) finds FC exceeds in 4 of 12 observations. The maximum exceedance is 1900 cfu/100 ml and the minimum is 500. Exceedance range is the same as in 2004 where FC exceeds in 3 of 9 observations.

2-CAT014.63- (Rt. 606 Bridge, Botetourt Co.) There are no additional E.coli data within the 2014 data window. The 2008 IR finds FC exceeds the former WQS criterion in 4 of 14 observations with additional data through May 2003. The 2006 IR reports FC exceeds in 6 of 20 observations. Exceedances range from 500 to the maximum of 1300 cfu/100 ml (original 2002 303(d) Listing). FC exceeds in 7 of 27 observations ranging from 500 to the maximum of 2000 cfu/100 ml in 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I25R_CAT03A00 / Catawba Creek / Catawba Creek mainstem from the mouth of Lees Creek downstream to the Town of Fincastle POTW (JU53).	5A	Escherichia coli	2010	H, 2yr	6.66
VAW-I25R_CAT03A14 / Catawba Creek / Catawba Creek mainstem from the mouth of Stone Coal Creek downstream to the Lees Creek confluence (JU52).	5A	Escherichia coli	2010	H, 2yr	4.26
VAW-I25R_CAT03B04 / Catawba Creek / Catawba Creek from the Roanoke Cement intake downstream to the mouth of Stone Coal Creek (JU52).	5A	Escherichia coli	2010	H, 2yr	1.41
VAW-I25R_CAT04A04 / Catawba Creek / Catawba Creek from the Roanoke Cement Outfalls downstream to the Roanoke Cement Intake (JU52).	5A	Escherichia coli	2010	H, 2yr	0.32

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAW-I25R_CAT04B04 / Catawba Creek / Catawba Creek from the mouth of Little Catawba Creek downstream to the Roanoke Cement outfalls (JU52).	A	Escherichia coli	2010	H, 2yr	0.81

Catawba Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.46**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I25R-01-BEN** **Catawba Creek**

Cause Location: Catawba Creek from Buchanan Branch downstream to the mouth of Little Catawba Creek (JU52).

City / County: Botetourt Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The impaired waters were partially delisted for 9.16 miles with the 2012 assessment; 3.23 miles remain impaired.

These remaining waters were considered for delist with additional macroinvertebrate data collection within the 2016 data window. Both upstream (2-CAT028.98) and downstream (2-CAT025.14) sites indicate non-impaired conditions. Additional sites were sampled (2-CAT026.29 & 2-CAT027.64) within the 2018 data window indicating Aquatic Life Use impairment. A Total Maximum Daily Load study was initiated in 2017 to address the Recreational and Aquatic Life Use impairments.

2-CAT027.64 (Hogan Hollow Rd. (Rt. 737) Botetourt, Co.) 2 2016 VSCI surveys (Spring 54.4, Fall 61.3) average 57.9 and indicate Aquatic Life Use impairment within the 2018 data window. Both the riparian zone and the banks are impacted by livestock. The limestone geology increases productivity of algae, macroinvertebrates and fish.

2-CAT026.55 (Off Rt. 779 North of Catawba) There are no additional data beyond the 2008 Integrated Report (IR). This 2008 initial 303(d) Listing for General Standard (Benthic) impairment is based on 2 2003 Virginia Stream Condition Index (VSCI) surveys scoring spring 36.4 and fall 56.9. More taxa, including a higher percentage of mayflies were collected in the fall sample. Also, fewer midge larvae (Chironomidae) were present in the fall sample helping to improve the benthic community score. The land use adjacent to and immediately upstream of the station is open pasture. The riparian zone is impacted by the pastures and bank erosion due to cattle access as well as poor bank vegetative protection.

2-CAT026.29 (Off Rt. 779 upstream of Haymaker Br) This station was established as part of the 2016 Probabilistic monitoring network. The 2018 data window finds Aquatic Life use impaired from 2 2016 VSCI scores: Spring 57.7, Fall 55.5. The average Stream Condition Index (SCI) score at this station was 56.59. The benthic assemblage in this reach of Catawba Creek has a mix of macroinvertebrates that are both tolerant and sensitive to pollution but is dominated by tolerant taxa.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I25R_CAT04C04 / Catawba Creek / Catawba Creek from the Roanoke intake downstream to the mouth of Little Catawba Creek (JU52).	5A	Benthic-Macroinvertebrate Bioassessments	2008	H, 2yr	2.07
VAW-I25R_CAT04D12 / Catawba Creek / Catawba Creek mainstem from Buchanan Branch downstream to the Roanoke intake; public water supply (PWS) designation (JU52).	5A	Benthic-Macroinvertebrate Bioassessments	2008	H, 2yr	1.16

Catawba Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.23**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I26R-01-BAC** **Looney Creek Drainage**

Cause Location: The Looney Creek portion of the overall impairment begins at the confluence of Mill and Back Creek (37.498181 / -79.727131) on Looney Creek northeast of Lithia, Virginia, (Montvale Quad) at river mile 2.48. The original 1998 impairment (2.48 miles) ends at the mouth of Looney Creek on the James River.

Note: Bacteria collections on Mill Creek (8.29 miles) and Ellis Run (1.60 miles) cause expansion of the original 1998 impairment to include portions of the aforementioned creeks for a total of 12.37 miles. The TMDL Study encompassed these additional drainages and are described in a separate Fact Sheet (I26R-02-BAC).

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Looney Creek Bacteria TMDL Load Duration Study is U.S. EPA approved on 06/21/2004 [Fed ID: 20103] and SWCB approved 12/02/2004 (formerly VAW-I26R-01). The TMDL Implementation Plan is SWCB approved 4/28/2009. Fecal coliform (FC) bacteria exceedances cause the original 1998 2.66 mile Recreational Use impairment in Looney Creek.

2-LMC000.40 (Rt. 625 Bridge) The 2018 data window finds 10 of 36 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion. Nine of 36 escherichia coli (E.coli) observations exceed the instantaneous criterion within the 2016 data window. Values in excess of the criterion exhibit the same range of excursions as found in 2014. The 2014 data window produces 8 of 24 E.coli samples exceed the Water Quality Standards (WQS) 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 450 to greater than 2000 cfu/100 ml. Additional data within the 2012 data window find 9 of 24 E.coli samples exceeding the WQS instantaneous criterion. Values in excess of the criterion range from 250 to 1400 cfu/100 ml. The 2010 Integrated Report (IR) finds 13 of 31 E.coli samples exceed the instantaneous criterion. Exceeding values range from 250 to 570 cfu/100 ml. The 2008 IR reports 13 of 33 samples exceed the instantaneous criterion. And in 2006 7 of 19 E.coli samples exceed the instantaneous criterion with the same range of exceedance as 2008 and 2010.

In conducting the TMDL Study 2 tributary streams within the watershed find the Recreational Use impaired for bacteria (E.coli) as well (2004 Assessment-fecal coliform). Nested bacteria impairments on Ellis Run and Mill Creek are described in a separate fact sheet (I26R-02-BAC).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I26R_LMC01A00 / Looney Creek / Looney Creek mainstem from the confluence of Mill and Back Creeks downstream to its mouth on the James River (JU55).	4A	Escherichia coli	1998	L	2.66

Looney Creek Drainage **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.66**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I26R-01-BEN** **Mill Creek, UT (XUL)**

Cause Location: Mill Creek, UT (XUL) from just downstream of the Rt. 11 crossing upstream to its headwaters.

City / County: Botetourt Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2-XUL001.67 (Downstream of Rt. 799 (Ammen Rd.) crossing)- The 2016 and 2018 data windows include more recent VSCI surveys (2013-2014) with an average score of 55.2. This additional data results in an assessment of 'Reserve Judgement' until additional data can be collected. There are no additional information beyond the 2010 Integrated Report (IR). The benthic community is impaired for 5.37 miles from 2 2008 Virginia Stream Condition Index (VSCI) surveys. 2008 VSCI scores are spring 33.9 and fall 50.9. This is a small second order tributary to Mill Creek. The average VSCI score for all samples was 42.4 indicating a benthic community with many organisms that are tolerant of pollution. Habitat scores indicate a stream reach with badly eroded stream banks, poor vegetative protection on the banks and in the riparian zone excessive deposits of sand and fine sediment on the stream bottom. The watershed consists of pastures, crop fields, and some residential areas.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I26R_XUL01A10 / Mill Creek, UT (XUL) / Mill Creek, UT (XUL) from just downstream of the Rt. 11 crossing upstream to its headwaters (JU55).	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	5.37

Mill Creek, UT (XUL)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.37**

Sources:

- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I26R-02-BAC** **Ellis Run and Mill Creek**

Cause Location: Ellis Run mainstem from the Rt. 645 crossing downstream to its confluence with Back Creek (1.60 miles). And Mill Creek mainstem (8.29 miles) from just downstream of the Rt. 11 crossing on downstream to the Mill Creek confluence with Back Creek.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Looney Creek Bacteria TMDL Load Duration Study is U.S. EPA approved on 06/21/2004 [Fed ID: 20103] and SWCB approval on 12/02/2004 (formerly VAW-I26R-01). The TMDL Implementation Plan received SWCB approval 4/28/2009. Fecal coliform (FC) bacteria exceedances cause the original 1998 2.48 mile recreational use impairment in Looney Creek. Additional sample collection associated with TMDL development finds recreational impairment on Ellis Run and Mill Creeks. These bacteria impairments were not specifically addressed by the approved TMDL but are nested within the overall TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Ellis Run (1.69 miles) and Mill Creek (8.89 miles), tributaries to Back Creek and Looney Creek, originally listed in 2004 for fecal coliform (FC) bacteria remain impaired for the Recreational Use with escherichia coli (E.coli) replacing fecal coliform.

2-ELS000.08- (Rt. 643 Bridge) 5 of 18 E.coli samples exceed the instantaneous criterion within the 2018 data window. The 2016 Integrated Report (IR) finds 3 of 12 escherichia coli (E.coli) samples exceed the instantaneous criterion. Excessive values range from 265 to greater than 2000 cfu/100 ml. There are no additional data within the 2014 data widow. There are no additional data within the 2012 data window where 1 of 3 E.coli samples exceed at 450 cfu/100 ml. Nine of 12 E.coli samples exceed the WQS 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml within the 2010 data window. The 2008 IR reveals 14 of 18 E.coli samples exceeding the instantaneous criterion. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. In 2006 13 of 15 E.coli samples exceed the instantaneous criterion with the same range of exceeding values. Five of 6 E.coli samples exceed the criterion ranging from 350 to >800 cfu/100 ml in 2004.

2-MIA000.79- (Junction of Routes 11 & 722) 3 of 18 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. The 2016 IR finds 1 of 12 E.coli samples in excess of the instantaneous criterion at greater than 2000 cfu/100 ml. The Recreational Use remains impaired due to the magnitude of the single observation in excess of the WQS instantaneous criterion of 235 cfu/100 ml. There were no additional data within the data windows for 2010, 2012 or 2014 IRs. The 2008 IR finds 8 of 18 E.coli samples in excess of the instantaneous criterion. Excursions range from 450 cfu/100 ml to 1700. In 2006 E.coli exceeds the instantaneous criterion in 7 of 16 samples. Values in excess of the criterion ranged from 300 to 700 cfu/100 ml. The 2004 IR reports 2 of 6 E.coli samples exceed the instantaneous criterion at 470 and 700 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I26R_ELS01A02 / Ellis Run / Ellis Run mainstem from the Rt. 645 crossing downstream to its confluence with Back Creek (JU55).	4A	Escherichia coli	2004	L	1.69
VAW-I26R_MIA01A04 / Mill Creek / Mill Creek mainstem from just downstream of the Rt. 11 crossing on downstream to the Mill Creek confluence with Back Creek (JU55).	4A	Escherichia coli	2004	L	8.89

Ellis Run and Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.58**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I27R-01-BAC** **James River**

Cause Location: James River from the Looney Cr. mouth downstream to the confluence Cedar Creek (JU58).

City / County: Botetourt Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This initial 7.15 mile 2014 303(d) Listing is a result of escherichia coli (E.coli) samples in excess of the WQS 235 cfu/10 ml instantaneous criterion. The Recreational impairment is extended downstream 9.53 miles with the 2016 Integrated Report (IR).

2-JMS309.13 (Gage - Foot Bridge Buchanan) 6 of 24 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion within the 2016 data window. Excessive values range from 600 to 1800 cfu/100 ml. The 2014 Integrated Report (IR) finds 3 E.coli samples exceed the instantaneous criterion from 24 samples. Values in excess of the instantaneous criterion are 600, 1000 and 1475 cfu/100 ml.

2-JMS298.17 (Pull off of Rt. 608) No additional data beyond the 2016 IR where 2 of 12 E.coli samples in excess of the WQS instantaneous criterion. Excessive values are 265 and 275 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-I27R_JMS01A00 / James River / James River from the Jennings Creek mouth downstream to the confluence of Big Hollow Branch (JU58).	5A	Escherichia coli	2016	L	7.97
VAW-I27R_JMS02A14 / James River / James River from the Looney Cr. mouth downstream to the confluence of Jennings Creek (JU56).	5A	Escherichia coli	2014	L	7.15
VAW-I28R_JMS01A08 / James River / James River from its confluence with Big Hollow Branch downstream to the its confluence with Cedar Creek (JU58).	5A	Escherichia coli	2016	L	1.55

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.67**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Rural (Residential Areas)
Unspecified Domestic Waste	Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I28R-01-BAC** **Cedar Creek**

Cause Location: Cedar Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 12.11 End Mile: 0.00 Total Impaired Size: 12.11 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due exceedences of the e-coli WQS at station: 2-CEC000.04 (5 exceedences of 48 samples for e-coli) and 2-CEC003.60 (18 exceedences of 48 samples for e-coli). Initial Listing Date: 2002. This impairment was included in the EPA Approved Cedar Creek Bacteria TMDL. Federal TMDL ID # 55748.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I28R_CEC01A00 / Cedar Creek / Cedar Creek from a point 6.4 miles upstream of the James River downstream to its confluence with the James River.	4A	Escherichia coli	2010	L	6.88
VAV-I28R_CEC02A10 / Cedar Creek / Cedar Creek from the headwaters downstream to a point 6.4 miles upstream of the James River.	4A	Escherichia coli	2010	L	5.22

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.10**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I28R_CEC01A00 / Cedar Creek / Cedar Creek from a point 6.4 miles upstream of the James River downstream to its confluence with the James River.	4A	Fecal Coliform	2002	L	6.88
VAV-I28R_CEC02A10 / Cedar Creek / Cedar Creek from the headwaters downstream to a point 6.4 miles upstream of the James River.	4A	Fecal Coliform	2002	L	5.22

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**12.10**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I28R-02-BAC** **Elk Creek**

Cause Location: Elk Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 4.00 End Mile: 0.00 Total Impaired Size: 4.00 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-ELK001.37 (2 exceedences of 10 samples for e-coli) Initial Listing Date: 2014

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I28R_ELK01A00 / Elk Creek / Elk Creek from a point .6 miles upstream of the James River downstream to its confluence with the James River.	5A	Escherichia coli	2014	L	0.70
VAV-I28R_ELK02A10 / Elk Creek / Elk Creek from a point just upstream of the confluence with the East Fork Elk Creek downstream to a point .6 miles upstream of its confluence with the James River.	5A	Escherichia coli	2014	L	1.39
VAV-I28R_ELK03A10 / Elk Creek / Elk Creek from a point 3.1 miles upstream of the James River downstream to a point just upstream of its confluence with the East Fork Elk Creek.	5A	Escherichia coli	2014	L	1.42
VAV-I28R_ELK04A10 / Elk Creek / Elk Creek from its confluence with Hopper Creek downstream to a point 3.1 miles upstream of the James River.	5A	Escherichia coli	2014	L	0.47

Elk Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.98**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I29R-01-TEMP** **Ramseys Draft**

Cause Location: Ramseys Draft from the headwaters downstream to its confluence with the Calfpasture River. (Start Mile: 10.29 End Mile: 0.00 Total Impaired Size: 10.29 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 2-RAM000.26 (2 exceedences of 12 samples for temperature). Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I29R_RAM01A00 / Ramseys Draft / Ramseys Draft from the headwaters downstream to its confluence with the Calfpasture River.	5A	Temperature, water	2016	L	10.29

Ramseys Draft **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**10.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I30R-01-BAC** **Calfpasture River**

Cause Location: Calfpasture River from its confluence with Tizzle Branch downstream to its confluence with Hamilton Branch. (Start Mile: 26.52 End Mile: 23.72 Total Impaired Size: 2.8 Miles) The extents of this impairment were adjusted due to changes in the NWBD boundaries in 2010. The impairment length was shortened in 2012 as a downstream assessment unit returned to fully supporting status for bacteria.

City / County: Augusta Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-CFP024.20 (3 exceedences of 12 samples for e-coli in 2014, no new data in 2016/18). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I30R_CFP03A10 / Calfpasture River / Calfpasture River from its confluence with Tizzle Branch downstream to its confluence with Hamilton Branch.	5A	Escherichia coli	2006	L	2.83

Calfpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.83**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I30R-03-BAC** **Hamilton Branch**

Cause Location: Hamilton Branch from the headwaters downstream to its confluence with the Calfpasture River. (Start Mile: 6.29 End Mile: 0.00 Total Impaired Size: 6.29 Miles)

City / County: Augusta Co. Bath Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to exceedences of the e-coli WQS at station 2AHAM000.02 (8 exceedences of 12 samples for e-coli). Initial Listing Date: 2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I30R_HAM01A16 / Hamilton Branch / Hamilton Branch from the headwaters downstream to its confluence with the Calfpasture River.	5A	Escherichia coli	2016	L	6.28

Hamilton Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.28**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I30R-03-PH** **Piney Branch**

Cause Location: Piney Branch from the headwaters downstream to its confluence with Guys Run. (Start Mile: 2.33 End Mile: 0.00 Total Impaired Size: 2.33 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: UVA RB08 (12 excursions of 12 samples for pH) in 2010. This data is now outside the assessment data window for 2018, however, the impairment carries forward to 2018. Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I30R_XGR01A06 / Piney Branch / Piney Branch from the headwaters downstream to its confluence with Guys Run.	5A	pH	2006	L	2.33

Piney Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.33**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I31R-01-TEMP** **Gochenour Branch**

Cause Location: Gochenour Branch from the headwaters downstream to its confluence with Brattons Run. (Start Mile: 4.31 End Mile: 0.00 Total Impaired Size: 4.31 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 2AGOC000.07 (2 exceedences of 13 samples for temperature) Initial Listing Date: 2018

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I31R_XBA01A10 / Gochenour Branch / Gochenour Branch from the headwaters downstream to its confluence with Brattons Run.	5A	Temperature, water	2018	L	4.31

Gochenour Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**4.31**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I32R-01-BEN** **Wallace Mill Stream**

Cause Location: Wallace Mill Stream from the Castaline Trout Farm discharge downstream to its confluence with the Little Calfpasture River. (Start Mile: .91 End Mile: 0.00 Total Impaired Size: .91 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment remains impaired due to due moderately and severely impaired benthic assessments in 1998. No additional benthic surveys have been completed. Initial Listing Date: 1998; This segment is included in the EPA approved Fish Farm TMDL. Federal TMDL ID # 18103

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I32R_XMO01A00 / Wallace Mill Stream / Wallace Mill Stream from the Castaline Trout Farm discharge downstream to its confluence with the Little Calfpasture River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	0.91

Wallace Mill Stream	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.91**

Sources:

Aquaculture (Permitted)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I32R-02-BEN** **Little Calfpasture River**

Cause Location: Little Calfpasture River from the Lake Merriweather Dam downstream to its confluence with the Calfpasture River. (Start Mile: .81 End Mile: 0.00 Total Impaired Size: .81 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-LCF000.02 (Impaired for VSCI) and 2-LCF000.76 (Impaired for VSCI) in 2014. Initial Listing Date: 1996. This impairment is included in the EPA Approved Little Calfpasture River benthic TMDL. Federal TMDL ID # 38323.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I32R_LCF01A00 / Little Calfpasture River / Little Calfpasture River from the Lake Merriweather Dam downstream to its confluence with the Calfpasture River.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.80

Little Calfpasture River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.80**

Sources:

Upstream Impoundments
(e.g., PI-566 NRCS
Structures)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I32R-03-BAC** **Little Calfpasture River**

Cause Location: Little Calfpasture River from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 23.54 End Mile: 11.18 Total Impaired Size: 12.36 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-LCF011.30 (5 exceedences of 12 samples for e-coli) and 2-LCF013.93 (2 exceedences of 12 samples for e-coli in 2014) no data in 2018. Initial Listing Date: 2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I32R_LCF03A00 / Little Calfpasture River / Little Calfpasture River from a point 17.2 miles upstream of the Maury River downstream to its confluence with Smith Creek.	5A	Escherichia coli	2010	L	5.32
VAV-I32R_LCF04A10 / Little Calfpasture River / Little Calfpasture River from the headwaters downstream to a point 17.2 miles upstream of the Maury River.	5A	Escherichia coli	2010	L	7.03

Little Calfpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.35**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I32R_LCF03A00 / Little Calfpasture River / Little Calfpasture River from a point 17.2 miles upstream of the Maury River downstream to its confluence with Smith Creek.	5A	Fecal Coliform	2004	L	5.32
VAV-I32R_LCF04A10 / Little Calfpasture River / Little Calfpasture River from the headwaters downstream to a point 17.2 miles upstream of the Maury River.	5A	Fecal Coliform	2004	L	7.03

Little Calfpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**12.35**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I33R-01-BAC** **Cedar Grove Branch**

Cause Location: Cedar Grove Branch from the headwaters downstream to its confluence with the Maury River. (Start Mile: 4.62 End Mile: 0.00 Total Impaired Size: 4.62 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-CGB001.80 (10 exceedences of 23 samples for e-coli in 2012, 3 exceedences 5 samples in 2014/16, no new data in 2018). Initial Listing Date: 2004. This segment is included in the EPA Approved Maury River Bacteria TMDL. Federal TMDL ID # 55749.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I33R_CGB01A00 / Cedar Grove Branch / Cedar Grove Branch from the headwaters downstream to its confluence with the Maury River.	4A	Escherichia coli	2008	L	4.62

Cedar Grove Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.62**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I33R_CGB01A00 / Cedar Grove Branch / Cedar Grove Branch from the headwaters downstream to its confluence with the Maury River.	4A	Fecal Coliform	2004	L	4.62

Cedar Grove Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.62**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I33R-03-BAC** **Kerrs Creek**

Cause Location: Kerrs Creek from the headwaters downstream to its confluence with the Maury River. (Start Mile: 11.87 End Mile: 0.00 Total Impaired Size: 11.87 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at stations: 2-KRR001.54 (4 exceedences of 12 samples for e-coli in 2016, no data in 2018) and 2-KRR008.16 (2 exceedences of 6 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 2012. This segment is included in the EPA Approved Maury River Bacteria TMDL. Federal TMDL ID # 55749.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I33R_KRR01A00 / Kerrs Creek / Kerrs Creek from the 5 mile upper limit of the PWS designation for the Maury Service Authority Public Water Intake downstream to its confluence with the Maury River.	4A	Escherichia coli	2012	L	3.04
VAV-I33R_KRR02A00 / Kerrs Creek / Kerrs Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Maury Service Authority Public Water Intake.	4A	Escherichia coli	2012	L	8.82

Kerrs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.86**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I34R-01-BAC** **Hays Creek/Moffatts Creek**

Cause Location: Moffatts Creek from the headwaters downstream to its confluence with Hays Creek; Hays Creek from its confluence with Moffatts Creek downstream to its confluence with the Maury River (Start Mile: 8.86, 11.95 End Mile: 0.00, 0.00 Total Impaired Size: 8.86 Miles, 11.95 Miles)

City / County: Augusta Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

These segments are impaired due to exceedences of the e-coli bacteria WQS at station: 2-HYS001.41 (15 exceedences of 72 samples for e-coli) and 2-HYS007.46 (8 exceedences of 11 samples for e-coli in 2016, no data in 2018). Initial Listing Date: 1998. This segment is included in the EPA approved Hays/Moffatts Creek bacteria TMDL. Federal TMDL ID # 34381.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I34R_HYS01A00 / Hays Creek / Hays Creek from Brownsburg downstream to its confluence with the Maury River.	4A	Escherichia coli	2008	L	10.03
VAV-I34R_HYS02A10 / Hays Creek / Hays Creek from its confluence with Moffatts Creek downstream to Brownsburg.	4A	Escherichia coli	2008	L	1.91
VAV-I34R_MOF01A00 / Moffatts Creek / Moffatts Creek from the headwaters downstream to its confluence with Hays Creek.	4A	Escherichia coli	2008	L	8.85

Hays Creek/Moffatts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.79**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I34R_HYS01A00 / Hays Creek / Hays Creek from Brownsburg downstream to its confluence with the Maury River.	4A	Fecal Coliform	1998	L	10.03
VAV-I34R_HYS02A10 / Hays Creek / Hays Creek from its confluence with Moffatts Creek downstream to Brownsburg.	4A	Fecal Coliform	1998	L	1.91
VAV-I34R_MOF01A00 / Moffatts Creek / Moffatts Creek from the headwaters downstream to its confluence with Hays Creek.	4A	Fecal Coliform	2004	L	8.85

Hays Creek/Moffatts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**20.79**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I34R-03-BAC** **Walker Creek**

Cause Location: Walker Creek and tributaries from the headwaters downstream to its confluence with Dutch Hollow Branch. (Start Mile: 8.80 End Mile: 0.00 Total Impaired Size: 8.80 Miles)

City / County: Augusta Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at stations: 2-WKS001.03 (17 exceedences of 72 samples for e-coli) and 2-WKS004.59 (4 exceedences of 25 samples for e-coli). Initial Listing Date: 2006. This segment is included in the EPA approved Walker Creek bacteria TMDL. Federal TMDL ID # 34380.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I34R_WKS01A06 / Walker Creek / Walker Creek from the headwaters downstream to its confluence with Dutch Hollow Branch.	4A	Escherichia coli	2006	L	8.79

Walker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.79**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I34R-04-BAC** **Otts Creek**

Cause Location: Otts Creek from the Route 675 bridge crossing downstream to its confluence with Moffatts Creek. (Start Mile: 5.39 End Mile: 0.00 Total Impaired Size: 5.39 Miles) Mileage changed in 2018 due to segmentation error.

City / County: Augusta Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-OTS000.45 (27 exceedences of 72 samples for e-coli). Initial Listing Date: 2006. This segment is included in the EPA approved Otts Creek bacteria TMDL. Federal TMDL ID # 34379.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I34R_OTS01A00 / Otts Creek / Otts Creek from the Route 675 bridge crossing downstream to its confluence with Moffatts Creek.	4A	Escherichia coli	2006	L	5.39

Otts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.39**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I35R-02-BAC** **Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with the Maury River. (Start Mile: 9.14 End Mile: 0.00 Total Impaired Size: 9.14 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-MIS000.04 (2 exceedences of 12 samples for e-coli in 2014, no data in 2016/18). Initial Listing Date: 2006. This segment is included in the EPA Approved Maury River Bacterial TMDL Federal ID # 55749.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I35R_MIS01A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with the Maury River.	4A	Escherichia coli	2008	L	9.13

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.13**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I35R_MIS01A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with the Maury River.	4A	Fecal Coliform	2006	L	9.13

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**9.13**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I35R-02-BEN** **Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with the Maury River. (Start Mile: 9.14 End Mile: 0.00 Total Impaired Size: 9.14 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences General Standard for Benthics at station: 2-MIS000.04 (Impaired for VSCI). Initial Listing Date: 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I35R_MIS01A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with the Maury River.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	9.13

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.13**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I35R-03-BAC** **Woods Creek**

Cause Location: Woods Creek and tributary from the headwaters downstream to its confluence with the Maury River. (Start Mile: 6.06 End Mile: 0.00 Total Impaired Size: 6.06 Miles)

City / County: Lexington City Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2AWDS000.10 (10 exceedences of 24 samples for e-coli) and 2-WDS002.17 (5 exceedences of 24 samples for e-coli.. Initial Listing Date: 2012. This segment is included in the EPA Approved (2/2/18) Woods Creek Bacteria TMDL. Federal TMDL ID# Not Assigned.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I35R_WOS01A00 / Woods Creek / Woods Creek and tributary from the headwaters downstream to its confluence with the Maury River.	4A	Escherichia coli	2012	L	6.05

Woods Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.05**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I35R-03-BEN** **Woods Creek**

Cause Location: Woods Creek and tributary from the headwaters downstream to its confluence with the Maury River. (Start Mile: 6.06 End Mile: 0.00 Total Impaired Size: 6.06 Miles)

City / County: Lexington City Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-WDS000.12 (Impaired for VSCI) and 2-WDS002.08 (Impaired for VSCI). Initial Listing Date: 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I35R_WOS01A00 / Woods Creek / Woods Creek and tributary from the headwaters downstream to its confluence with the Maury River.	5A	Benthic-Macroinvertebrate Bioassessments	2008	H	6.05

Woods Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.05**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I36R-02-BEN** **Moores Creek**

Cause Location: Moores Creek and tributaries from the headwaters downstream to its confluence with the South River. (Start Mile: 9.09 End Mile: 0.00 Total Impaired Size: 9.09 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at stations: 2-MRC002.14 (Impaired for VSCI) and 2-MRC003.82 (Impaired for VSCI). Initial Listing Date 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I36R_MRC01A00 / Moores Creek / Moores Creek and tributaries from the headwaters downstream to its confluence with the South River.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	9.09

Moores Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.09**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I36R-03-PH** **Saint Marys River**

Cause Location: Saint Marys River from a point approximately 1.97 miles above its confluence with Cellar Hollow downstream to its confluence with South River. (Start Mile: 1.97 End Mile: 0.00 Total Impaired Size: 1.97 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 2-SMR001.52 (3 excursions of 16 samples for pH in 2014, no new data in 2016/18). Initial Listing Date: 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I36R_SMR01A00 / Saint Marys River / Saint Marys River from a point approximately 1.97 miles above its confluence with South River downstream to its confluence with South River.	5A	pH	2006	L	1.97

Saint Marys River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.97**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I36R-03-TEMP** **Saint Marys River**

Cause Location: Saint Marys River from a point approximately 1.97 miles above its confluence with Cellar Hollow downstream to its confluence with South River. (Start Mile: 1.97 End Mile: 0.00 Total Impaired Size: 1.97 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

This segment is impaired due to exceedences of the temperature WQS at station: 2-SMR001.52 (3 exceedences of 16 samples for temperature in 2014, no new data in 2016/18). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I36R_SMR01A00 / Saint Marys River / Saint Marys River from a point approximately 1.97 miles above its confluence with South River downstream to its confluence with South River.	5A	Temperature, water	2010	L	1.97

Saint Marys River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**1.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I36R-05-BEN** **Marl Creek**

Cause Location: Marl Creek and tributaries from the headwaters downstream to its confluence with the South River. (Start Mile: 7.74 End Mile: 0.00 Total Impaired Size: 7.74 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to exceedences of the General Standard for Benthics at station: 2-MRL002.62 (Impaired for VSCI) and 2AXEM000.35 (Impaired for VSCI). Initial Listing Date: 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I36R_MRL01A00 / Marl Creek / Marl Creek and tributaries from the headwaters downstream to its confluence with the South River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	7.74

Marl Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.74**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I36R-06-BAC** **South River**

Cause Location: South River from its confluence with Moores Creek downstream to its confluence with Irish Creek. (Start Mile: 13.56 End Mile: 5.60 Total Impaired Size: 7.96 Miles)

City / County: Augusta Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-STH011.28 (2 exceedences of 11 samples for e-coli in 2016, no new data in 2018). Initial Listing Date; 2012. This segment is included in the EPA Approved Maury River Bacteria TMDL. Federal TMDL ID # 55749.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I36R_STH02A10 / South River / South River from its confluence with the Moores Creek downstream to its confluence with Irish Creek.	4A	Escherichia coli	2012	L	7.95

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.95**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I36R-07-PH** **South River**

Cause Location: South River from its confluence with the Saint Marys River downstream to its confluence with Moores Creek. (Start Mile: 19.89 End Mile: 13.56 Total Impaired Size: 6.33 Miles

City / County: Augusta Co. Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

This segment is impaired due to excursions of the pH WQS at station: 2-STH019.57 (4 excursions of 12 samples for pH) Initial Listing Date: 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I36R_STH03A12 / South River / South River from its confluence with the Saint Marys River downstream to its confluence with Moores Creek.	5A	pH	2018	L	6.33

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**6.33**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I37R-02-PCB** **Maury River**

Cause Location: Maury River from its confluence with the South River downstream to its confluence with the James River. (Start Mile: 16.94 End Mile: 0.00 Total Impaired Size: 16.94 Miles)

City / County: Buena Vista City Rockbridge Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to the presence of PCB's in fish tissue at stations: 2-MRY011.23 (01 PCBs 3 sp 05 PCBs 3 sp) and 2-MRY011.86 (04 PCBs) This data now outside the 2018 assessment data window, however, the impairment carries forward to 2018. Initial Listing Date: 2006. VDH Fish Consumption Advisory

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I37R_MRY01A00 / Maury River / Maury River from its confluence with Buffalo Creek downstream to its confluence with the James River.	5A	PCB in Fish Tissue	2006	H	5.10
VAV-I37R_MRY02A00 / Maury River / Maury River from its confluence with Indian Gap Run downstream to its confluence with Buffalo Creek.	5A	PCB in Fish Tissue	2006	H	7.24
VAV-I37R_MRY03A00 / Maury River / Maury River from its confluence with South River downstream to its confluence with Indian Gap Run.	5A	PCB in Fish Tissue	2004	H	4.58

Maury River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**16.92**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I37R-03-BAC** **Poague Run**

Cause Location: Poague Run and tributaries from the headwaters downstream to its confluence with the Maury River. (Start Mile: 17.12 End Mile: 0.00 Total Impaired Size: 17.12)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-PGH002.44 (5 exceedences of 12 samples for e-coli). Initial Listing Date: 2014. This segment is included in the EPA Approved Maury River Bacteria TMDL. Federal TMDL ID # 55749.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I37R_PGH01A00 / Poague Run / Poague Run and tributaries from the headwaters downstream to its confluence with the Maury River.	4A	Escherichia coli	2014	L	17.12

Poague Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.12**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I37R-04-BAC** **Maury River**

Cause Location: Maury River from its confluence with South River downstream to its confluence with Indian Gap Run. (Start Mile: 16.94 End Mile: 12.36 Total Impaired Size: 4.58 Miles)

City / County: Buena Vista City Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-MRY014.78 (8 exceedences of 72 samples for e-coli) Initial Listing Date: 2006 Re-listing Date: 2018. This segment is included in the EPA Approved Maury River Bacteria TMDL Federal TMDL ID # 55749.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I37R_MRY03A00 / Maury River / Maury River from its confluence with South River downstream to its confluence with Indian Gap Run.	4A	Escherichia coli	2006	L	4.58

Maury River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.58**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I38L-01-DO** **Lexington Reservoir**

Cause Location: Lexington Reservoir (Total Impaired Size: 22.60 Acres)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

The lake is impaired due to exceedences of the DO WQS. These exceedences have been determined to be a naturally occurring DO impairment in the Hypolimnion during the summer months when the lake is thermally stratified. TSI results indicate that this is naturally occurring. This assessment unit is considered 4C-No TMDL Needed due to natural conditions. Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38L_MOR01A10 / Lexington Reservoir / Lexington Reservoir	4C	Oxygen, Dissolved			22.60

Lexington Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**22.60**	

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I38L-01-PH** **Lexington Reservoir**

Cause Location: Lexington Reservoir (Total Impaired Size: 22.60 Acres)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The lake is impaired due to excursions of the pH WQS at 2-MOR003.60 (18 excursions of 66 samples for pH in 2014, no new data in 2018). Initial Listing Date: 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38L_MOR01A10 / Lexington Reservoir / Lexington Reservoir	5A	pH	2010	L	22.60

Lexington Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**22.60**	

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I38R-01-BAC** **Buffalo Creek**

Cause Location: Buffalo Creek from its confluence with North/South Fork Buffalo Creek downstream to its confluence with the Maury River. (Start Mile: 16.10 End Mile: 0.00 Total Impaired Size: 16.10 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the e-coli bacteria WQS at station: 2-BLD004.25 (2 exceedences of 12 samples for e-coli), 2-BLD011.90 (9 exceedences of 42 samples for e-coli) and 2ABLD014.73 (2 exceedences of 12 samples for e-coli). Initial Listing Date: 2004. This impairment is included in the EPA Approved Buffalo Creek Bacteria TMDL. Federal TMDL ID # 55760.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38R_BLD01A00 / Buffalo Creek / Buffalo Creek from its confluence with an unnamed tributary near Buffalo Bend downstream to its confluence with the Maury River.	4A	Escherichia coli	2008	L	3.96
VAV-I38R_BLD02A04 / Buffalo Creek / Buffalo Creek from its confluence with Colliers Creek downstream to its confluence with an unnamed tributary near Buffalo Bend.	4A	Escherichia coli	2010	L	9.14
VAV-I38R_BLD03A10 / Buffalo Creek / Buffalo Creek from its confluence with South/North Fork Buffalo Creek downstream to its confluence with Colliers Creek.	4A	Escherichia coli	2010	L	2.99

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**16.09**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38R_BLD01A00 / Buffalo Creek / Buffalo Creek from its confluence with an unnamed tributary near Buffalo Bend downstream to its confluence with the Maury River.	4A	Fecal Coliform	2004	L	3.96
VAV-I38R_BLD02A04 / Buffalo Creek / Buffalo Creek from its confluence with Colliers Creek downstream to its confluence with an unnamed tributary near Buffalo Bend.	4A	Fecal Coliform	2006	L	9.14
VAV-I38R_BLD03A10 / Buffalo Creek / Buffalo Creek from its confluence with South/North Fork Buffalo Creek downstream to its confluence with Colliers Creek.	4A	Fecal Coliform	2006	L	2.99

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**16.09**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I38R-02-BAC** **Colliers Creek**

Cause Location: Colliers Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 15.11 End Mile: 0.00 Total Impaired Size: 15.11 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to exceedences of the fecal coliform WQS at station: 2-CLL001.99 (5 exceedences of 24 samples for e-coli). Initial Listing Date: 2006. This segment is included in the EPA Approved Colliers Creek Bacteria TMDL. Federal TMDL ID # 55763.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38R_CLL01A00 / Colliers Creek / Colliers Creek and headwater tributaries from the headwaters downstream to its confluence with Buffalo Creek.	4A	Escherichia coli	2010	L	15.11

Colliers Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.11**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38R_CLL01A00 / Colliers Creek / Colliers Creek and headwater tributaries from the headwaters downstream to its confluence with Buffalo Creek.	4A	Fecal Coliform	2006	L	15.11

Colliers Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**15.11**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I38R-02-BEN** **Colliers Creek**

Cause Location: Colliers Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 15.11 End Mile: 0.00 Total Impaired Size: 15.11 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to exceedences of the General Standard for benthics at station: 2-CLL003.21 (Impaired for VSCI). Initial Listing Date: 2010. This impairment is included in the EPA Approved Colliers Creek Benthic TMDL. Federal TMDL ID # 55803.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38R_CLL01A00 / Colliers Creek / Colliers Creek and headwater tributaries from the headwaters downstream to its confluence with Buffalo Creek.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	15.11

Colliers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.11**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* I38R-03-BAC** **South Fork Buffalo Creek**

Cause Location: South Fork Buffalo Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 14.48 End Mile: 0.00 Total Impaired Size: 14.48 Miles)

City / County: Botetourt Co. Rockbridge Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This segment is impaired due to exceedences of the e-coli WQS at station: 2-BSF000.15 (11 exceedences of 24 samples for e-coli); 2-SBF-8-NBM (2 exceedences of 12 samples for e-coli - Level II data) and 2-SBF-9-NBM (4 exceedences of 12 samples for e-coli - Level II data) . Initial Listing Date: 2010. This impairment is included in the EPA Approved South Fork Buffalo Creek Bacteria TMDL. Federal TMDL ID # 55761.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAV-I38R_SBF01A00 / Buffalo Creek South Fork / South Fork Buffalo Creek from the headwaters downstream to its confluence with Buffalo Creek.	4A	Escherichia coli	2010	L	14.47

South Fork Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.47**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-01-BAC** **Appomattox River**

Cause Location: Appomattox River from the Suanee Creek confluence to the Deep Creek confluence.

City / County: Amelia Co. Appomattox Co. Buckingham Co. Chesterfield Co. Cumberland Co. Powhatan Co. Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The segment remained impaired for E.coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_APP02A02 / Appomattox River / Appomattox River from Fishpond Creek to Vaughans Creek (JA03)	4A	Escherichia coli	2006	L	12.09
VAP-J01R_APP03A02 / Appomattox River / Appomattox River from Vaughans Creek to a point 5 miles upstream of Farmville's raw water intake.	4A	Escherichia coli	2006	L	6.83
VAP-J01R_APP04A02 / Appomattox River / Appomattox River from Farmville's raw water intake to a point 5 miles upstream	4A	Escherichia coli	2006	L	5.01
VAP-J01R_APP05A04 / Appomattox River / Farmville's raw water intake downstream to JA05/JA09 watershed boundary	4A	Escherichia coli	2006	L	2.65
VAP-J01R_APP05B14 / Appomattox River / Appomattox River from the JA05/JA09 watershed boundary to the confluence with Sandy River	4A	Escherichia coli	2014	L	6.55
VAP-J06R_APP05A02 / Appomattox River / The portion of the Appomattox River within J06.	4A	Escherichia coli	2006	L	21.06
VAP-J07R_APP01A98 / Appomattox River / The portion of the Appomattox River within this watershed.	4A	Escherichia coli	2006	L	28.82
VAP-J10R_APP01A98 / Appomattox River / The Appomattox River from river mile 53.70 downstream to the confluence of Deep Creek. The segment was extended in 2006 to incorporate VAP-J10R_APP02A04.	4A	Escherichia coli	2006	L	10.18

Appomattox River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**93.19**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_APP01A02 / Appomattox River / Appomattox River from Suanee Creek to Fishpond Creek (JA02)	4A	Fecal Coliform	2018	L	4.72

Appomattox River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.72**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

Agriculture	Livestock (Grazing or Feeding Operations)	Municipal Point Source Discharges	Non-Point Source
Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-02-BAC** **Horsepen Creek**

Cause Location: Horsepen Creek from its headwaters to the mouth at the Appomattox River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle the segment was impaired for E.coli with a exceedance rate of 3/11, Horsepen Creek is included in the Appomattox Basinwide Bacteria TMDL.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_HRE01A04 / Horsepen Creek / Horsepen Creek from its headwaters to the mouth at the Appomattox River	4A	Escherichia coli	2010	L	4.00

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.00**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-02-BEN** **Horsepen Creek**

Cause Location: Horsepen Creek from its headwaters to the mouth at the Appomattox River

City / County: Buckingham Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2016 cycle this segment became impaired for benthics, the stream had moderate deposition of sediment and moderately unstable banks.
no new data during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_HRE01A04 / Horsepen Creek / Horsepen Creek from its headwaters to the mouth at the Appomattox River	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.00

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.00**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-03-BAC** **Suanee Creek**

Cause Location: Suanee Creek from its headwaters to the mouth at the Appomattox River.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33316, 05/21/2004
Station IDs:
2-SUA001.54 (Ambient)
E. coli - 4/12 Violation Rate
2-SUA003.80 (Ambient)
E. coli - 4/12 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_SUA01A04 / Suanee Creek / Suanee Creek from its headwaters to the mouth at the Appomattox River.	4A	Escherichia coli	2006	L	6.31

Suanee Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.31**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-04-BAC** **Vaughans Creek**

Cause Location: Vaughans Creek from its headwaters to the mouth at the Appomattox River.

City / County: Appomattox Co. Buckingham Co. Cumberland Co. Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 05/21/2004
Station IDs:
2-VNS000.31(Ambient)
E. coli - 1/12 Violation Rate
2-VGN003.75 (Ambient)
E. coli - 3/12 Violation Rate
2-VGN007.73 (Ambient)
E. coli - 8/12 Violation Rate
2VGN-CVW (Clean VA Waterways Physical/Chemical Sampling)
E. coli - 4/33 Violation Rate
Segment is located in Appomattox River Basinwide TMDL Study Area.
During the 2016 cycle the segment had E.coli exceedances at station 2-VNS000.31(1/12),2-VGN003.75(3/12), 2-VGN007.73 (8/12).
During the 2018 cycle the segment had no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_VNS01A02 / Vaughans Creek / Vaughans Creek from its confluence with Cabin Branch to its mouth at Appomattox River	4A	Escherichia coli	2006	L	4.31
VAP-J01R_VNS02A10 / Vaughans Creek / Vaughans Creek from its headwaters to its confluence with Cabin Branch	4A	Escherichia coli	2010	L	8.60

Vaughans Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.91**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-05-BAC** **Gross Creek**

Cause Location: Gross Creek from its headwaters to its mouth on the Appomattox River

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33316, 05/21/2004
Station ID: Clean Virginia Waterways Sampling
2GSK-APP-CVW E. coli - 3/11 violation rate
2GSK-BLA-CVW E. coli - 1/8 violation rate
2GSK-GRO2-CVW E. coli - 32/43 violation rate
2GSK-GRO3-CVW E. coli - 33/42 violation rate
2GSK-GRO4-CVW E. coli - 32/46 violation rate
2GSK-GROCL-CVW E. coli - 3/11 violation rate
2GSK-GROLWA-CVW E. coli - 10/15 violation rate
2GSK-GROPUT-CVW E. coli - 28/45 violation rate

no new data during 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_GSK01A08 / Gross Creek / Gross Creek from its headwaters to its mouth on the Appomattox River	4A	Escherichia coli	2008	L	1.91

Gross Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.91**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-06-BAC** **Gross Creek, UT**

Cause Location: Unnamed Tributary to Gross Creek from its headwaters to its confluence with Gross Creek

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33316, 05/21/2004
Station ID: Clean Virginia Waterways Sampling
2GSK-GROFRA-CVW E. coli - 16/29 violation rate
2GSK-GROLWU-CVW E. coli - 15/33 violation rate
2GSK-GRORSA-CVW E. coli - 4/7 violation rate
2GSK-GRORSS-CVW E. coli - 0/4 violation rate

No new data during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_XZO01A08 / Gross Creek, UT / Unnamed Tributary to Gross Creek from its headwaters to its confluence with Gross Creek	4A	Escherichia coli	2008	L	0.64

Gross Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.64**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-07-BAC** **Plum Creek**

Cause Location: Plum Creek from its headwaters to its mouth on the Appomattox River

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33316, 05/21/2004
Station ID:
2-PUM000.29 (Ambient)
E. coli - 4/12 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_PUM01A08 / Plum Creek / Plum Creek from its headwaters to its mouth on the Appomattox River	4A	Escherichia coli	2008	L	3.75

Plum Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.75**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-08-BAC** **South Fork Appomattox River**

Cause Location: South Fork Appomattox River from its headwaters to its mouth at the Appomattox River.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 5/21/2004

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_ARS01A04 / South Fork Appomattox River / Headwaters to the mouth at the Appomattox River.	4A	Escherichia coli	2010	L	5.79

South Fork Appomattox River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.79**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-09-BAC** **Crane Creek**

Cause Location: Crane Creek from its headwaters to its mouth on Vaughans Creek

City / County: Appomattox Co. Buckingham Co. Cumberland Co. Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 5/21/2004

During the 2016 cycle the segment was impaired for E.coli with an exceedance rate of 4/12.

During the 2018 cycle the segment remained impaired for E.coli (10/18)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_CNE01A10 / Crane Creek / Crane Creek from its headwaters to its mouth on Vaughans Creek	4A	Escherichia coli	2010	L	5.18

Crane Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.18**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-09-BEN** **Crane Creek**

Cause Location: Crane Creek from its headwaters to its mouth on Vaughans Creek

City / County: Appomattox Co. Buckingham Co. Cumberland Co. Prince Edward Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-CNE000.96
2008/2012-2014 Bio - IM
Dairy cows have access to stream, though it is a very wooded area. Habitat consisted of numerous log jams, some good cobble riffles and some gravel riffles. The riffles weren't very embedded but sedimentation was high throughout the rest of the stream. Nitrogen concentrations in the stream were high, indicating a nutrient problem. Extreme seasonal variation in SCI scores, therefore additional monitoring is needed to accurately assess water quality in this stream reach.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_CNE01A10 / Crane Creek / Crane Creek from its headwaters to its mouth on Vaughans Creek	5A	Benthic-Macroinvertebrate Bioassessments	2010	M, 2yr	5.18

Crane Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.18**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-10-BAC** **Fishpond Creek**

Cause Location: Fishpond Creek from its headwaters to the mouth.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 5/21/2004

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_FSP01A06 / Fishpond Creek / Fishpond Creek from its headwaters to the mouth.	4A	Escherichia coli	2010	L	9.49

Fishpond Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.49**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-11-BAC** **Rough Creek**

Cause Location: Rough Creek from the headwaters to its mouth at the Appomattox River

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33316, 05/21/2004

No new data during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_RGH01A04 / Rough Creek / Rough Creek from the headwaters to its mouth at the Appomattox River	4A	Escherichia coli	2010	L	6.50

Rough Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.50**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-12-BAC** **Ducker Creek**

Cause Location: Ducker Creek from its headwaters to its mouth on the Appomattox River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 5/21/2004

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_DKR01A12 / Ducker Creek / From its headwaters to its mouth on the Appomattox River	4A	Escherichia coli	2012	L	5.74

Ducker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.74**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-13-BAC** **Appomattox River**

Cause Location: Appomattox River from its headwaters to the confluence with the South Fork Appomattox River.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle the segment had an exceedance rate of 2/12 E. coli. No new data was collected during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_APP01B04 / Appomattox River / Appomattox River from its headwaters to the confluence with the South Fork Appomattox River.	4A	Escherichia coli	2014	L	7.90

Appomattox River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.90**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J01R-14-BAC** **Holiday Creek**

Cause Location: Holiday Creek to the backwaters of holiday lake

City / County: Appomattox Co. Buckingham Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2018: 33316, 5/21/2004

During the 2018 cycle the segment was Impaired for E.coli with an exceedance rate of 9/35. This impairment is Nested within the Appomattox River Bacteria TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J01R_HOL01B04 / Holiday Creek / Holiday Creek from its headwaters to the backwaters of Holiday Lake.	4A	Escherichia coli	2018	L	6.69

Holiday Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.69**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J02R-01-BAC** **Spring Creek**

Cause Location: Spring Creek from Buffalo Creek Dam No. 4 to its mouth on Buffalo Creek.

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2-SPA001.46 (Ambient, Appomattox Basin wide TMDL Station)
E. coli -2/12 Violation Rate
2-SPA006.48 (TMDL Station)
E. coli - 4/11 Violation Rate

During the 2016 cycle the segment was impaired for E. coli with an exceedance rate of 2/12. This stream was included within the Appomattox River Basin Bacteria TMDL - EPA Approved 8/30/04.

During the 2018 cycle the segment was impaired for E.coli with an exceedance rate of 2/17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J02R_SPA01A02 / Spring Creek / Spring Creek from the confluence with Mud Creek to Buffalo Creek.	4A	Escherichia coli	2006	L	5.47
VAP-J02R_SPA02A04 / Spring Creek / Spring Creek from Mud Creek to the Buffalo Creek Dam No. 4	4A	Escherichia coli	2006	L	2.39

Spring Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.86**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J02R-02-BAC** **Buffalo Creek**

Cause Location: Buffalo Creek from the Carey Creek confluence to its mouth at the Appomattox River.

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 5/21/2004
Station IDs:
2-BFL011.03 (Ambient, Appomattox Basin wide TMDL Station)
E. coli - 8/35 Violation Rate
2-BFL016.60 (Ambient)
E. coli - 3/12 Violation Rate
2BFL-BUF15-CVW (Clean Virginia Waterways)
E. coli - 3/35 violation rate
2BFL-BUF3-CVW (Clean Virginia Waterways)
E. coli - 2/36 violation rate
2BFL-BUF0-CVW (Clean Virginia Waterways)
E. coli - 7/27 violation rate

For the 2018 cycle the segment had new data at stations 2-BFL011.03 with an E.coli exceedance rate of 9/34.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J02R_BFL01A14 / Buffalo Creek / Buffalo Creek near the mouth in watershed JA09	4A	Escherichia coli	2014	L	0.39
VAP-J02R_BFL02A02 / Buffalo Creek / Buffalo Creek from the Spring Creek confluence to 0.4 miles above the mouth at the Appomattox River.	4A	Escherichia coli	2006	L	11.03
VAP-J02R_BFL03A06 / Buffalo Creek / Buffalo Creek from the Spring Creek confluence to Carey Creek.	4A	Escherichia coli	2014	L	4.83

Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.25**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J03L-01-DO** **Prince Edward Lake**

Cause Location: Prince Edward and Goodwin Lake State Park

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2018 cycle the segment had a DO impairment at station 2DSDY-PEL-1-DCR, This is Level III non agency data, the exceedance rate was 38/83, the exceedances are in the bottom of the lake.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J03L_SDY02A06 / Prince Edward Lake / Prince Edward and Goodwin Lake State Park	5C	Oxygen, Dissolved	2018	L	26.37

Prince Edward Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**26.37**	

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J03R-01-BAC** **Little Sandy Creek**

Cause Location: Little Sandy Creek from headwaters to SF Road Crossing

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station IDs:
2-LIT005.43 (Appomattox Basin wide TMDL Station)
E. coli - 4/12 Violation Rate

no new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J03R_LIT02A12 / Little Sandy Creek / From SF Road to headwaters	4A	Escherichia coli	2006	L	3.27

Little Sandy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.27**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J03R-05-BAC** **Sandy River**

Cause Location: Sandy River from Sandy River Reservoir Dam to its mouth at Bush River

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33319, 05/21/2004
Station ID:
2-SDY003.00 (Ambient)
E. coli - 3/24 Violation Rate

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J03R_SDY01A00 / Sandy River / Sandy River from Sandy River Reservoir Dam to its mouth at Bush River	4A	Escherichia coli	2008	L	3.43

Sandy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.43**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J03R-06-BEN** **Sandy River**

Cause Location: Sandy River from the backwaters of Sandy River Reservoir to the Prince Edward Lake Dam.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2DSDY008.80 (2009 & 2012 Bio)
IM - This stream had marginal bank stability, obvious sediment deposition, and marginal epifaunal substrate. 2009 biologist field notes indicate that every surface was covered in algae. The water was very sluggish and there were beaver dams upstream and downstream.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J03R_SDY02A12 / Sandy River / From the backwaters of Sandy River Reservoir to the Prince Edward Lake Dam	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	4.08

Sandy River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.08**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J04R-01-BAC** **Bush River**

Cause Location: Bush River from the confluence with Millers Creek to its mouth on the Appomattox River.

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station ID:
2-BSR002.82 (Ambient, Appomattox Basin wide TMDL Station)
E. Coli - 3/24 Violation Rate
No new data during the 2018 cycle.

No new data during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J03R_BSR03A02 / Bush River / Bush River from Sandy River to Appomattox River	4A	Escherichia coli	2008	L	0.80
VAP-J04R_BSR02A02 / Bush River / Bush River from the confluence with Millers Creek downstream to its confluence with Sandy River.	4A	Escherichia coli	2006	L	4.40

Bush River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.20**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J04R-01-BEN** **Bush River**

Cause Location: Bush River from its headwaters to the confluence with Mountain Creek.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station IDs:
2-BSR012.33 (2014 FPM)
FS Benthic Assessment
2-BSR017.69 (2008 Bio)
IM Benthic Assessment - This site was monitored in order to supplement probabilistic monitoring data from probabilistic monitoring site 2-BSR018.10, which can only be accessed via private land and cannot be revisited. Bush River has evidence of extremely high flows with very high sedimentation occurring instream. The habitat assessment scores very low for bank stability and bank vegetative protection. In the fall of 2008 a new clear-cut was noted on the right bank. The riffles had become more embedded, reducing available habitat for benthic macro invertebrates.
2-BSR018.10 (2005 Probmon)
J Rating Benthic Assessment - Condition of stream drastically different seasonally, therefore an accurate assessment is not possible without additional data. This site was part of the probabilistic monitoring program and can only be accessed via private land, therefore it will not be revisited. Seasonal difference noted. Abundant algal floc dominated riffles in spring but was not present in fall.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J04R_BSR01B10 / Bush River / Bush River from its headwaters to the confluence with Mountain Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	11.48

Bush River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J04R-02-BAC** **Bush River, Upper**

Cause Location: Bush River from its headwaters to the confluence with Mountain Creek.

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2016: 33318, 8/30/2004
Station IDs:
2-BSR017.69 (Ambient)
E. Coli - 3/12 Violation Rate

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J04R_BSR01B10 / Bush River / Bush River from its headwaters to the confluence with Mountain Creek.	4A	Escherichia coli	2016	L	11.48

Bush River, Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.48**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J04R-02-BEN** **Mountain Creek**

Cause Location: Mountain Creek from its headwaters to its mouth on Bush River.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-MTC001.24 (Ambient, Bio)
IM - 2008 Bio
This monitoring station was characterized by sluggish flow, marginal habitat, considerable sediment deposition, and unstable banks with little vegetative protection.
2-MTC005.27 (2014 Bio)
FS - This site had decent habitat but sedimentation was occurring.

During the 2018 cycle the segment was impaired for benthics at station 2-MTC001.24.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J04R_MTC01A10 / Mountain Creek / Mountain Creek from its headwaters to its mouth on Bush River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M, 2yr	8.97

Mountain Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J04R-03-BAC** **Mountain Creek**

Cause Location: Mountain Creek from its headwaters to its mouth on Bush River.

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2018:33316,5/21/2004

During the 2018 cycle the segment was impaired for E.coli with an exceedance rate of 3/28 at station 2-MTC001.24. The E.coli impairment is nested within the Appomattox Watershed Bacteria TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J04R_MTC01A10 / Mountain Creek / Mountain Creek from its headwaters to its mouth on Bush River.	4A	Escherichia coli	2018	L	8.97

Mountain Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.97**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J05R-01-BAC** **Briery Creek**

Cause Location: Briery Creek from the Briery Creek Lake Dam to the confluence with the Bush River.

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle the segment remained impaired for E.coli at Both stations

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J05R_BRI01A98 / Briery Creek / Briery Creek from the Briery Creek Lake Dam to the confluence with the Bush River.	4A	Escherichia coli	2006	L	10.48

Briery Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.48**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J05R-01-BEN** **Briery Creek**

Cause Location: Briery Creek from the Briery Creek Lake Dam to the confluence with the Bush River.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2018 cycle the segment remained impaired for benthics at station 2DBRI007.10.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J05R_BRI01A98 / Briery Creek / Briery Creek from the Briery Creek Lake Dam to the confluence with the Bush River.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M, 2yr	10.48

Briery Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J05R-02-BAC** **Tanyard Branch**

Cause Location: Tanyard Branch from Route 646 downstream to its mouth at Briery Creek

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33332,05/21/2004
Station ID:
2-TNY000.51 (Appomattox Basinwide TMDL Station)
E. coli - 2/10 Violation Rate

During the 2018 cycle the segment had no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J05R_TNY01A04 / Tanyard Branch / Tanyard Branch from Route 646 downstream to its mouth at Briery Creek	4A	Escherichia coli	2006	L	0.46

Tanyard Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.46**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J05R-03-BEN** **Rice Creek**

Cause Location: Rice Creek from its headwaters to its mouth on Bush River.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2DRCE001.21 (2009 FPM)
This site was sampled as part of the Probabilistic Monitoring program and is immediately downstream of a dam. The next bridge is approximately 0.25 miles downstream.

Non-target due to proximity to dam. Will follow up at nearest bridge if accessible.

2DRCE002.44 (2012 Bio)
IM - This site has unstable banks and sediment deposition. Habitat availability improved somewhat in the fall. This site was monitored as a follow-up to probabilistic station 2DRCE001.21 that was located on private property and could not be revisited.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J04R_RCE01A12 / Rice Creek / From its headwaters to its mouth on Bush River	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	4.59

Rice Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.59**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-01-BAC** **Angola Creek**

Cause Location: Angola Creek from its headwaters to its mouth on the Appomattox River.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station IDs:

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_ANG01A00 / Angola Creek / Angola Creek from its headwaters to the confluence with an unnamed tributary downstream of Route 664.	4A	Escherichia coli	2006	L	4.23
VAP-J06R_ANG02A00 / Angola Creek / Angola Creek from an unnamed tributary downstream of Route 664 to the mouth at the Appomattox River.	4A	Escherichia coli	2006	L	2.74

Angola Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.97**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-03-BAC** **Horsepen Creek**

Cause Location: Horsepen Creek from its headwaters to the mouth at Big Guinea Creek.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station ID:
2-HRP000.42 (TMDL Monitoring)
E. coli -2/10 Violation Rate

No new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_HRP01A00 / Horsepen Creek / Horsepen Creek from its headwaters to the mouth at Big Guinea Creek.	4A	Escherichia coli	2006	L	3.99

Horsepen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.99**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-03-BEN** **Horsepen Creek**

Cause Location: Horsepen Creek from its headwaters to the mouth at Big Guinea Creek.

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-HRP000,42 (2007-2012 Bio)
Impaired Benthic Assessment
Small, sandy stream in low area that is likely inundated often and may dry during drought.
The benthic macroinvertebrate population is probably influenced by these flow fluctuations. Habitat scores were low for sediment deposition, pool variability, bank stability, bank vegetative protection and epifaunal substrate. SCI scores straddled the impairment threshold until 2012. Sediment and organic pollution are likely stressors in this stream.

No new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_HRP01A00 / Horsepen Creek / Horsepen Creek from its headwaters to the mouth at Big Guinea Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.99

Horsepen Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-04-BAC** **Saylers Creek**

Cause Location: Saylers Creek from the Amelia/Nottoway County line to its confluence with the Appomattox River.

City / County: Amelia Co. Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station IDs:

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_SYL01A98 / Saylers Creek / Saylers Creek from the Amelia/Nottoway County line to its confluence with the Appomattox River.	4A	Escherichia coli	2004	L	5.13

Saylers Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.13**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-05-BAC** **Big Guinea Creek**

Cause Location: Big Guinea Creek from its headwaters to the mouth at the Appomattox River.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33316, 05/21/2004
Station IDs:
2-BGU001.39 (Ambient, Appomattox Basin wide TMDL Station)
E. coli - 2/9 Violation Rate
2-BGU005.67 (Ambient)
E. coli - 5/12 Violation Rate

During the 2018 cycle the segment remained impaired with an E.coli exceedance rate of 5/12 at station 2-BGU005.67.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_BGU01A98 / Big Guinea Creek / Big Guinea Creek from its headwaters to the mouth at the Appomattox River.	4A	Escherichia coli	2006	L	8.72

Big Guinea Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.72**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-06-BAC** **Little Saylers Creek**

Cause Location: Little Saylers Creek from headwaters to Saylers Creek

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:33327, 5/21/2004
Station IDs:
2-LIU000.70 (Appomattox Basin wide TMDL Station)
E. coli - 5/10 Violation Rate
2-LIU002.75 (Appomattox Basin wide TMDL Station)
E. coli - 4/10 Violation Rate
2LIU-SAY5-CVW (Clean VA Waterways Sampling)
E. coli - 33/56 Violation Rate
2LIU-SAY6-CVW (Clean VA Waterways Sampling)
E. coli - 19/37 Violation Rate

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_LIU01A02 / Little Sayler's Creek / Little Sayler's Creek from headwaters to Sayler's Creek	4A	Escherichia coli	2006	L	6.78

Little Saylers Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.78**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-07-BAC** **Stock Creek**

Cause Location: Stock Creek from its headwaters to the mouth at the Appomattox River

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 05/21/2004

During the 2016 cycle the segment was impaired for E. coli with an exceedance rate of 6/12.

During the 2018 cycle the segment was impaired for E.coli with an exceedance rate of 3/12.

Segment located within the Appomattox Basinwide Bacteria TMDL Study Area

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_SCK01A06 / Stock Creek / Stock Creek from its headwaters to the mouth at the Appomattox River	4A	Escherichia coli	2006	L	8.69

Stock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.69**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-08-BAC** **Green Creek**

Cause Location: Headwaters to its mouth at the Appomattox River

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 05/21/2004
Station ID:
2-GRF000.98 (Ambient)
E. coli - 7/12 Violation Rate
During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_GRF01A04 / Green Creek / Headwaters to its mouth at the Appomattox River	4A	Escherichia coli	2008	L	5.14

Green Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.14**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J06R-09-BAC** **Sandy Creek**

Cause Location: Sandy Creek from its headwaters to its mouth at the Appomattox River

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33316, 05/21/2004

During the 2016 cycle the segment was impaired for E.coli with an exceedance rate of 4/12.

During the 2018 cycle the segment had no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J06R_SND01A04 / Sandy Creek / Headwaters to its mouth at the Appomattox River	4A	Escherichia coli	2016	L	8.29

Sandy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.29**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J07L-01-PH** **Amelia Lake**

Cause Location: Amelia Lake

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

In 2014 the Lake became impaired for aquatic life with a pH exceedance rate of 21/122 at station 2-XLW000.60. During the 2016 and 2018 cycle the segment remained impaired for pH since there was no new data collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J07L_XLW01A00 / Amelia Lake / Amelia Lake in its Entirety	5C	pH	2014	L	98.31

Amelia Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**98.31**	

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J07R-02-BAC** **Rocky Ford Creek**

Cause Location: Rocky Ford Creek from it headwaters downstream to the confluence with Fighting Creek.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Rocky Ford Creek was initially assessed as not supporting of the Recreation use goal in the 2004 cycle based on fecal coliform violations at the Rt. 603 bridge (2-RFD002.58).

During the 2008 cycle, the E. coli exceedance rate was 4/10 and the impairment was converted to E. coli. The TMDL due date was maintained.

During the 2010 cycle there was no new data since the 2008 cycle.

During the 2012 cycle there was no new data since the 2008 cycle.

During the 2014 cycle the segment was impaired for recreation use with a E.coli exceedance rate of 6/12 at station 2-RFD002.58.

During the 2016 cycle no new data was collected so the segment remains impaired for E.coli.

During the 2018 cycle the segment was impaired for E.coli with an exceedance rate of 14/24.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J07R_RFD01A00 / Rocky Ford Creek / Rocky Ford Creek from its headwaters to the confluence with Fighting Creek.	4A	Escherichia coli	2008	L	5.72

Rocky Ford Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.72**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J07R-03-BAC** **Butterwood Creek**

Cause Location: The mainstem of Butterwood Creek.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Butterwood Creek was assessed as not supporting the Recreation Use due to a fecal coliform exceedance rate of 2/10 at the Route 603 bridge (2-BTR000.50). No additional E. coli data was collected.

Butterwood Creek was assessed as not supporting the Recreation Use during the 2010 cycle due to a E.coli exceedance rate of 4/12 at the Route 603 bridge (2-BTR000.50). In the 2010 cycle the monitoring data changed from Fecal coliform to E.coli and the original listing date changed but the TMDL due date stayed the same (2018).
During the 2012 cycle the segment remained impaired for recreation use since there was no new data since the 2010 cycle.
During the 2014 cycle the segment remained impaired for recreation use since there was no new data since the 2010 cycle.
No new data has been collected since 2010 cycle, the segment will remain impaired for recreation until further sampling is conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J07R_BWD01A00 / Butterwood Creek / Butterwood Creek from its headwaters to its mouth at the Appomattox River.	4A	Escherichia coli	2010	L	5.62

Butterwood Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.62**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J08R-01-BAC** **Flat Creek**

Cause Location: Flat Creek from Nibbs Creek to the Appomattox River.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Flat Creek was assessed not supporting of the Recreation use support goal based on fecal coliform standard violations recorded at the Route 604 bridge (2-FLA001.95). In the current cycle, the bacteria impairment switched to E. coli.

Bacteria TMDL for Flat Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed at Cat 4A.

In 2010 cycle the segment remained impaired for E coli with an exceedance rate of 15/37.
In 2012 cycle the segment remained impaired for E coli with an exceedance rate of 22/44.
In 2014 cycle the segment remained impaired for E coli with an exceedance rate of 25/54.
In 2016 cycle the segment remained impaired for E coli with an exceedance rate of 20/48 at station 2-FLA001.95.
In the 2018 cycle the segment remained impaired for E.coli with an exceedance rate of 12/38 at station 2-FLA001.95 and 2/4 at station 2DFLA002.67.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J08R_FLA01A00 / Flat Creek / Flat Creek from the confluence with Nibbs Creek to the mouth at the Appomattox River.	4A	Escherichia coli	2006	L	4.09

Flat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.09**

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J08R-02-BAC** **Flat Creek**

Cause Location: Mainstem from its headwater to Nibbs

City / County: Amelia Co. Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

For 2008 assessment the segment was assessed as impaired for recreational use due to E. Coli exceedance rate of 3 out of 10 at route 642 bridge (2-FLA018.71).A Bacteria TMDL for a downstream portion of Flat Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. This newly impaired segment is assessed at Cat 4A.

For 2010 assessment the segment was assessed as impaired for recreational use due to E. Coli exceedance rate of 3/10 at route 642 bridge (2-FLA018.71). and 5/17 at station 2-FLA013.95, and 7/17 at station 2-FLA028.98.

For 2012 assessment the segment was assessed as impaired for recreational use due to E. Coli exceedance rate of 3/10 at route 642 bridge (2-FLA018.71). and 11/41 at station 2-FLA013.95, and 14/41 at station 2-FLA028.98.

For 2014 assessment the segment was assessed as impaired for recreational use due to E. Coli exceedance rate of 3/12 at route 642 bridge (2-FLA018.71). and 12/53 at station 2-FLA013.95, and 19/52 at station 2-FLA028.98.

For 2016 assessment the segment was assessed as impaired for recreational use due to E. Coli exceedance rate of 3/12 at route 642 bridge (2-FLA018.71). and 8/48 at station 2-FLA013.95, and 15/47 at station 2-FLA028.98.

For 2018 assessment the segment was assessed as impaired for recreational use due to E. Coli exceedance rate of 3/12 at route 642 bridge (2-FLA018.71). and 5/42 at station 2-FLA013.95, and 14/41 at station 2-FLA028.98.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J08R_FLA02A02 / Flat Creek / Headwaters to confluence with Nibbs Creek.	4A	Escherichia coli	2008	L	29.89

Segment extended during the 2006 cycle.

Flat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**29.89**

Sources:

Agriculture

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J09R-01-BAC** **Nibbs Creek**

Cause Location: Nibbs Creek from Amelia Courthouse Sewage Treatment Plant to confluence with Flat Creek.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Nibbs Creek was assessed in 1998 as fully supporting but threatened of the Recreation use goals based on sampling at the Route 609 bridge. The segment was identified to Virginia for listing consideration during the next cycle. The segment was subsequently listed as impaired during the 2002 cycle, therefore the TMDL was due in 2010.

In addition, during the year 2002 cycle, an UT to Nibbs Creek was considered impaired for Recreation Use based on monitoring at the Rt. 609 bridge (2-XQK000.15 and previously called PL-43B). The TMDL for this segment was due in 2014.

In the 2006 cycle, the bacteria impairment switched to E. coli. Bacteria TMDL for Nibbs Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed at Cat 4A for recreation use.

In 2010 cycle E.coli exceedances were still present. 7/9 exceedances at station 2-NBB001.54, and 4/8 at station 2-NBB003.65.

In 2012 cycle the segment remained impaired for the recreation use due to E.coli exceedances. There was no new data at station 2-NBB001.54 so that remains impaired, and 3/11 at station 2-NBB002.92.

There is no new data for the 2014 cycle so impairments will remain.
There is no new data for the 2016 and 2018 cycle so impairment for E.coli will remain.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J09R_NBB01A98 / Nibbs Creek / Nibbs Creek from the Amelia Courthouse STP to the confluence with Flat Creek. Segment also includes an UT to Nibbs Creek from station 2-XQK000.15 (Hog Farm station PL-43B).	4A	Escherichia coli	2006	L	5.46

Nibbs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.46**

Sources:

Agriculture

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J09R-02-BAC** **Nibbs Creek**

Cause Location: Start of Nibbs Creek at the confluence of North and South Branches to the site of the previous Amelia courthouse STP.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

For 2010 assessment the segment was assessed as impaired for recreational use due to E.coli an exceedance rate of 4/12.

During the 2012 cycle the segment was impaired for E. coli with an exceedance rate of 13/35.

During the 2014 cycle the segment was impaired for E. coli with an exceedance rate of 17/47.

During the 2016 cycle the segment was impaired for E. coli with an exceedance rate of 18/47.

During the 2018 cycle the segment was impaired for E. coli with an exceedance rate of 18/42.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J09R_NBB01B10 / Nibbs Creek / Start of Nibbs Creek at the confluence of North and South Branches to the site of the previous Amelia courthouse STP.	4A	Escherichia coli	2010	L	0.63

Nibbs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.63**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J09R-03-BAC** **Nibbs Creek**

Cause Location: From Rt. 301 Bridge to the confluence of North and South Branches

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle the segment was impaired for recreation with an E.coli exceedance rate of 8/11 at station 2-NBX001.10. This impairment will be nested into the Appomattox TMDL.

During the 2014 cycle there was no new data, the segment remains impaired for E.coli.

During the 2016 cycle no new data was collected so the segment remains impaired for E.coli

During the 2018 cycle the segment remained impaired for benthics and E.coli with an exceedance rate of 10/13.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J09R_NBX01A12 / Nibbs Creek South Branch / Headwaters to the confluence of North and south branches. Changed from NBB to NBX in 2018 cycle	4A	Escherichia coli	2012	L	5.86

Nibbs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.86**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J09R-04-BEN** **Nibbs Creek South Branch**

Cause Location: Nibbs Creek South Branch

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2014 cycle the segment became impaired for aquatic life due to Benthics at station 2DNBX002.33.
During the 2016 cycle no new data was collected so the segment remains impaired for benthics at station 2DNBX002.33.
During the 2018 cycle the segment remained impaired for benthics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J09R_NBX01A12 / Nibbs Creek South Branch / Headwaters to the confluence of North and south branches. Changed from NBB to NBX in 2018 cycle	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	5.86

Nibbs Creek South Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.86**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J10R-01-BEN** **UT to Appomattox River**

Cause Location: Mainstem to Appomattox

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle this segment is impaired for aquatic life use due to benthic impairment at fresh water probabilistic monitoring station 2-XUE000.31

During the 2010 cycle this segment is impaired for aquatic life use due to benthic impairment at fresh water probabilistic monitoring station 2-XUE000.31.

During the 2012 cycle this segment will remain impaired for aquatic life use due to benthic impairment at fresh water probabilistic monitoring station 2-XUE000.31 because there is no new data in the data window.

There is no new data during the 2014,2016, and 2018 cycle

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J10R_XUE01A06 / UT to Appomattox River / Headwaters to the mouth	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.49

UT to Appomattox River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J10R-02-DO** **Goodes Creek**

Cause Location: from the dam of the pond located at approximately 2.73 miles from the mouth to the Appomattox

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle the segment was impaired for aquatic life use due to low DO with an exceedance rate of 2/14 at station 2-GOC001.19., and assessed as Category 5C.

During the 2012 cycle the segment was impaired aquatic life use due to low DO with an exceedance rate of 3/23 at station 2-GOC001.19.

During the 2014,2016, and 2018 cycle there was no new data so the impairment remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J10R_GOC01A08 / Goodes Creek / from the dam of the pond located at approximately 2.73 miles from the mouth to the Appomattox	5C	Oxygen, Dissolved	2010	L	2.91

Goodes Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.91**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J10R-03-BAC** **Smacks Creek**

Cause Location: Headwaters to mouth

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2010 cycle this segment was impaired for recreation use due to E. Coli with an exceedance rate of 2/12 at station 2-SMK002.57.

The 2012 cycle this segment was impaired for recreation use due to an E. Coli exceedance rate of 3/11 at station 2-SMK006.57, and station 2-SMK002.57 remained impaired for E.coli since no new data had been collected there since 2010 cycle.

During the 2014, 2016, and 2018 cycle there was no new data, so the impairments remain.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J10R_SMK01A06 / Smacks Creek / Headwaters to mouth	4A	Escherichia coli	2010	L	9.06

Smacks Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.06**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J10R-03-DO** **Smacks Creek**

Cause Location: Headwaters to mouth

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The 2012 cycle the segment was impaired for aquatic life use at station 2-SMK006.57 for DO with an exceedance rate of 3/9. During the 2014, 2016 and 2018 cycle there was no new data, so the impairments remain.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J10R_SMK01A06 / Smacks Creek / Headwaters to mouth	5C	Oxygen, Dissolved	2012	L	9.06

Smacks Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.06**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-01-BAC** **Deep Creek**

Cause Location: Deep Creek from the confluence with Cellars Creek to the confluence of Beaverpond Creek.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 2002, Deep Creek from Spindlers Run to the confluence with Beaverpond Creek was assessed as not supporting of the Recreation use support goal based on fecal coliform standard violations at 2-DPC005.20 (Route 153).

The segment was originally assessed as fully supporting but threatened during the 1998 cycle. During the year 2002 the segment was extended from the 1998 cycle, however the segment was returned to the original size in 2004 because of an acceptable monitoring rate at 2- DPC010.88 (Route 615).

Bacteria TMDL for Deep Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed as Cat 4A, however as of the 2006 assessment cycle the EPA TMDLID was not available.

Segment length was increased in 2006 to include Deep Creek from Cellars Creek to confluence with Beaverpond Creek to match the TMDL segment length.

During the 2006 cycle, the exceedance rate for E. coli was 5/28 at 2-DPC005.02, and 1/12 for fecal coliform at 2-DPC010.88.

For the 2008 cycle, the exceedance rate for E. coli was 7/42 at 2-DPC005.20

For the 2010 cycle the segment was still impaired for recreation use, the exceedance rate for E. coli was 11/73 at 2-DPC005.20.

For the 2012 cycle the segment was still impaired for Recreation use, the exceedance rate for E. coli was 16/101 at 2-DPC005.20.

During the 2014 cycle the segment remained impaired for Recreation use with an exceedance rate of 16/117 at station 2-DPC005.20.

During the 2016 cycle the segment was fully supporting for all that it was monitored for. E.coli had an exceedance rate of 11/114 at station 2-DPC005.20. and will be delisted.

During the 2018 cycle the segment became impaired for E.coli with an exceedance rate of 3/12 at station 2-DPC010.88.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_DPC01B00 / Deep Creek / Deep Creek from Cellars Creek to the confluence with Beaverpond Creek. Segment length increased in 2006.	4A	Escherichia coli	2006	L	11.54

Deep Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.54**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-03-BAC** **Bland Creek**

Cause Location: Bland Creek from its headwaters to the confluence with Cellar Creek

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle the segment was impaired recreation use for E.coli at station 2-BLO001.85(5/36).
During the 2014 cycle the segment was delisted and fully supporting.
During the 2016 cycle the segment was impaired for E. Coli (6/48).
During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_BLO01A00 / Bland Creek / Bland Creek from its headwaters to the confluence with Cellar Creek.	4A	Escherichia coli	2012	L	6.51

Bland Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.51**

Sources:

Agriculture

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-03-DO** **Bland Creek**

Cause Location: Bland Creek from its headwaters to the confluence with Cellar Creek

City / County: Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle the segment was impaired for aquatic life use due to low D.O. with an exceedance rate of 2/12 at station 2-BLO001.85 .

During the 2012 cycle the segment was impaired for aquatic life use due to low D.O. at station 2-BLO001.85(10/35).

During the 2014 cycle the segment was impaired for aquatic life use due to low D.O. at station 2-BLO001.85(13/47).

During the 2016 cycle the segment was impaired for DO(15/46).
During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_BLO01A00 / Bland Creek / Bland Creek from its headwaters to the confluence with Cellar Creek.	5C	Oxygen, Dissolved	2010	L	6.51

Bland Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.51**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-04-BAC** **Cellar Creek**

Cause Location: Cellar Creek from its headwaters to mouth at Deep Creek

City / County: Amelia Co. Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle the segment was impaired for recreation use with an E.coli exceedance rate of 2/10 at station 2-CLR004.04, And an exceedance rate of 2/12 at station 2-CLR007.04.

During the 2012 cycle Both stations were impaired for recreation use with E.coli exceedance rates of 2/10 at station 2-CLR004.04, and 8/36 at station 2-CLR007.04.

During the 2014 cycle the segment remained impaired for recreation use for E.coli, New data was only collected at station 2-CLR007.04 with an exceedance rate of 12/48 for E.coli.

During the 2016 cycle the segment remained impaired for E. Coli at station 2-CLR007.04 with an exceedance rate of 12/46. The impaired area and cause group code was extended to include the lower impairment in VAP-J11R_CLR01B10(lower Cellar). Lower cellar became impaired for E.coli during the 2016 cycle. The lower station 2-CLR001.23 was impaired for E.coli with an exceedance rate of 14/46 and also nested within the Appomattox TMDL.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_CLR01A00 / Cellar Creek / Cellar Creek from its headwaters downstream to the confluence with Bland Creek. Segment expanded during the 2010 cycle.	4A	Escherichia coli	2010	L	10.96
VAP-J11R_CLR01B10 / Cellar Creek / From the confluence of Bland Creek to the mouth at Deep Creek	4A	Escherichia coli	2016	L	2.70

Cellar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.66**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-04-DO** **Cellar Creek**

Cause Location: From the confluence of Bland Creek to the mouth at Deep Creek

City / County: Amelia Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle the segment was impaired for aquatic life use with a D.O. exceedance rate of 5/35 at station 2-CLR001.23.

During the 2014 cycle the segment was impaired for aquatic life use with a DO exceedance rate of 9/47 at station 2-CLR001.23.

During the 2016 cycle the segment was impaired for DO with an exceedance rate of 14/46.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_CLR01B10 / Cellar Creek / From the confluence of Bland Creek to the mouth at Deep Creek	5C	Oxygen, Dissolved	2012	L	2.70

Cellar Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.70**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-05-BAC** **Woody Creek**

Cause Location: Woody Creek from its headwaters to its mouth at Deep Creek.

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle the segment was impaired for E.coli at station 2-WDY003.04 with an exceedance rate of 2/12, And nested with the Deep Creek TMDL and classified category 4A.

During the 2012 cycle the segment was impaired for E.coli at station 2-WDY003.04 with an exceedance rate of 8/36, and at station 2DWDY005.35 with an exceedance rate of 2/2.

During the 2014 cycle the segment was impaired for E.coli at station 2-WDY003.04 with an exceedance rate of 12/48, and at station 2DWDY005.35 with an exceedance rate of 2/2.

During the 2016 cycle the segment was impaired for E.coli at station 2-WDY003.04 with an exceedance rate of 11/47, and no new data was collected at station 2DWDY005.35.

During the 2018 cycle the segment remained impaired for E.coli with an exceedance rate of 5/29 at station 2-WDY003.04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_WDY01A00 / Woody Creek / Woody Creek from its headwaters to its mouth at Deep Creek.	4A	Escherichia coli	2010	L	7.97

Woody Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.97**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-06-BAC** **Lees Creek**

Cause Location: from its headwaters to Lake Nottoway (Lee Lake)

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle the segment was impaired for E. Coli with an exceedance rate of 2/11.

During the 2012 cycle the segment was impaired for E. Coli with an exceedance rate of 8/32.

During the 2014 cycle the segment was impaired for E. Coli with an exceedance rate of 12/42.

During the 2016 cycle the segment was impaired for E. Coli with an exceedance rate of 13/42.

During the 2018 cycle the segment was impaired for E. Coli with an exceedance rate of 8/24.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_LDJ01A10 / Lees Creek / From it's headwater to Lake Nottoway (Lee Lake)	4A	Escherichia coli	2010	L	3.31

Lees Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.31**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-07-BAC** **UT to Winningham Creek(easternmost)**

Cause Location: East UT to Winningham Creek at Rt. 632 from its headwaters to the mouth

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle the segment was impaired for recreation use with a E.coli exceedance rate of 3/3 at station 2-XZN001.15.

During the 2012 cycle this segment was impaired for recreation use with a E.coli exceedance rate of 27/27 at station 2-XZN001.15.

During the 2014 cycle this segment was impaired for recreation use with a E.coli exceedance rate of 39/39 at station 2-XZN001.15.

During the 2016 cycle the segment was impaired for E.coli with an exceedance rate of 48/48.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_XZN01A10 / UT to Winningham Creek (easternmost) / East UT to Winningham Creek at Rt. 632 from its headwaters to the mouth	4A	Escherichia coli	2010	L	2.16

UT to Winningham Creek(easternmost) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.16**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-08-BAC** **Beaverpond Creek**

Cause Location: Beaverpond Creek from its headwaters to the confluence with Beaverpond

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle the segment was impaired for recreation use with a E.coli exceedance rate of 3/11 at station 2-BVP006.58. This will be nested in the Appomattox TMDL.

During the 2014, 2016, and 2018 cycle there was no new data so the segment remains impaired for E. coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_BVP01A00 / Beaverpond Creek / Beaverpond Creek from its headwaters to the limit of Beaver Pond.	4A	Escherichia coli	2012	L	6.47

Beaverpond Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.47**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-09-BAC** **Sweathouse Creek**

Cause Location: Sweathouse Creek from the headwaters to the confluence with Deep Creek

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle this segment was impaired for E.coli with an exceedance rate of 4/34.

During the 2014 cycle this segment was impaired for E.coli with an exceedance rate of 6/45.

During the 2016 cycle this segment was impaired for E.coli with an exceedance rate of 8/45.

During the 2018 cycle this segment was impaired for E.coli with an exceedance rate of 7/28.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_SWT01A00 / Sweathouse Creek / Sweathouse Creek from the headwaters to the confluence with Deep Creek.	4A	Escherichia coli	2012	L	11.41

Sweathouse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.41**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-10-BAC** **Winningham Creek**

Cause Location: Winningham Creek from the headwaters to the confluence with Deep Creek

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During 2012 cycle the segment became impaired for recreation use with a E.coli exceedance rate of 6/14 at station 2-WGM003.15.

During the 2014, 2016 and 2018 cycle there was no new data and the segment remains impaired for E.coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_WGM01A00 / Winningham Creek / Winningham Creek from its headwaters to its mouth at Deep Creek.	4A	Escherichia coli	2012	L	5.93

Winningham Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.93**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-11-BAC** **UT to Winningham Creek(West)**

Cause Location: West UT to Winningham Creek from its headwaters to the mouth

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle the segment became impaired for E.coli with an exceedance rate of 9/27.

During the 2014 cycle the segment remained impaired for E.coli with an exceedance rate of 13/39.

During the 2016 cycle the segment remained impaired for E.coli with an exceedance rate of 16/48.

During the 2018 cycle the segment remained impaired for E.coli with an exceedance rate of 8/27.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_XFT01A10 / UT to Winningham Creek / West UT to Winningham Creek at Rt. 632 from its headwaters to mouth	4A	Escherichia coli	2012	L	2.07

UT to Winningham Creek(West)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.07**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-12-BAC** **Deep Creek**

Cause Location: Deep Creek from Beaverpond Creek to the mouth.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2010 Cycle the segment became impaired for E. coli with an exceedance rate of 4/21.

During the 2012 cycle the segment remained impaired for E. Coli with an exceedance rate of 13/38.

During the 2014 cycle the segment remained impaired for E. Coli with an exceedance rate of 18/48.

During the 2016 cycle the segment remained impaired for E. Coli with an exceedance rate of 16/48.
During the 2018 cycle the segment remained impaired for E. Coli with an exceedance rate of 12/43.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_DPC01C02 / Deep Creek / Deep Creek from Beaverpond Creek to the mouth.	4A	Escherichia coli	2010	L	1.65

Deep Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.65**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-13-BAC** **Rocky Run**

Cause Location: Rocky Run from the headwaters to the confluence with Deep Creek

City / County: Amelia Co. Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle this segment was impaired for E. Coli with an exceedance rate of 7/22, and will be nested in the Appomattox TMDL.

During the 2014 cycle this segment was impaired for E. Coli with an exceedance rate of 12/32.

During the 2016 cycle this segment was impaired for E. Coli with an exceedance rate of 14/41.

During the 2018 cycle this segment was impaired for E. Coli with an exceedance rate of 10/23.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_RKN01A12 / Rocky Run / Rocky Run from its headwaters to the confluence with Deep Creek	4A	Escherichia coli	2012	L	3.42

Rocky Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.42**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J11R-14-BAC** **West Creek**

Cause Location: Mainstem of West Creek

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

VAP-J11R-14
VAP-J11R-06(old)

West Creek was initially impaired for fecal coliform in 2002. In the 2006 cycle, E. coli. was added as an impairing cause.

Bacteria TMDL for West Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed as Cat. 4A, however as of the 2006 assessment cycle the EPA TMDLID was not available.

During the 2006, this segment had E. coli exceedance rate of 3/19.

During the 2008 cycle, the segment had an E.coli exceedance rate of 3/20, and the TMDLID became available.

During the 2010 cycle the segment was fully supporting for all that it was monitored for.

During the 2012 cycle there has been no new data since 2008 cycle, and remains fully supporting

During the 2014 cycle there has been no new data since 2008 cycle, and remains fully supporting

During the 2016 cycle the segment became impaired for E.coli with an exceedance rate of 2/11 at station 2-WET004.96. A TMDL was completed in 2004 for West Creek.

During the 2018 cycle the segment was impaired for E.coli with an exceedance rate of 8/29.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J11R_WET02A00 / West Creek / West Creek from the confluence with Tanners Branch downstream to the confluence with Deep Creek.	4A	Escherichia coli	2006	L	7.36

West Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.36**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J12R-01-BAC** **Winticomack Creek**

Cause Location: Winticomack Creek from Long Branch to its mouth at the Appomattox River.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle the segment was impaired for recreation use for E.coli at station 2-WTK001.50 with an exceedance rate of 2/10, and was nested with the Appomattox TMDL.

There has been no new data since the 2010 cycle.

During the 2016 and 2018 cycle no new data was collected for E.coli, therefore the segment will remain impaired for E.coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J12R_WTK02A00 / Winticomack Creek / Winticomack Creek from the confluence with Long Branch to the confluence with the Appomattox River.	4A	Escherichia coli	2010	L	4.07

Winticomack Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.07**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J12R-01-BEN** **Winticomack Creek**

Cause Location: Winticomack Creek from Long Branch to its mouth at the Appomattox River.

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle the segment was impaired for aquatic life use for Benthics at station 2-WTK001.50.

There has been no new data since the 2010 cycle.

During the 2016 cycle the segment was impaired for Benthics, new data was collected in 2013.

During the 2018 cycle no new data was collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J12R_WTK02A00 / Winticomack Creek / Winticomack Creek from the confluence with Long Branch to the confluence with the Appomattox River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	4.07

Winticomack Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.07**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J12R-06-DO** **Horsepen Branch**

Cause Location: Headwaters to mouth

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Horsepen Branch is assessed as not supporting for aquatic life use goals based on a dissolved oxygen exceedance rate 2/15 and a pH violation rate of 6/15 at the Rt. 622 bridge (2-HOI001.85).

Source of the DO and pH exceedances may be attributed to natural conditions.

For 2008 it was assessed as not supporting for aquatic life based on a DO and pH exceedances at station at HOI001.85, exceedance rate was 1/15 for DO and 7/15 for pH.

For the 2010 cycle the segment was impaired for pH with an exceedance rate of 5/12 and the DO was fully supporting and delisted.

no new data since 2010 cycle

During the 2016 cycle the segment had insufficient data to fully assess.

During the 2018 cycle the segment became impaired for DO with an exceedance rate of 3/13.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J12R_HOI01A00 / Horsepen Branch / Horsepen Branch from its headwaters to the confluence with the Appomattox River.	5C	Oxygen, Dissolved	2006	L	4.44

Horsepen Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.44**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J12R-06-PH** **Horsepen Branch**

Cause Location: Headwaters to mouth

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Horsepen Branch is assessed as not supporting for aquatic life use goals based on a dissolved oxygen exceedance rate 2/15 and a pH violation rate of 6/15 at the Rt. 622 bridge (2-HOI001.85).

Source of the DO and pH exceedances may be attributed to natural conditions

For 2008 it was assessed as not supporting for aquatic life based on a DO and pH exceedances at station at HOI001.85, exceedance rate was 1/15 for DO and 7/15 for pH.

For the 2010 cycle the segment was impaired for pH with an exceedance rate of 5/12 and the DO was fully supporting and delisted.

no new data since 2010 cycle

During the 2016 cycle the segment had insufficient data to fully assess.

During the 2018 cycle the segment remained impaired for pH with an exceedance rate of 2/13.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J12R_HOI01A00 / Horsepen Branch / Horsepen Branch from its headwaters to the confluence with the Appomattox River.	5C	pH	2006	L	4.44

Horsepen Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.44**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J12R-08-BAC** **Appomattox River**

Cause Location: Appomattox River from Deep Creek To Lake Chesdin

City / County: Amelia Co. Chesterfield Co. Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

For the 2008 cycle The segment was impaired for Recreation use due to E.coli exceedance rate of 2/11 at station 2-APP037.08. Although not specifically addressed in the TMDL the Segment was assessed as Cat. 4A because it was in the study area for the Bacteria TMDL for the Appomattox.

During the 2010 cycle the segment remained impaired for recreation use with a E.coli exceedance rate of 2/11 at station 2-APP037.08.

During the 2012 cycle there had been no new data collected since 2008 cycle.

During the 2014 cycle the segment remained impaired for recreation use with a E.coli exceedance rate of 3/12 at station 2-APP037.08.

During the 2016 cycle the segment remained impaired for E.coli with an exceedance rate of 5/24 at station 2-APP037.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J12R_APP01A08 / Appomattox River / From Deep Creek Downstream to Lake Chesdin	4A	Escherichia coli	2008	L	8.77

Appomattox River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.77**

Sources:

- Agriculture
- Industrial Point Source Discharge
- Municipal Point Source Discharges
- Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J13R-01-DO** **Namozine Creek**

Cause Location: Namozine Creek from its headwaters to the confluence with Tylers Branch.

City / County: Amelia Co. Dinwiddie Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle the segment was impaired for DO with a exceedance rate of 6/12.

During the 2018 cycle the segment was impaired for DO with a exceedance rate of 9/24.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J13R_NMZ01A00 / Namozine Creek / Namozine Creek from its headwaters to the confluence with Tylers Branch.	5C	Oxygen, Dissolved	2016	L	12.91

Namozine Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**12.91**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J13R-01-PH** **Namozine Creek**

Cause Location: Namozine Creek from its headwaters to the confluence with Tylers Branch.

City / County: Amelia Co. Dinwiddie Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2018 cycle the segment was impaired for pH with a exceedance rate of 4/24.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J13R_NMZ01A00 / Namozine Creek / Namozine Creek from its headwaters to the confluence with Tylers Branch.	5C	pH	2018	L	12.91

Namozine Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**12.91**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J14R-02-PH** **Stoney Creek**

Cause Location: Stoney Creek from headwaters to the limit with Lake Chesdin

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

In 2010 cycle the DEQ station 2-STY001.96 was added and was impaired for pH with an exceedance rate of 8/10. The Chesterfield Co station was also impaired for pH. The Chesterfield data was not acceptable for an impairment but were assessed as an observed effect for low pH. The low pH could be due to natural conditions.

In 2012 cycle station 2DSTY001.96 was impaired for pH with an exceedance rate of 9/14. The Chesterfield Co station was also impaired for pH. The Chesterfield data was not acceptable for an impairment but were assessed as an observed effect for low pH. The low pH could be due to natural conditions.

During the 2014 cycle there was no new data.

During the 2016 cycle the segment remained impaired for pH with an exceedance rate of 2/14.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J14R_STY01A08 / Stoney Creek / Headwaters to Lake Chesdin	5C	pH	2010	L	2.59

Stoney Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.59**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J14R-03-BAC** **Whipponock Creek**

Cause Location: Whipponock Creek from its headwaters to the limit of Lake Chesdin.

City / County: Chesterfield Co. Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle the segment was impaired for recreation use with a E.coli exceedance rate of 2/15 at station 2-WNK003.38. This Recreation impairment was nested with the Appomattox TMDL that was approved on 8/30/2004.

During the 2012 cycle the segment remained impaired for recreation use for E.coli since there has been no new data since the 2010 cycle.

During the 2014 cycle the segment remained impaired for recreation use with a E.coli exceedance rate of 4/17 at station 2-WNK003.38.

During the 2016 cycle the segment remained impaired for E.coli with an exceedance rate of 5/23.
During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J14R_WNK01A00 / Whipponock Creek / Whipponock Creek from its headwaters to the limit of Lake Chesdin.	4A	Escherichia coli	2010	L	6.82

Whipponock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.82**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J14R-03-DO** **Whipponock Creek**

Cause Location: Whipponock Creek from its headwaters to the limit of Lake Chesdin.

City / County: Chesterfield Co. Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle the segment became impaired due to a DO exceedance rate of 3/23.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J14R_WNK01A00 / Whipponock Creek / Whipponock Creek from its headwaters to the limit of Lake Chesdin.	5C	Oxygen, Dissolved	2016	L	6.82

Whipponock Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.82**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15E-01-BAC** **Appomattox River**

Cause Location: Tidal Appomattox River

City / County: Chesterfield Co. Hopewell City Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The segment was assessed not supporting of the Recreation use support goal based on fecal coliform violations at 2-APP001.53 near the Route 10 bridge. The segment was initially listed in 1998, therefore the TMDL is due in 2010.

The bacteria TMDL for the Appomattox River was completed and approved by EPA on 8/30/2004. The segment should be assessed as Cat. 4A.

In 2006, the bacteria impairment switched from fecal coliform to E. coli.

For the 2008 cycle the lower portion of the Appomattox segment fails for the recreation use with an exceedance rate of 5/40 at station 2-APP001.53. The Appomattox upstream of mile 5 is fully supporting for E.coli with an exceedance rate of 1/10 at station 2-APP009.52 and should be assessed as category 2C.

During the 2010 cycle the segment failed for E.coli at station 2-APP001.53 with an exceedance rate of 8/59.

During the 2012 cycle the segment remained impaired for recreation use with a E.coli exceedance rate of 10/68 at station 2-APP001.53 and 8/59 at station APP001.53.

During the 2014 cycle the segment remained impaired for recreation use with a E.coli exceedance rate of 10/68 at station 2-APP001.53.
During the 2016 cycle the segment remained impaired for recreation use with an E.coli exceedance rate of 11/68 at station 2-APP001.53. The impairment also extended to the upper portion of the Appomattox to include station 2-APP-A02-JRA which was level III citizen data with a violation rate of 5/13.

During the 2018 cycle the segment was no longer impaired for E.coli at station 2-APP-A02-JRA due to an error during the 2016 cycle, the data is level II with an exceedance rate of 12/29 and is observed effects for E.coli so the segment was shortened. Station 2-APP009.52 had no new data since 2014 cycle. Station 2-APP001.53 had an exceedance rate of 7/65 and station 2DAPP003.27 had exceedances of 3/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02E_APP01A12 / Appomattox River / Portion of the Appomattox River within CB segment JMSTFl	4A	Escherichia coli	1998	L	0.113
State Scenic River					
VAP-J15E_APP02A98 / Appomattox River / The estuarine portion of the Appomattox River from The confluence of Walthall Channel to the end of APPTF.	4A	Escherichia coli	2008	L	1.361
Virginia Scenic River					
VAP-J15E_APP02B12 / Appomattox River / The estuarine portion of the Appomattox River from the start of PWS at river mile 6.49 to the confluence of Walthall Channel	4A	Escherichia coli	2008	L	0.703
APPTF.					
Virginia Scenic River					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Appomattox River

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**2.177**		

Sources:

Agriculture	Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-02-BAC** **Oldtown Creek**

Cause Location: Oldtown Creek from the confluence with Big Branch downstream to its tidal limit.

City / County: Chesterfield Co. Colonial Heights City

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

In 2006, the segment was also assessed as not supporting for recreation use due to a fecal coliform exceedance rate of 2/12 at station 2-OTC001.54.

In 2008 there was no new data, and was not assessed for E.coli.

For the 2010 cycle The segment was impaired for E.coli (exceedance rate 2/12) at station 2-OTC001.54, and is Nested into the Appomattox TMDL.

For the 2012 cycle The segment was impaired for E.coli (exceedance rate 2/12) at station 2-OTC001.54.

During the 2014, 2016, and 2018 cycle there has been no new data collected so the segment remains impaired for E.coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_OTC01A00 / Oldtown Creek / Oldtown Creek from the confluence with Big Branch to the fall line.	4A	Fecal Coliform	2006	L	4.22

Oldtown Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.22**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-02-BEN** **Oldtown Creek**

Cause Location: Oldtown Creek from the confluence with Big Branch downstream to its tidal limit.

City / County: Chesterfield Co. Colonial Heights City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

For the 2010 cycle the segment was impaired for aquatic life use from Benthics at station 2-OTC001.54.

For the 2012 cycle the segment was impaired for Benthics at station 2-OTC001.54.

During the 2014, 2016, and 2018 cycle there has been no new data collected so the segment remains impaired for Benthics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_OTC01A00 / Oldtown Creek / Oldtown Creek from the confluence with Big Branch to the fall line.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	4.22

Oldtown Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-03-BAC** **Harrison Creek**

Cause Location: The mainstem of Harrison Creek.

City / County: Chesterfield Co. Colonial Heights City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The segment was assessed not supporting of the Recreation use support goal based on fecal coliform violations at USGS stations 02041758 and 02041760.

In 2006, the bacteria impairment switched from fecal coliform to E. coli. Monitoring at DEQ station 2-HRA000.85 recorded E. coli exceedances at a rate of 2/4.

In 2008 cycle E. coli exceedance rate at station 2-HRA000.85 was 6/16.

no new data since 2008 cycle.

During the 2014, 2016, and 2018 cycle the segment remained impaired for E.coli since no new data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_HRA01A04 / Harrison Creek / Headwaters to mouth at Appomattox River.	4A	Escherichia coli	2006	L	3.22

Harrison Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.22**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-04-BAC** **Poor Creek**

Cause Location: The mainstem of Poor Creek.

City / County: Petersburg City

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

In 2004, the segment was assessed not supporting of the Recreation use support goal based on fecal coliform exceedances at USGS station 02041745.

No additional data to assess for the 2006 cycle.

For 2008, 2010, 2012, and 2014 cycle there was no new data.

For 2016 and 2018 cycle E.coli was not monitored so the impairment remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_POR01A04 / Poor Creek / Headwaters to mouth at Appomattox River	4A	Fecal Coliform	2004	L	3.13

Poor Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.13**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-05-BEN** **Rohoic Creek**

Cause Location: Mainstem Rohoic Creek from headwaters to mouth including tributaries

City / County: Dinwiddie Co. Petersburg City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2012 cycle the segment became impaired for aquatic life use for Benthics at station 2-RHC000.58.

During the 2014, 2016 and 2018 cycle there was no new data so the Benthic Impairment remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_RHC01A06 / Rohoic Creek / Headwaters to mouth at Appomattox River	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	13.45

Rohoic Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.45**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-06-BAC** **Lieutenant Run**

Cause Location: The mainstem Lieutenant Run to mouth of Appomattox

City / County: Petersburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 2008, this segment was assessed as not supporting for the recreation use due to an E. coli exceedance rate of 4/10 at station 2-LTC000.08.

no new data since 2008 cycle.

During the 2012 cycle the segment remained impaired for recreation use with a E.coli exceedance rate of 4/10 at station 2-LTC000.08 and 3/12 at station 2-LTC001.35.

During the 2014, 2016,2018 cycle the segment remained impaired for recreation use due to E.coli violations since there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_LTC01A08 / Lieutenant Run / From the headwaters to the mouth of the Appomattox	4A	Escherichia coli	2008	L	3.50

Lieutenant Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.50**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-07-BAC** **Ashton Creek**

Cause Location: The mainstem Ashton Creek

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 2006, this segment was assessed as not supporting for the recreation use due to an E. coli exceedance rate of 2/9 at the Rt. 746 bridge (2-ASH001.26).

In 2008 the segment was impaired for recreation use, the E.coli exceedance rate was 2/11 at station 2-ASH001.26.

During the 2018 cycle the segment remained impaired for E.coli with an exceedance rate of 4/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_ASH01A06 / Ashton Creek / Headwaters to mouth at Appomattox River	4A	Escherichia coli	2006	L	7.80

02080207

Ashton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.80**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-08-BEN** **Oldtown Creek**

Cause Location: Headwaters to the confluence of Big Branch

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2018 cycle the segment became impaired for Benthics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_OTC01B08 / Oldtown Creek / Headwaters to the confluence of Big Branch	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	6.22

Oldtown Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-08-DO** **Oldtown Creek**

Cause Location: Headwaters to the confluence of Big Branch

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

For the 2018 Cycle the segment was impaired for DO with an exceedance rate of 2/14

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_OTC01B08 / Oldtown Creek / Headwaters to the confluence of Big Branch	5C	Oxygen, Dissolved	2018	L	6.22

Oldtown Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.22**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-08-PH** **Oldtown Creek**

Cause Location: Headwaters to the confluence of Big Branch

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

For the 2010 Cycle the segment was impaired for aquatic life use with a pH exceedance rate of 2/10 at station 2-OTC005.38.

For the 2012 Cycle the segment was impaired for aquatic life use with a pH exceedance rate of 2/14 at station 2-OTC005.38.

During the 2014 cycle there was no new data so the pH remained impaired.

For the 2016 Cycle the segment was impaired for pH with an exceedance rate of 2/16 at station 2-OTC005.38.

For the 2018 Cycle the segment was impaired for pH with an exceedance rate of 2/14

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_OTC01B08 / Oldtown Creek / Headwaters to the confluence of Big Branch	5C	pH	2010	L	6.22

Oldtown Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.22**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J15R-09-BAC** **Cattail Run**

Cause Location: The mainstem Cattail Run

City / County: Chesterfield Co. Dinwiddie Co. Petersburg City Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle the segment was impaired for recreation use with a E.coli exceedance rate of 5/12 at station 2-CLC000.62. The segment will be nested in the Appomattox TMDL.

During the 2014, 2016, and 2018 cycle the segment had no new data and the remained impaired for E.coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J15R_CLC01A12 / Cattail Run / Mainstem of Cattail Run	4A	Escherichia coli	2012	L	4.26

Cattail Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.26**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J16R-01-BAC** **Swift Creek**

Cause Location: Swift Creek from Turkey Creek downstream to the normal pool of Swift Creek Reservoir.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 1998 the segment was listed as fully supporting but threatened of the Recreation Use goal. During the 2002 cycle, the segment was downgraded to partially supporting. During the year 2004 cycle, the segment was assessed not supporting of the Recreation use goal based on fecal coliform exceedances at the Route 657 bridge (2-SFT036.00). The fecal TMDL was due in 2014.

Bacteria TMDL for Swift Creek was included the TMDL for the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed as Cat 4A, however as of the 2006 assessment cycle the EPA TMDLID was not available.

Swift Creek was initially assessed for fecal coliform in 2002 . In the 2006 cycle, the bacteria impairment switched to E. coli. During the 2006 cycle, the exceedance rate for E. coli was 4/22 at 2-SFT036.00.

For the 2008 cycle there was an impairment for recreation use, the E.coli. exceedance rate was 4/23 at station 2-SFT036.00.

During the 2010 cycle the segment was still impaired for recreation use with a E.coli exceedance rate of 2/19 at station 2-SFT036.00.

there is no new data since 2010 cycle.
During the 2016 and 2018 cycle the segment remains impaired for E.coli since no new data was collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J16R_SFT01A00 / Swift Creek / Swift Creek from the confluence with Turkey Creek downstream to the limit of Swift Creek Reservoir.	4A	Escherichia coli	2006	L	1.80

Swift Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.80**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J16R-02-DO** **Blackman Creek**

Cause Location: Mainstem from its headwaters to its mouth at the confluence of Deep Creek and Horsepen Creek

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The segment is considered impaired of the Aquatic Life Use based on a dissolved oxygen exceedances at the Route 668 bridge (2-BCM000.79). In addition, phosphorus was listed as an observed effect in the segment.

The DO standards exceedance rate for Blackman Creek was 6/12 at the Rt. 668 bridge. However, it is suspected the low DO is due to natural conditions of the watershed. Therefore, for the 2006 cycle, Blackman Creek is assessed as Cat. 5C.

The segment also had observed effects for violation in Total Phosphorus standards with exceedences of 2/12.

The 2008 cycle the segment was impaired for the aquatic life use. The exceedance rate for DO was 6/12 at station 2-BCM000.79.

There is no new data since the 2008 cycle.

There is no new data for the 2014 cycle.

During the 2016 cycle the segment was impaired for DO(4/12) at station 2-BCM000.79.
There is no new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J16R_BCM01A04 / Blackman Creek / Headwaters to mouth	5C	Oxygen, Dissolved	2004	L	4.56

HUC: 02080207

Blackman Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.56**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J16R-03-BAC** **Horsepen Creek**

Cause Location: Headwaters to Mouth

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Bacteria TMDL for Horsepen Creek was included the TMDL for the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed as Cat 4A.

During the 2018 cycle the segment was impaired for E.coli(3/9) at station 2-HEP000.23.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J16R_HEP01A04 / Horsepen Creek / Headwaters to mouth	4A	Escherichia coli	2018	L	3.57

Horsepen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.57**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J16R-03-pH** **Horsepen Creek**

Cause Location: Headwaters to Mouth

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2018 cycle the segment was impaired for pH(7/9) at station 2-HEP000.23.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J16R_HEP01A04 / Horsepen Creek / Headwaters to mouth	5C	pH	2018	L	3.57

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.57**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17E-01-BAC** **Swift Creek**

Cause Location: Mainstem from confluence with Timsbury Creek downstream to mouth

City / County: Chesterfield Co. Colonial Heights City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 2006 this segment was assessed as not supporting for the recreation use due to an E. coli violation rate of 3/4 at 2DSFT001.18.

Although this segment was not specifically addressed in the Appomattox bacteria TMDL report, The upstream and downstream portions of the Appomattox were included, therefore this segment will be addressed in the implementation phase and is assessed as Cat. 4A.

in 2008 this segment was impaired for the recreation use with a violation rate of 5/16 at station 2DSFT001.18.

There was no new data since the 2008 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17E_SFT01D04 / Swift Creek / Tidal Swift Creek from the confluence with Timsbury Creek downstream to the mouth at the Appomattox River	4A	Escherichia coli	2006	L	0.087

APPTF.

Swift Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.087**		

Sources:

Agriculture	Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17L-01-DO** **Swift Creek Lake**

Cause Location: Swift Creek Lake

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

In 2006 the reservoir was impaired for DO in bottom waters during summer months due to stratification and the lake being drained in 2003. The Trophic State Index (TSI) is acceptable except for Secchi TSI = 67 (TSI >60). Since the Secchi TSI is larger than the Phos and Chl_a TSIs, the Secchi TSI is ignored and the segment is considered naturally impaired due to stratification.

For 2008 cycle there was no new data; Swift Creek Lake does not have defined nutrient criteria therefore the segment was moved to Cat 5A.

During the 2010 cycle the segment was impaired for aquatic life use with a DO exceedance rate of 9/58 at station 2-SFT022.14.

No new data since the 2010 cycle, the DO impairment remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17L_SFT01A98 / Swift Creek Lake / Swift Creek Lake	5A	Oxygen, Dissolved	2006	L	107.74

Swift Creek Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**107.74**	

Sources:

- Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia
- Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17L-02-BAC** **Lakeview Reservoir**

Cause Location: Lakeview Reservoir

City / County: Chesterfield Co. Colonial Heights City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle the segment was impaired for E.coli with an exceedance rate of 3/14 at 2-SFT006.10.

No new data during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17L_SFT02A08 / Lakeview Reservoir / Backwater to dam	4A	Escherichia coli	2016	L	43.50

Lakeview Reservoir **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**43.50**	

Sources:

Agriculture

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-01-BEN** **Swift Creek**

Cause Location: Swift Creek from the Swift Creek Lake dam downstream to its confluence with Licking Creek.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

For the 2010 cycle the segment was impaired for Benthics at station 2-SFT019.02.

During the 2012 cycle the segment was impaired at station 2-SFT019.02 for Benthics.
During the 2014, 2016 and 2018 cycle there was no new data so the segment remains impaired for Benthics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_SFT01B98 / Swift Creek / Swift Creek from the Swift Creek Lake dam downstream to the confluence with Licking Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	7.25

Swift Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.25**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-01-DO** **Swift Creek**

Cause Location: Swift Creek from the Swift Creek Lake dam downstream to its confluence with Licking Creek.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

In 1998, Swift Creek was assessed as threatened of the Aquatic Life Use due to dissolved oxygen exceedances. In 2002, the segment was considered partially supporting of the Aquatic Life use support goal based on water quality monitoring performed at the Route 655 bridge (2-SFT019.15). During the year 2004 cycle, the segment continued to show dissolved oxygen problems.

In 2006, the DO exceedance rate was 3/22 at the Rt. 655 bridge. However, it is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assessed as Cat. 5C.

In 2008 cycle, the DO exceedance rate was 4/26 at the Rt. 655 bridge. However, it is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assesses as Cat. 5C.

In the 2010 cycle the segment remained impaired for DO with an exceedance rate of 5/33.it is suspected the low DO exceedances in this segment of Swift Creek are due to an upstream impoundment, therefore will be assesses as Cat. 5A.

During the 2012 cycle the segment was impaired for aquatic life use for DO at station 2-SFT019.15. However, it is suspected the low DO exceedances in this segment of Swift Creek are due to an upstream impoundment, therefore will be assessed as Cat. 5C.

During the 2014,2016, and 2018 cycle there was no new data so the segment remains impaired for DO.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_SFT01B98 / Swift Creek / Swift Creek from the Swift Creek Lake dam downstream to the confluence with Licking Creek.	5A	Oxygen, Dissolved	2002	L	7.25

Swift Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.25**

Sources:

Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-04-BAC** **Swift Creek**

Cause Location: Swift Creek from the confluence with Licking Creek downstream to its confluence with Franks Branch.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, this segment of Swift Creek was assessed as not supporting for Recreation use due to an E. coli exceedance rate of 3/9 that was recorded at the Rt. 631 bridge (2-SFT012.84).

Bacteria TMDL for the Appomattox River development report was completed and approved by EPA on 8/30/2004. Though allocations were calculated for Swift Creek, this segment was not included in the study. Additional monitoring is recommended to better determine if the bacteria impairment will improve with implementation of the TMDL. Therefore this segment will be assessed as Cat. 4A

There was a pH exceedance rate of 7/24 recorded by Chesterfield Co at WQ-12, which is co-located with 2-SFT012.84. These data were not acceptable for an impairment but was assessed as an observed effect for low pH.

For the 2008 cycle the E.coli exceedance rate was 3/11 at station 2-SFT012.84 and still impaired for the recreation use and was changed to category 4A since the TMDL was completed for other portions of swift creek.

For the 2010 cycle the segment remained impaired for recreation use with a E.coli exceedance rate of 3/11 at station 2-SFT012.84.

no new data since 2010 cycle

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_SFT02B00 / Swift Creek / Swift Creek from the confluence with Licking Creek downstream to the confluence with Franks Branch.	4A	Escherichia coli	2006	L	5.12

Swift Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.12**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-05-PH** **Church Branch**

Cause Location: From headwaters to the mouth at Franks Branch

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

For the 2008 cycle the violation rate for pH was 8/8. This segment was assessed as Insufficient information with observed effects of pH, since methodology used for samples was uncertain.

For the 2010 cycle the segment was impaired for aquatic life use with a pH exceedance rate of 8/9 at station 2-CUR001.58.

For the 2012 cycle the segment was impaired for aquatic life use with a pH exceedance rate of 12/13 at station 2-CUR001.58.

During the 2014, 2016, and 2018 cycle there was no new data so the segment remains impaired for pH.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_CUR01A08 / Church Branch / From headwaters to the mouth at Franks Branch	5C	pH	2010	L	2.64

Church Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.64**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-06-BAC** **Nuttree Branch**

Cause Location: The mainstem of Nuttree Branch

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2018: 33316, 5/21/2004

During the 2018 cycle the segment became impaired for E.coli with an exceedance rate of 3/11 at station 2-NUT000.62.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_NUT01A06 / Nuttree Branch / Nuttree Branch from headwaters to mouth at Swift Creek.	4A	Escherichia coli	2018	L	5.58

Nuttree Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.58**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-06-BEN** **Nuttree Branch**

Cause Location: The mainstem of Nuttree Branch

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2012 cycle the segment was impaired for aquatic life use for Benthics at station 2-NUT000.62.
During the 2014,2016 and 2018 cycle there was no new data so the segment remained impaired for Benthics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_NUT01A06 / Nuttree Branch / Nuttree Branch from headwaters to mouth at Swift Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	5.58

Nuttree Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.58**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-06-DO** **Nuttree Branch**

Cause Location: The mainstem of Nuttree Branch

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

For the 2010 cycle 2 new stations were added Station 2-NUT002.22 was impaired for aquatic life use with a DO violation rate of 2/9.

During the 2012 cycle the segment was impaired for aquatic life use with a DO violation rate of 2/13 at station 2-NUT002.22.

During the 2014 and 2016 cycle there was no new data so the segment remained impaired for DO.

During the 2018 cycle the DO remains impaired with exceedances at station 2-NUT002.22(3/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_NUT01A06 / Nuttree Branch / Nuttree Branch from headwaters to mouth at Swift Creek.	5C	Oxygen, Dissolved	2010	L	5.58

Nuttree Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.58**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-07-PH** **Second Branch**

Cause Location: Second Branch from Headwaters downstream to confluence with Mann Creek

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

For the 2010 cycle the segment was impaired for pH at station 2-SEC008.84(A) with an exceedance rate of 4/12. The Chesterfield Co. stations are impaired with observed effects for pH and DO.

For the 2012 cycle the segment is impaired for aquatic life use for pH at station 2-SEC008.84(A) with an exceedance rate of 4/16. The Chesterfield Co. and ACB stations are impaired with observed effects for pH and DO.

During the 2014, 2016 and 2018 cycle there was no new data so the segment remained impaired for pH.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_SEC01B06 / Second Branch / Second Branch from headwaters downstream to confluence with Mann Creek	5C	pH	2010	L	6.22

Second Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-08-DO** **Swift Creek**

Cause Location: Swift Creek from the Swift Creek Reservoir dam downstream to its confluence with Reedy Creek.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

For the 2010 cycle 2 DEQ stations (2-SFT030.65, 2-SFT027.38) were added and both stations were impaired for aquatic life use for DO.

there has been no new data since 2010 cycle.
During the 2018 cycle the segment had level II citizen data for aquatic life that shows insufficient data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_SFT01A00 / Swift Creek / Swift Creek from the Swift Creek Reservoir dam downstream to the confluence with Reedy Creek.	5A	Oxygen, Dissolved	2010	L	3.78

Swift Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.78**

Sources:

Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-09-BEN** **Swift Creek**

Cause Location: Swift Creek from Reedy Branch to the limit of Swift Creek Lake

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

For the 2010 cycle the segment was impaired for aquatic life use for Benthics at station 2-SFT025.32.

For the 2012 cycle the segment was impaired for aquatic life use for Benthics at station 2-SFT025.32.

During the 2014, 2016 and 2018 cycle there was no new data and the segment remained impaired for Benthics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_SFT02A00 / Swift Creek / Swift Creek from Reedy Branch to the limit of Swift Creek Lake.	5C	Benthic-Macroinvertebrate Bioassessments	2010	L	2.88

Swift Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-11-DO** **Long Swamp**

Cause Location: The mainstem of Long Swamp

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

For the 2010 cycle the segment was assessed as not supporting for Aquatic Life use due to a pH exceedance rate of 6/11 at station 2-LNS000.69.

there has been no new data since 2010 cycle.

During the 2016 cycle the segment was impaired for DO(4/11).
No new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_LNS01A10 / Long Swamp / From its headwater to the mouth at Swift Creek	5C	Oxygen, Dissolved	2016	L	3.72

Long Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.72**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-11-PH** **Long Swamp**

Cause Location: The mainstem of Long Swamp

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

For the 2010 cycle the segment was assessed as not supporting for Aquatic Life use due to a pH exceedance rate of 6/11 at station 2-LNS000.69.

there has been no new data since 2010 cycle.

During the 2016 cycle the segment was impaired for pH(2/11).
No new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_LNS01A10 / Long Swamp / From its headwater to the mouth at Swift Creek	5C	pH	2010	L	3.72

Long Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* J17R-12-BAC** **Licking Creek**

Cause Location: From the confluence with Second Branch to swift creek

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

For the 2010 cycle the segment was impaired for recreation use with a E.coli exceedance rate of 3/12 at station 2-LIA000.50, and was nested into the Appomattox TMDL.

There has been no new data since 2010 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-J17R_LIA01A10 / Licking Creek / From the confluence with second Branch, to Swift Creek	4A	Escherichia coli	2010	L	0.46

Licking Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.46**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* JMSMH-SAV-BAY Chesapeake Bay segment JMSMH**

Cause Location: This cause encompasses the complete CBP segment JMSMH.

City / County: Isle Of Wight Co. James City Co. Newport News City Portsmouth City Suffolk City
Surry Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The Aquatic Life Use Aquatic Plants [Macrophytes] use is impaired based on not meeting the SAV criteria. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G11E_BAL01A06 / Ballard Creek & Bay- James R. South Shore Tributary / South shore tributary to James R., upstream of James R. Bridge. North of Ragged Island area. From end of tidal water downstream almost to confluence with James R. CBP segment JMSMH. Portion of DSS shellfish condemnation # 062-164 A (effective 20161005).	4A	Aquatic Plants (Macrophytes)	2006	L	0.019
VAT-G11E_CKT01A04 / Chuckatuck & Brewers Creeks / South shore trib to James R., confluence upstream of Nansemond R. From headwaters to end of SF condemnation at Johnson near tidal flat. Portion of CBP segment JMSMH. DSS shellfish harvesting condemnation # 062-080 A (effective 20161005).	4A	Aquatic Plants (Macrophytes)	2006	L	0.731
VAT-G11E_CKT02A12 / Chuckatuck Creek and Mouth in James / South shore trib to James R., after confluence with Brewers Creek to mouth. Portion of CBP segment JMSMH. DSS OPEN shellfish direct harvesting condemnation # 062-080 (effective 20161005).	4A	Aquatic Plants (Macrophytes)	2014	L	0.714
VAT-G11E_CYP01A06 / Cypress Creek / South shore tributary to Pagan R, confluence near Smithfield. From end of tidal waters downstream to mouth. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2006	L	0.263
VAT-G11E_DEP01A02 / Deep Creek - Lower / Located in Menchville area. Tributary to Warwick R. From Warwick Yacht Club downstream to mouth. CBP segment JMSMH. DSS (ADMIN) shellfish direct harvesting condemnation # 058-034 A (effective 20080518).	4A	Aquatic Plants (Macrophytes)	2006	L	0.100
VAT-G11E_JMS01A06 / James River - Gravel Neck to Pagan River / From start of JMSMH salinity boundary (Hog Isl. Cr.) downstream to line between Jail Pt (Mulberry Isl) to Days Pt (mouth Pagan R). CBP segment JMSMH. DSS (OPEN) shellfish condemnation # 059-069 (effective 20141219).	4A	Aquatic Plants (Macrophytes)	2006	L	40.260
VAT-G11E_JMS01C08 / James River - Carter Grove Area / Mainstem along north shore, from near Carter Grove. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 059-067 A (effective 20100901).	4A	Aquatic Plants (Macrophytes)	2014	L	0.404
VAT-G11E_JMS02A06 / James River - Jail Point to Hilton Village / Mainstem from line between Jail Pt (Mulberry Isl) to Days Pt (Mouth Pagan R) downstream to line Hilton Village (Newport News)/Kings Creek (Isle of Wight). CBP segment JMSMH. DSS (OPEN) shellfish harvesting condemnation # 059-069 (effective 20141219).	4A	Aquatic Plants (Macrophytes)	2006	L	24.697
VAT-G11E_JMS03A06 / James River - Along Lower North Shore /	4A	Aquatic Plants (Macrophytes)	2006	L	3.943

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Mainstem along north shore, from Jail Point (Mulberry Isl) downstream to line following Rt. 664. CBP segment JMSMH. Portions of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080518) & 057-007 A (effective 20120529).					
VAT-G11E_JMS03B06 / James River - Hilton Beach Area / North shore James R. NW of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080518).	4A	Aquatic Plants (Macrophytes)	2006	L	0.110
VAT-G11E_JMS03C06 / James River - Huntington Beach Area / North shore James R. near foot of James R. Bridge. Mainstem along north shoreline beach in Hilton Village area. CBP segment JMSMH. Portion of DSS (ADMIN) shellfish condemnation # 058-034 A (effective 20080508).	4A	Aquatic Plants (Macrophytes)	2006	L	0.008
VAT-G11E_JMS04A06 / James River - Hilton Village to Craney Island / Mainstem from a line between Hilton Village (Newport News)/Kings Creek (Isle of Wight) downstream to the end of DSS (OPEN) shellfish harvesting condemnation # 059-069 F (effective 20141219). CBP segment JMSMH.	4A	Aquatic Plants (Macrophytes)	2006	L	24.879
VAT-G11E_JMS06A10 / James River - Outside Mouth Streeter & Hoffler Creeks / Mainstem area at Mouth of Streeter & Hoffler Creeks @ SW corner Craney Island. CBP segment JMSMH. DSS (ADMIN) shellfish condemnation # 064-018 A (effective 20080530).	4A	Aquatic Plants (Macrophytes)	2014	L	0.156
VAT-G11E_JOG01A08 / Jones Creek - Tributary to Pagan River / South shore trib. to Pagan R. near confluence with James R. From headwaters to SR 669, including tidal tributaries. CBP segment JMSMH. Portion of DSS shellfish harvesting (Admin-PROHIBITED) # 061-064 B (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.229
VAT-G11E_JOG02A08 / Jones Creek - Tributary to Pagan River / South shore trib. to Pagan R. near confluence with James R. From SR 669 to mouth, including tidal tributaries. CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 B & M2 (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.102
VAT-G11E_KIN01A06 / Kings Creek & Bay - James R. South Shore Tributary / South shore tributary to James R., upstream of James R. Bridge. North of Ragged Island area. CBP segment JMSMH. From end of tidal waters downstream to end of DSS shellfish direct harvesting condemnation # 062-164 B (effective 20161005).	4A	Aquatic Plants (Macrophytes)	2006	L	0.031
VAT-G11E_KIN02A18 / Kings Creek & Bay Mouth- James R. South Shore Tributary / South shore tributary to James R., upstream of James R. Bridge. North of Ragged Island area. CBP segment JMSMH. From end of SF Condem to mouth # 062-164 (effective 20161005).	4A	Aquatic Plants (Macrophytes)	2006	L	0.005
VAT-G11E_LAW01A00 / Lawnes Creek (Tributary to James River) / South shore tributary to James R. near Hog Island WMA. Hog Isl. area, opposite Mulberry Point. From end of tidal waters downstream to mouth. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 060-206 A (effective 20141231).	4A	Aquatic Plants (Macrophytes)	2006	L	0.291
VAT-G11E_MRS01A06 / Morrisons Creek - Mulberry Island / North shore tributary to James R. on Mulberry Island. Downstream of Mulberry Point. From end of tidal waters downstream to mouth. Portion of CBP segment JMSMH. DSS (OPEN) shellfish direct harvesting condemnation # 058-183 (effective 20161010).	4A	Aquatic Plants (Macrophytes)	2006	L	0.127
VAT-G11E_PGN01A08 / Pagan River - Upper / Located in Smithfield area. South shore tributary to James R. From end of tidal	4A	Aquatic Plants (Macrophytes)	2014	L	0.062

James River Basin

water downstream to approx RM 7.00. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 201460502).					
VAT-G11E_PGN01B18 / Pagan River - Upper Middle / Located in Smithfield area. South shore tributary to James R. From downstream of Crook Ln to UT N Trib.Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.065
VAT-G11E_PGN01C18 / Pagan River - Middle / Located in Smithfield area. South shore tributary to James R.N of Rt 10 downstrm N of Cupress Cr .Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.058
VAT-G11E_PGN02A08 / Pagan River - Middle Lower / Located in Smithfield area. South shore tributary to James R. North of Town of Smithfield downstream Azalea Dr. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	1.030
VAT-G11E_PGN02B14 / Pagan River - Lower / Located in Smithfield area. South shore tributary to James R. Lower portion from Moonefield Dr to Morris Cr. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.162
VAT-G11E_PGN02C18 / Pagan River - Lower SF Open / Located in Smithfield area. South shore tributary to James R. From Morris Creeek downstream to River Ave. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.084
VAT-G11E_PGN02D16 / Pagan River - Jones Cr / Located in Smithfield area. South shore tributary on the East shore to James R. Portion near Battery Park. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 M2 (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.020
VAT-G11E_PGN03A10 / Pagan River - Mouth / Located in Smithfield area. South shore tributary to James R. From the edge of shellfish condemnation #061-064A to. downstream to mouth. Portion of CBP segment JMSMH. DSS OPEN shellfish direct harvesting condemnation # 061-064 (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.889
VAT-G11E_RIC01A06 / Ragged Island Creek / North shore tributary to James R. on Mulberry Island. Downstream of Mulberry Point. From end of tidal waters downstream to mouth. Portion of CBP segment JMSMH. DSS (OPEN) shellfish direct harvesting condemnation # 062-080 (effective 20161005).	4A	Aquatic Plants (Macrophytes)	2006	L	0.295
VAT-G11E_SFF02A08 / Skiffes Creek System [Admin Cond] / Located west of Lee Hall area, flows along the James City Co./NN City boundary. From dam downstream to mouth, including tidal tribs. Portion of CBP segment JMSMH. DSS (ADMIN) shellfish direct harvesting condemnation # 059-023 A (effective 20081215).	4A	Aquatic Plants (Macrophytes)	2014	L	0.452
VAT-G11E_SFF03A10 / Skiffes Creek - Mouth / Located west of Lee Hall area, flows across the James City Co./NN City boundary. From Goose Island to point on opposite shore. Portion of CBP segment JMSMH. DSS (OPEN) shellfish direct harvesting condemnation # 059-069 (effective 20141219).	4A	Aquatic Plants (Macrophytes)	2014	L	0.060
VAT-G11E_TTS01A16 / Titus Creek / Located in Isle of Wight	4A	Aquatic Plants (Macrophytes)	2006	L	0.017

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

County. Tributary of Jones Creek, which flows into the Pagan River. Shellfish Cond # 061-064C (20140416).					
VAT-G11E_TYB01A00 / Tylers Beach Boat Basin / Located in the Bailey Beach area. Adjacent to the James River. Opposite Mulberry Island. NW corner of Burwell Bay. From end of tidal waters downstream to mouth. CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 060-206 B (20141231).	4A	Aquatic Plants (Macrophytes)	2006	L	0.011
VAT-G11E_WIL01A18 / Williams Creek / Located off of North shore tributary to Pagan River. Portion of CBP segment JMSMH. Portion of DSS shellfish direct harvesting ADMIN condemnation # 061-064 C (effective 20160502).	4A	Aquatic Plants (Macrophytes)	2014	L	0.060
VAT-G11E_WWK01A08 / Warwick River - Upper Tidal Portion / Located in Menchville area. Tributary to James R. From end of tidal waters downstream approx. to Denbigh Landing. Portion of CBP segment JMSMH. Portion of DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A (20080518).	4A	Aquatic Plants (Macrophytes)	2014	L	0.283
VAT-G11E_WWK02A08 / Warwick River - Middle Tidal Portion / Located in Menchville area. From approx. Denbigh Landing area downstream to Denbigh Park area. CBP segment JMSMH. DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A (20080518).	4A	Aquatic Plants (Macrophytes)	2014	L	0.075
VAT-G11E_WWK03A08 / Warwick River - Lower Tidal Portion / Located in Menchville area. Tributary to James R. From Lucas Cr to downstream to mouth. Portion of CBP segment JMSMH. DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A, B (20080518).	4A	Aquatic Plants (Macrophytes)	2014	L	2.434
VAT-G11E_WWK03B18 / Warwick River - Middle-Lower Tidal Portion / Located in Menchville area. Tributary to James R. From Denbigh Park to Approx Lucas Cr. Portion of CBP segment JMSMH. DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A, B (20080518).	4A	Aquatic Plants (Macrophytes)	2014	L	0.077
VAT-G11E_ZZZ01A00 / Unsegmented estuaries - James R. Tribs / Tributaries to James R., Mulberry Island area & NW Ragged Isl. From end of tidal water downstream to confluence. CBP segment JMSMH. DSS (OPEN) shellfish direct harvesting condemnation # 059-069 (20041008).	4A	Aquatic Plants (Macrophytes)	2006	L	0.358
VAT-G11E_ZZZ02A00 / Unsegmented estuaries - Warwick R. Tribs / Tributaries to Warwick R., NE of Mulberry Island area. From end of tidal water downstream to confluence with Warwick R. CBP segment JMSMH. DSS (Admin Cond) shellfish direct harvesting condemnation # 058-034 A (20080518).	4A	Aquatic Plants (Macrophytes)	2006	L	0.119
VAT-G13E_BEN01A04 / Bennett Creek - Tributary to Nansemond R. / Eastern shore trib. to Nansemond R., near confluence with James R. Bennett Harbor area. From headwaters to mouth, including tidal tributaries. Portion of CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 A (20140826).	4A	Aquatic Plants (Macrophytes)	2006	L	0.542
VAT-G13E_BHN01A00 / Bleakhorn Creek - Tributary to Nansemond R. Mouth / Western shore trib. to Nansemond R., near confluence with James R. Eclipse area near Crittenden. From headwaters to mouth, including tidal tributaries. CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 B (20140826). TMDL.	4A	Aquatic Plants (Macrophytes)	2006	L	0.014
VAT-G13E_BML01A06 / Burnetts Mill Creek - Tributary to Upper Nansemond R. / Eastern shore trib. to upper Nansemond R., south of the Nansemond area. Drains the Beamon area. From headwaters to	4A	Aquatic Plants (Macrophytes)	2006	L	0.028

James River Basin

mouth. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (20160926). TMDL (32045)					
VAT-G13E_KNC01A00 / Knotts Creek - Tributary to E. shore Nansemond R. / Eastern shore trib. to Nansemond R., near confluence with James R. Belleville and Huntersville areas. From headwaters to mouth, including tidal tributaries. CBP segment JMSMH. DSS shellfish direct harvesting condemnation # 063-046 A (20140826).	4A	Aquatic Plants (Macrophytes)	2006	L	0.122
VAT-G13E_NAN01A00 / Nansemond River - Upper / Upper Nansemond River, within city of Suffolk. Extends from most upstream point in river at Lake Meade Dam (RM 19.8) downstream to Rt. 58/460 crossing (RM 15.2). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Aquatic Plants (Macrophytes)	2006	L	0.269
VAT-G13E_NAN02A06 / Nansemond River - Upper Middle / Downstream of Suffolk. From Rt 58/460 (RM 15.1) crossing downstream to confluence with the Western Branch Reservoir (RM 11.9). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (20160926).TMDL (32045)	4A	Aquatic Plants (Macrophytes)	2006	L	0.209
VAT-G13E_NAN03A06 / Nansemond River - Lower Middle / In area of Western Branch Reservoir. From confluence with Western Br. (RM 11.8) downstream to Holidays Pt. CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A & C1 (2016096). TMDL (32045)	4A	Aquatic Plants (Macrophytes)	2006	L	2.833
VAT-G13E_NAN04A00 / Nansemond River - Lower [No TMDL] / Nansemond R mouth. From Olds Cove downstream to mouth. CBP segment JMSMH. DSS (OPEN) condemnation 063-046 (effective 20140826) & 063-008 (effective 20140826).	4A	Aquatic Plants (Macrophytes)	2006	L	6.303
VAT-G13E_NAN04C10 / Nansemond River - Lower DSS Condemned at Knotts Cr / Nansemond R at confluence Knotts Cr. CBP segment JMSMH. DSS condemnation # 063-046 B (effective 20120801).	4A	Aquatic Plants (Macrophytes)	2014	L	0.467
VAT-G13E_SGL01A00 / Shingle Creek - Tributary to Nansemond R. / NE of Suffolk, near Rt 642. From end of tidal waters (0.2 mi upstream of Portsmouth Blvd) downstream to confluence with Nansemond River. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Aquatic Plants (Macrophytes)	2006	L	0.040
VAT-G13E_STR01A04 / Star & Oyster House Creeks - Tributary to Nansemond R. / Eastern shore tributary to Nansemond R. Adjacent to the Naval Communication station at Driver. From headwaters to confluence with Nansemond R. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20140826).	4A	Aquatic Plants (Macrophytes)	2006	L	0.046
VAT-G13E_WBN01A06 / Western Branch - Tributary to Nansemond R. / Western shore branch off the Nansemond River south of the Reids Ferry area. Downstream of the Western Branch Reservoir, prior to reaching the Nansemond River. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Aquatic Plants (Macrophytes)	2006	L	0.106
VAT-G13E_ZZZ01A00 / Unsegmented Estuaries - Upper Nansemond R. / Upper Nansemond River unsegmented tributaries with a DSS condemnation. CBP segment JMSMH. DSS shellfish condemnation # 063-008 A (effective 20160926).	4A	Aquatic Plants (Macrophytes)	2006	L	0.097
VAT-G13E_ZZZ02A08 / Unsegmented Estuaries - Lower Nansemond R. / Lower Nansemond River unsegmented tributaries without a DSS condemnation. CBP segment JMSMH. DSS (OPEN) shellfish direct harvesting condemnation # 063-046 (20160926) # 063-	4A	Aquatic Plants (Macrophytes)	2014	L	0.061

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

008 (20160926) or no DSS.

VAT-G15E_HOF01A06 / Hoffler Creek / Located along south shore of Hampton Roads Harbor. Entirety of Hoffler Cr. South shore trib to James R. west of Craney Isl. (at mouth of Elizabeth R). CBP segment JMSMH. DSS (ADMIN) shellfish harvesting condemnation # 064-018 A (effective 20080530).	4A	Aquatic Plants (Macrophytes)	2006	L	0.053
VAT-G15E_JMS05A06 / James River - Newport News Point to NW Corner Craney Isl. / Line following the Rt. 664 crossing mid-river, SW to mid-mouth Nansemond R. to SW tip Craney Isl. Line. The NW line from NW tip Craney Isl. to Lincoln Pk. CBP segment JMSMH. DSS (ADMIN) cond # 056-007 A, B, C (effective 20120529).	4A	Aquatic Plants (Macrophytes)	2014	L	3.611
VAT-G15E_SRE01A06 / Streeter Creek / Located along south shore of Hampton Roads Harbor. Entirety of Streeter Cr. South shore trib to James R. near Craney Isl. (at mouth of Elizabeth R).CBP segment JMSMH. DSS (ADMIN) shellfish harvesting condemnation # 064-018 A (effective 20080530).	4A	Aquatic Plants (Macrophytes)	2006	L	0.030

Chesapeake Bay segment JMSMH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**118.510**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* JMSTFL-DO-BAY James River Tidal Freshwater (Lower) Estuary**

Cause Location: The James River Lower Tidal Freshwater Estuary.

City / County: Charles City Co. Chesterfield Co. Hopewell City Prince George Co. Surry Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The mainstem James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a exceedances. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting of the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels; therefore, the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

Several tributaries within the James River system, including tidal Bailey Bay, had previously been listed for dissolved oxygen.

During the 2006 cycle, the Chesapeake Bay water quality standards were implemented.

During the 2016 cycle, the lower tidal freshwater James River estuary passed both of the Open Water Subuse's 30-day mean dissolved oxygen criteria. There is insufficient information to assess the other OW criteria or the Migratory Spawning Use. JMSTFl was delisted for dissolved oxygen.

It was relisted in the 2018 cycle based on failure of the rest-of-year 30 day mean criterion.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, it will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02E_APP01A12 / Appomattox River / Portion of the Appomattox River within CB segment JMSTFl	4A	Oxygen, Dissolved	2018	L	0.113
State Scenic River					
VAP-G02E_JMS03A06 / James River / The James River from the upstream extent of JMSTFl to the downstream extent of PWS.	4A	Oxygen, Dissolved	2018	L	0.633
JMSTFl					
VAP-G02E_XGJ01A06 / Appomattox River, UT / Tidal limit to mouth at the Appomattox River.	4A	Oxygen, Dissolved	2018	L	0.003
JMSTFl					
VAP-G02E_XGK01A06 / James River, UT / Tidal limit to mouth near James River/Appomattox River confluence	4A	Oxygen, Dissolved	2018	L	0.002
JMSTFl					
VAP-G03E_BLY01A98 / Bailey Creek/Cattail Creek / The tidal portions of Bailey Creek and Cattail Creek.	4A	Oxygen, Dissolved	2018	L	0.114
JMSTFl					
VAP-G03E_GRV01A02 / Gravelly Run / Tidal limit to mouth at James River	4A	Oxygen, Dissolved	2018	L	0.009
JMSTFl					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAP-G03E_GUN01B00 / Gunns Run / Gunns Run from the head of tide at rivermile 2.64 to the mouth.	A	Oxygen, Dissolved	2018	L	0.042
JMSTFl					
VAP-G03E_JMS01A00 / James River / The mainstem of the James River from the confluence with the Appomattox River downstream to Powell Creek.	A	Oxygen, Dissolved	2018	L	10.194
JMSTFl					
VAP-G03E_JMS01B10 / James River / The mainstem of the James River from the confluence with Powell Creek downstream to Queen Creek.	A	Oxygen, Dissolved	2018	L	3.485
JMSTFl					
VAP-G03E_PTH01A00 / Poythress Run / The tidal portion of Poythress Run.	A	Oxygen, Dissolved	2018	L	0.002
JMSTFl					
VAP-G03E_PWL01A02 / Powell Creek / The estuarine portion of Powell Creek.	A	Oxygen, Dissolved	2018	L	0.396
JMSTFl					
VAP-G03E_QEE01A06 / Queens Creek / Tidal limit to mouth	A	Oxygen, Dissolved	2018	L	0.226
JMSTFl					
VAP-G03E_ZZZ01A14 / Unsegmented estuaries in G03 / Unsegmented portion of watershed JL07	A	Oxygen, Dissolved	2018	L	0.267
JMSTFl					
VAP-G03E_ZZZ01C14 / Unsegmented estuaries in G03 / Unsegmented portion of watershed JL09	A	Oxygen, Dissolved	2018	L	0.335
JMSTFl					
VAP-G04E_BNG01A04 / Brandon Gut / Tidal portion of Brandon Gut	A	Oxygen, Dissolved	2018	L	0.005
JMSTFl					
VAP-G04E_JMS01A02 / James River / The James River from the confluence with Queens Creek downstream to Buoy 74 at Brandon Point	A	Oxygen, Dissolved	2018	L	7.756
JMSTFl					
VAP-G04E_JMS03A04 / James River / Buoy 74 at Brandon Point (rivermile 55.94) to the tidal freshwater/oligohaline boundary at approximately river mile 52.08.	A	Oxygen, Dissolved	2018	L	3.756
JMSTFl					
VAP-G04E_KEN01A06 / Kennon Creek / Tidal limit to mouth	A	Oxygen, Dissolved	2018	L	0.054
JMSTFl					
VAP-G04E_UCK01A06 / Upper Chippokes Creek / Tidal limit to mouth at James River	A	Oxygen, Dissolved	2018	L	1.017
JMSTFl					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAP-G04E_ZZZ01A14 / Unsegmented estuaries in G04 / Unsegmented portion of watershed JL11	A	Oxygen, Dissolved	2018	L	0.082
JMSTFl					
VAP-G04E_ZZZ01B14 / Unsegmented estuaries in G04 / Unsegmented portion of watershed JL12	A	Oxygen, Dissolved	2018	L	0.231
JMSTFl					
VAP-G04E_ZZZ01C14 / Unsegmented estuaries in G04 / Unsegmented portion of watershed JL13	A	Oxygen, Dissolved	2018	L	0.348
JMSTFl					

James River Tidal Freshwater (Lower) Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**29.068**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* JMSTFL-SAV-BAY James River Tidal Freshwater (Lower) Estuary**

Cause Location: The James River Lower Tidal Freshwater Estuary.

City / County: Charles City Co. Chesterfield Co. Hopewell City Prince George Co. Surry Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a exceedances. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting of the Aquatic Life Use, citing nutrient concerns.

During the 2006 cycle, the Chesapeake Bay water quality standards were implemented. The lower tidal Freshwater James River from the Appomattox to the oligohaline boundary fails the Shallow Water Use SAV acreage requirements. There is insufficient information to assess the water clarity acreage criteria in the 2018 cycle.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, the segment is Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G02E_APP01A12 / Appomattox River / Portion of the Appomattox River within CB segment JMSTFl	4A	Aquatic Plants (Macrophytes)	2006	L	0.113
State Scenic River					
VAP-G02E_JMS03A06 / James River / The James River from the upstream extent of JMSTFl to the downstream extent of PWS.	4A	Aquatic Plants (Macrophytes)	2006	L	0.633
JMSTFl					
VAP-G02E_XGJ01A06 / Appomattox River, UT / Tidal limit to mouth at the Appomattox River.	4A	Aquatic Plants (Macrophytes)	2006	L	0.003
JMSTFl					
VAP-G02E_XGK01A06 / James River, UT / Tidal limit to mouth near James River/Appomattox River confluence	4A	Aquatic Plants (Macrophytes)	2006	L	0.002
JMSTFl					
VAP-G03E_BLY01A98 / Bailey Creek/Cattail Creek / The tidal portions of Bailey Creek and Cattail Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	0.114
JMSTFl					
VAP-G03E_GRV01A02 / Gravelly Run / Tidal limit to mouth at James River	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
JMSTFl					
VAP-G03E_GUN01B00 / Gunns Run / Gunns Run from the head of tide at rivermile 2.64 to the mouth.	4A	Aquatic Plants (Macrophytes)	2008	L	0.042
JMSTFl					
VAP-G03E_JMS01A00 / James River / The mainstem of the James River from the confluence with the Appomattox River downstream to Powell Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	10.194
JMSTFl					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAP-G03E_JMS01B10 / James River / The mainstem of the James River from the confluence with Powell Creek downstream to Queen Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	3.485
JMSTFl					
VAP-G03E_PTH01A00 / Poythress Run / The tidal portion of Poythress Run.	4A	Aquatic Plants (Macrophytes)	2006	L	0.002
JMSTFl					
VAP-G03E_PWL01A02 / Powell Creek / The estuarine portion of Powell Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	0.396
JMSTFl					
VAP-G03E_QEE01A06 / Queens Creek / Tidal limit to mouth	4A	Aquatic Plants (Macrophytes)	2006	L	0.226
JMSTFl					
VAP-G03E_ZZZ01A14 / Unsegmented estuaries in G03 / Unsegmented portion of watershed JL07	4A	Aquatic Plants (Macrophytes)	2006	L	0.267
JMSTFl					
VAP-G03E_ZZZ01C14 / Unsegmented estuaries in G03 / Unsegmented portion of watershed JL09	4A	Aquatic Plants (Macrophytes)	2006	L	0.335
JMSTFl					
VAP-G04E_BNG01A04 / Brandon Gut / Tidal portion of Brandon Gut	4A	Aquatic Plants (Macrophytes)	2006	L	0.005
JMSTFl					
VAP-G04E_JMS01A02 / James River / The James River from the confluence with Queens Creek downstream to Buoy 74 at Brandon Point	4A	Aquatic Plants (Macrophytes)	2006	L	7.756
JMSTFl					
VAP-G04E_JMS03A04 / James River / Buoy 74 at Brandon Point (rivermile 55.94) to the tidal freshwater/oligohaline boundary at approximately river mile 52.08.	4A	Aquatic Plants (Macrophytes)	2006	L	3.756
JMSTFl					
VAP-G04E_KEN01A06 / Kennon Creek / Tidal limit to mouth	4A	Aquatic Plants (Macrophytes)	2006	L	0.054
JMSTFl					
VAP-G04E_UCK01A06 / Upper Chippokes Creek / Tidal limit to mouth at James River	4A	Aquatic Plants (Macrophytes)	2006	L	1.017
JMSTFl					
VAP-G04E_ZZZ01A14 / Unsegmented estuaries in G04 / Unsegmented portion of watershed JL11	4A	Aquatic Plants (Macrophytes)	2006	L	0.082
JMSTFl					
VAP-G04E_ZZZ01B14 / Unsegmented estuaries in G04 / Unsegmented portion of watershed JL12	4A	Aquatic Plants (Macrophytes)	2006	L	0.231
JMSTFl					
VAP-G04E_ZZZ01C14 / Unsegmented estuaries in G04 /	4A	Aquatic Plants (Macrophytes)	2006	L	0.348

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Unsegmented portion of watershed JL13

JMSTFl

James River Tidal Freshwater (Lower) Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**29.068**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* JMSTFU-SAV-BAY James River Tidal Freshwater (Upper) Estuary**

Cause Location: The James River Tidal Freshwater Upper estuary, which extends from the fall line to approximately the Appomattox River, including tributaries.

City / County: Charles City Co. Chesterfield Co. Henrico Co. Richmond City

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The mainstem James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a exceedances. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting of the Aquatic Life Use, citing nutrient concerns.

The Chesapeake Bay Water Quality Standards were implemented in the 2006 cycle.

The Upper Tidal Freshwater James River from the fall line to the Appomattox fails the Shallow Water Subuse's submerged aquatic vegetation (SAV) acreage criterion. There is insufficient information to assess the water clarity acreage criterion. The TMDL was approved by the EPA on 12/29/2010; therefore, the segment is considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-G01E_GIL01A18 / Gillies Creek / Tidal portion of Gillies Creek	4A	Aquatic Plants (Macrophytes)	2006	L	0.001
JMSTFu					
VAP-G01E_JMS01A02 / James River / The James River from the fall line near Mayos Bridge to river mile 108.76.	4A	Aquatic Plants (Macrophytes)	2006	L	0.239
State Scenic River					
JMSTFu					
VAP-G01E_JMS02A02 / James River / The James River from river mile 108.76 to river mile 108.63.	4A	Aquatic Plants (Macrophytes)	2006	L	0.016
JMSTFu					
VAP-G01E_JMS03A02 / James River / The James River from river mile 108.63 to the confluence with Proctors Creek at river mile 2-JMS097.94.	4A	Aquatic Plants (Macrophytes)	2006	L	1.229
JMSTFu					
VAP-G01E_KAN01A14 / Kanawha Canal / Tidal portion of Kanawha Canal	4A	Aquatic Plants (Macrophytes)	2006	L	0.001
JMSTFu					
VAP-G01E_ZZZ01A14 / Unsegmented estuaries in G01 / Unsegmented estuaries in JL01	4A	Aquatic Plants (Macrophytes)	2006	L	0.007
JMSTFu					
VAP-G01E_ZZZ01B14 / Unsegmented estuaries in G01 / Unsegmented estuaries in JL02	4A	Aquatic Plants (Macrophytes)	2006	L	0.013
JMSTFu					
VAP-G01E_ZZZ01C14 / Unsegmented estuaries in G01 /	4A	Aquatic Plants (Macrophytes)	2006	L	0.018

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Unsegmented estuaries in JL03

JMSTFu VAP-G02E_JMC01A10 / James River - Old Channel (aka Farrar Gut) / The old channel of the James River	4A	Aquatic Plants (Macrophytes)	2006	L	0.511
JMSTFu VAP-G02E_JMS01A00 / James River / The James River from Proctors Creek to 5 miles above the old American Tobacco raw water intake.	4A	Aquatic Plants (Macrophytes)	2006	L	0.078
JMSTFu VAP-G02E_JMS02A00 / James River / The James River from 5 miles above the old American Tobacco intake to 5 miles above City Point at Hopewell.	4A	Aquatic Plants (Macrophytes)	2006	L	2.790
JMSTFu VAP-G02E_JMS02B18 / James River / The James River from 5 miles above City Point at Hopewell to the downstream extent of JMSTFu.	4A	Aquatic Plants (Macrophytes)	2006	L	1.182
JMSTFu VAP-G02E_XMT01A08 / UT to James River / Shirley Plantation Cove	4A	Aquatic Plants (Macrophytes)	2006	L	0.137
JMSTFu VAP-G02E_XQW01A08 / James River, UT / Tidal pools on Farrar Island	4A	Aquatic Plants (Macrophytes)	2006	L	0.395
JMSTFu VAP-G02E_ZZZ02A14 / Unsegmented estuaries in G02 / Unsegmented portion of JL05 within PWS	4A	Aquatic Plants (Macrophytes)	2006	L	0.066
JMSTFu VAP-G02E_ZZZ02B14 / Unsegmented estuaries in G02 / Unsegmented portion of JL06 within PWS	4A	Aquatic Plants (Macrophytes)	2006	L	0.057
JMSTFu VAP-G02E_ZZZ02C14 / Unsegmented estuaries in G02 / Unsegmented portion of JL04 within PWS	4A	Aquatic Plants (Macrophytes)	2006	L	0.027
JMSTFu VAP-G02E_ZZZ03B18 / Unsegmented estuaries in G02 / Unsegmented portion of JL06 not in PWS	4A	Aquatic Plants (Macrophytes)	2006	L	0.980

JMSTFu

James River Tidal Freshwater (Upper) Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**7.746**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* LAFMH-DO-BAY** **Chesapeake Bay segment LAFMH (Lafayette River)**

Cause Location: This cause encompasses the complete Lafayette River

City / County: Norfolk City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer based on the 30-day dissolved oxygen criteria. There is insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_KMK01A12 / Knitting Mill Creek / Creek off of Lafayette River near Colonial Place. CBP segment ELIPH. BIBI segment LAFMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.027
VAT-G15E_LAF01A06 / Lafayette River - Upper / Located east of Craney Isl. From headwaters (approx. RM 7.5) downstream to past Rt 337 (Hampton Blvd bridge, RM 1.75) near Edgewater Haven. CBP segment LAFMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	1.743
VAT-G15E_LAF02A06 / Lafayette River - Lower / Located east of Craney Isl. From Rt. 337 (Hampton Blvd bridge, RM 1.75) downstream to the mouth. CBP segment LAFMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.404

Chesapeake Bay segment LAFMH (Lafayette River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**2.174**		

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* SBEMH-DO-BAY** **Chesapeake Bay segment SBEMH (Southern Branch, Elizabeth River)**

Cause Location: This cause encompasses the complete CPB segment SBEMH

City / County: Chesapeake City Norfolk City Portsmouth City Virginia Beach City

Use(s): Aquatic Life Deep-Water Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A Oxygen, Dissolved / 4D

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. There is insufficient data to assess the remaining shorter-term dissolved oxygen criteria for these uses. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_DEC01A06 / Deep Creek, Southern Br. Elizabeth R. / South of I-64 crossing of Southern Br. E shore trib to Southern Br. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.209
VAT-G15E_DEC02A18 / Deep Creek, Southern Br. Elizabeth R.-Mouth / South of I-64 crossing of Southern Br. E shore trib to Southern Br. Mouth of Creek North of Interstate 64. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.075
VAT-G15E_GIL01A10 / Gilligan Cr - Upper, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Upper portion no Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.012
VAT-G15E_GIL02A10 / Gilligan Cr - Lower, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Lower portion with Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.011
VAT-G15E_JON01A10 / Jones Cr - Upper, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Upper portion no Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.027
VAT-G15E_JON02A10 / Jones Cr - Lower, trib to SB Eliz R / Trib to E shore SB Eliz R, adjacent to Jones Cr. Opposite Paradise Cr. Lower portion with Deep Water Use. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.017
VAT-G15E_MAI01A10 / Mains Cr. - SB Eliz R. E shore Tributary / SB Eliz R. E shore upstream tributary, SE of Deep Cr. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.013
VAT-G15E_MCE01A10 / Mill Creek - SB Elizabeth R. S. shore tributary / SB Elizabeth R S shore tributary SW of Great Bridge Locks. CBP & BIBI segment SBEMHa. Portion of DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.023

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

VAT-G15E_MDM01A10 / Milldam Cr trib S. Br. Elizabeth R. / Tributary to E shore SB Elizabeth R. N of Gilmerton Br. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.071
VAT-G15E_NMC01A00 / New Mill Creek - Southern Br. Elizabeth R. / Located south of I-64 crossing of Southern Br. Eastern shore trib to Southern Br, downstream of locks. Entirety of Creek. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.082
VAT-G15E_NTN01A10 / Newton Cr trib to SB Eliz R / Tributary to E shore SB Eliz R. NE of Deep Cr. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.038
VAT-G15E_PAR01A06 / Paradise Creek - Upper, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. No Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.025
VAT-G15E_PAR02A10 / Paradise Creek - Lower, trib. to S. Br. Elizabeth R. / South of Norfolk Naval Shipyard. Eastern shore trib to Southern Br. Entirety of Creek. With Deep Water Use. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.028
VAT-G15E_SBE01A00 / Southern Branch, Elizabeth R. - Upper / South of I-64 crossing. From headwaters @ Great Br Locks downstream to I-64 crossing @ Deep Cr. (RM 6.86). CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.636
VAT-G15E_SBE02A06 / Southern Branch, Elizabeth R. - Middle / From I-64 crossing @ Deep Cr. confluence (RM 6.86) downstream to the Jordan Bridge (RM 2.30). CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	1.074
VAT-G15E_SBE03A06 / Southern Branch, Elizabeth R. - Lower / North of the Jordan Bridge. From the Jordan Bridge, Rt. 337 (RM 2.30) downstream to the mouth, confluence with the mainstem Elizabeth R. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMIN) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.545
VAT-G15E_STJ01A04 / Saint Julian Creek / Northwest of Gilmerton Bridge. Eastern shore tributary to Southern Br. Entirety of Creek. CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.133
VAT-G15E_STM01A10 / Steamboat Creek / South Shore trib to E. Branch. CBP segment EBEMH. BIBI segment EBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.058
VAT-G15E_XFR01A10 / UT to SB Elizabeth R. S shore estuary SE of Mill Cr. / SB Eliz S shore estuary SE of Mill Cr. CBP & BIBI segment SBEMH. DSS (ADMIN-COND) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.008
VAT-G15E_XQT01A10 / UT to SB Elizabeth R. N shore creek near Great Bridge Locks / SB Elizabeth R. upstream N shore creek north of Great Bridge Locks. CBP & BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective	4A	Oxygen, Dissolved	2006	L	0.045

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

20120529).

VAT-G15E_XQU01A10 / SB Eliz N shore creek SW of Mains Cr. / SB Elizabeth R. upstream N shore creek SW of Mains Cr. CBP & BIBI segment SBEMHa. DSS (ADMIN-COND) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.020
VAT-G15E_ZZZ02A08 / Unsegmented estuaries in SBEMH / CBP segment SBEMH. BIBI segment SBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.058

Chesapeake Bay segment SBEMH (Southern Branch, Elizabeth River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**3.205**		

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

***Cause Group Code:* WBEMH-DO-BAY** **Chesapeake Bay segment WBEMH (Western Branch, Elizabeth River)**

Cause Location: This cause encompasses the complete CPB segment WBEMH

City / County: Chesapeake City Portsmouth City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The mainstem Elizabeth River was included in EPA's 1998 303(d) Overlisting as impaired of the Aquatic Life Use; the impairment was attributed to excessive nutrients. During the 2006 cycle, the revised Chesapeake Bay water quality standards were adopted. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-G15E_BAB01A06 / Bailey Creek, Western Branch Elizabeth R. / Western shore tributary to the Western Branch. Entirety of creek including tributaries. Located in the area of Charlton Village to Ahoy Acres. CBP segment WBEMH. Portion of DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.041
VAT-G15E_DPT01A06 / Drum Point Creek - Western Branch, Elizabeth R. / Western shore trib to the Western Br. Entirety of creek including tributaries. Located in the area of Charlton Village to Ahoy Acres. CBP segment WBEMH. Portion of the DSS (ADMINISTRATIVE) shellfish condemnation # 065-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.148
VAT-G15E_GOE01A06 / Goose Creek - Western Branch, Elizabeth R. / Headwaters tributary to the Western Branch. Entirety of creek including tributaries. Located in the area of Charlton Village to Ahoy Acres. CBP segment WBEMH. Portion of the DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.049
VAT-G15E_WBE01A02 / Western Branch, Elizabeth R. - Upper / Located between Stewart Manor and Point Elizabeth areas. From headwaters (RM 8.5) downstream to Sterns Creek (RM 3.5). BIBI segment WBEMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.561
VAT-G15E_WBE02A00 / Western Branch, Elizabeth R. - Lower / Located between the Point Elizabeth and Lovett Point areas. From Sterns Creek confluence (RM 3.5) downstream to the mouth. CBP segment WBEMH. BIBI segment WBEMHa. DSS (ADMIN) condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	1.457
VAT-G15E_ZZZ04A08 / Unsegmented estuaries in WBEMH / CBP segment WBEMH. BIBI segment WBEMHa. DSS (ADMINISTRATIVE) shellfish condemnation # 056-007 E (effective 20120529).	4A	Oxygen, Dissolved	2006	L	0.560

Chesapeake Bay segment WBEMH (Western Branch, Elizabeth River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**2.814**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

James River Basin

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* CRRMH-DO-BAY** **Corrotoman River Mesohaline Estuary (CRRMH)**

Cause Location: The Corrotoman River and its tidal tributaries (CRRMH).

City / County: Lancaster Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The mainstem Corrotoman River was included in EPA's 1998 Overlist. The Chesapeake Bay water quality standards were implemented during the 2006 cycle.

The Corrotoman River mesohaline estuary fails the Chesapeake Bay Open Water Subuse's summer 30-day mean dissolved oxygen criterion. The segment meets the Open Water rest-of-year criteria. There is insufficient data to assess the other dissolved oxygen criteria.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, CRRMH is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_BES01A98 / Bells Creek / The boundaries are described in VDH shellfish condemnation 58B, 4/28/1997.	4A	Oxygen, Dissolved	2006	L	0.055
CRRMH					
VAP-E26E_BLD01A98 / Belwood Swamp / Tidal limit to its mouth at the Western Branch Corrotoman River.	4A	Oxygen, Dissolved	2006	L	0.009
CRRMH					
VAP-E26E_CRR01A00 / Corrotoman River / The mainstem of the Corrotoman River within segment CRRMH.	4A	Oxygen, Dissolved	1998	L	3.769
VAP-E26E_CTM01A00 / Eastern Branch Corrotoman River / The boundaries are described in VDH shellfish condemnations 021-058B, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.540
Size increased in the 2018 cycle.					
CRRMH					
VAP-E26E_CTM01B10 / Eastern Branch Corrotoman River / Portion of VDH shellfish condemnation 058C, 4/28/1997 open on 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.081
Size decreased in the 2018 cycle.					
CRRMH					
VAP-E26E_CTM02A08 / Eastern Branch Corrotoman River, UT / Described in VDH Shellfish Condemnation 021-058D, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.010
CRRMH					
VAP-E26E_CTM03A08 / Eastern Branch Corrotoman River / Downstream boundary of VDH condemnation 021-058C, 4/28/1997 to mouth.	4A	Oxygen, Dissolved	2006	L	0.758
CRRMH					
VAP-E26E_CTO01A02 / Western Branch Corrotoman River / The boundaries are described in VDH shellfish condemnation 021-132A,	4A	Oxygen, Dissolved	2006	L	0.452

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

11/17/2015, not otherwise segmented.

Size increased in the 2018 cycle.

CRRMH

VAP-E26E_CTO01B12 / Western Branch Corrotoman River / Portion of SFC 132, 4/28/1997 open in 021-132, 11/17/2015.	4A	Oxygen, Dissolved	2006	L	0.144

Size reduced in the 2018 cycle.

CRRMH

VAP-E26E_CTO01C12 / Western Branch Corrotoman River, UT / Described in VDH-DSS condemnation 021-132M1, 11/17/2015.	4A	Oxygen, Dissolved	2006	L	0.002

CRRMH

VAP-E26E_CTO02A06 / Western Branch Corrotoman River / Mainstem downstream of SFC 132A, 4/28/1997	4A	Oxygen, Dissolved	2006	L	1.209

CRRMH

VAP-E26E_DAS01A02 / Davis Creek / As described in VDH-DSS SFC 021-132C. 11/17/2015.	4A	Oxygen, Dissolved	2006	L	0.029

CRRMH

VAP-E26E_EWE01A00 / Ewells Prong / As described in VDH shellfish condemnation 187A, 4/28/1997.	4A	Oxygen, Dissolved	2006	L	0.036

Merged in the 2018 cycle.

CRRMH

VAP-E26E_EWE02A08 / Ewells Prong / Portion of VDH Shellfish Condemnation 021-187B, 10/17/2012 not included on 187A, 4/28/1997.	4A	Oxygen, Dissolved	2006	L	0.012

CRRMH

VAP-E26E_HLS01A00 / Hills Creek / The boundaries are described in VDH shellfish condemnation 58A, 4/28/1997.	4A	Oxygen, Dissolved	2006	L	0.062

CRRMH

VAP-E26E_JON01A08 / John Creek / Described in VDH-DSS Condemnation 021-132E, 11/17/2015.	4A	Oxygen, Dissolved	2006	L	0.036

CRRMH

VAP-E26E_JON02A08 / John Creek / Downstream of condemnation 021-132E, 11/17/2015.	4A	Oxygen, Dissolved	2006	L	0.016

CRRMH

VAP-E26E_LIT01A06 / Little Branch / Tidal limit to mouth at Western Branch Corrotoman River	4A	Oxygen, Dissolved	2006	L	0.114

CRRMH

VAP-E26E_LOW01A08 / Lowrey Creek / Described in VDH Shellfish Condemnation 021-132D, 11/17/2015.	4A	Oxygen, Dissolved	2006	L	0.028

CRRMH

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

VAP-E26E_MIP01A00 / Millenbeck Prong / Described in VDH shellfish condemnation 187B, 4/28/1997.	A	Oxygen, Dissolved	2006	L	0.037
CRRMH					
VAP-E26E_MOR01A08 / Moran Creek / Described in VDH Condemnation 021-198D, 11/16/2016.	A	Oxygen, Dissolved	2006	L	0.049
CRRMH					
VAP-E26E_MOR01B12 / Moran Creek / Described in VDH-DSS condemnation 021-198F, 10/17/2012.	A	Oxygen, Dissolved	2006	L	0.010
CRRMH					
VAP-E26E_MOR02A08 / Moran Creek / Downstream of condemnations 021-198, 10/17/2012.	4A	Oxygen, Dissolved	2006	L	0.095
CRRMH					
VAP-E26E_MYE01A00 / Myer Creek / As described in VDH shellfish condemnation 198, 4/28/1997.	4A	Oxygen, Dissolved	2006	L	0.081
Merged in the 2018 cycle.					
CRRMH					
VAP-E26E_MYE01B02 / Myer Creek, UT / As described in VDH-DSS SFC 021-198G, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.042
CRRMH					
VAP-E26E_MYE01C04 / Myer Creek / Described in VDH-DSS condemnation 021-198M1, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.074
Split in the 2018 cycle.					
CRRMH					
VAP-E26E_MYE01D18 / Myer Creek / Portion of VDH-DSS condemnation 021-198B, 11/16/2016 open in 198, 4/28/1997.	4A	Oxygen, Dissolved	2006	L	0.004
CRRMH					
VAP-E26E_MYE02C16 / Myer Creek / Described in VDH Condemnation 021-198F, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.017
CRRMH					
VAP-E26E_MYE03A08 / Myer Creek / Downstream of condemnations to mouth at Corrotoman River	4A	Oxygen, Dissolved	2006	L	0.470
CRRMH					
VAP-E26E_SEN01A00 / Senior Creek / The boundaries are described in VDH shellfish condemnation 021-132B, 11/17/2015.	4A	Oxygen, Dissolved	2006	L	0.070
CRRMH					
VAP-E26E_TAY01A00 / Taylor Creek / As described in VDH-DSS condemnations 021-198A and -C, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.078
CRRMH					
VAP-E26E_TAY02A08 / Taylor Creek / Described in VDH Shellfish Condemnation 021-198E, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.024

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

CRRMH VAP-E26E_TAY03A12 / Taylor Creek / Portion of VDH-DSS condemnation 205, 4/28/1997 open 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.088
CRRMH VAP-E26E_TON01A00 / Town Creek / The boundaries are described in VDH shellfish condemnation 021-187C, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.017
CRRMH VAP-E26E_WHR01A00 / Whitehouse Creek / The boundaries are described in VDH shellfish condemnation 021-187A and -187B, 11/16/2016.	4A	Oxygen, Dissolved	2006	L	0.050
CRRMH VAP-E26E_ZZZ02A14 / Unsegmented estuaries in E26 / Unsegmented portion of watershed RA70	4A	Oxygen, Dissolved	2006	L	0.105
CRRMH VAP-E26E_ZZZ02C14 / Unsegmented estuaries in E26 / Unsegmented portion of watershed RA72	4A	Oxygen, Dissolved	2006	L	0.529

CRRMH

Corrotoman River Mesohaline Estuary (CRRMH) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**9.200**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* CRRMH-SAV-BAY Corrotoman River Mesohaline Estuary (CRRMH)**

Cause Location: The Corrotoman River and its tidal tributaries (CRRMH).

City / County: Lancaster Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The mesohaline Corrotoman River (CRRMH) has been impaired of the Chesapeake Bay Shallow Water Subuse since the 2012 cycle. During the 2018 cycle, CRRMH does not meet the Shallow Water Subuse's submerged aquatic vegetation acreage criterion and there is insufficient information to assess the water clarity acreage criterion.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, CRRMH is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_BES01A98 / Bells Creek / The boundaries are described in VDH shellfish condemnation 58B, 4/28/1997.	4A	Aquatic Plants (Macrophytes)	2012	L	0.055
CRRMH					
VAP-E26E_BLD01A98 / Belwood Swamp / Tidal limit to its mouth at the Western Branch Corrotoman River.	4A	Aquatic Plants (Macrophytes)	2012	L	0.009
CRRMH					
VAP-E26E_CRR01A00 / Corrotoman River / The mainstem of the Corrotoman River within segment CRRMH.	4A	Aquatic Plants (Macrophytes)	2012	L	3.769
VAP-E26E_CTM01A00 / Eastern Branch Corrotoman River / The boundaries are described in VDH shellfish condemnations 021-058B, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.540
Size increased in the 2018 cycle.					
CRRMH					
VAP-E26E_CTM01B10 / Eastern Branch Corrotoman River / Portion of VDH shellfish condemnation 058C, 4/28/1997 open on 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.081
Size decreased in the 2018 cycle.					
CRRMH					
VAP-E26E_CTM02A08 / Eastern Branch Corrotoman River, UT / Described in VDH Shellfish Condemnation 021-058D, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.010
CRRMH					
VAP-E26E_CTM03A08 / Eastern Branch Corrotoman River / Downstream boundary of VDH condemnation 021-058C, 4/28/1997 to mouth.	4A	Aquatic Plants (Macrophytes)	2012	L	0.758
CRRMH					
VAP-E26E_CTO01A02 / Western Branch Corrotoman River / The boundaries are described in VDH shellfish condemnation 021-132A, 11/17/2015, not otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2012	L	0.452

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

Size increased in the 2018 cycle.

CRRMH

VAP-E26E_CTO01B12 / Western Branch Corrotoman River / Portion of SFC 132, 4/28/1997 open in 021-132, 11/17/2015.	4A	Aquatic Plants (Macrophytes)	2012	L	0.144

Size reduced in the 2018 cycle.

CRRMH

VAP-E26E_CTO01C12 / Western Branch Corrotoman River, UT / Described in VDH-DSS condemnation 021-132M1, 11/17/2015.	4A	Aquatic Plants (Macrophytes)	2012	L	0.002

CRRMH

VAP-E26E_CTO02A06 / Western Branch Corrotoman River / Mainstem downstream of SFC 132A, 4/28/1997	4A	Aquatic Plants (Macrophytes)	2012	L	1.209

CRRMH

VAP-E26E_DAS01A02 / Davis Creek / As described in VDH-DSS SFC 021-132C. 11/17/2015.	4A	Aquatic Plants (Macrophytes)	2012	L	0.029

CRRMH

VAP-E26E_EWE01A00 / Ewells Prong / As described in VDH shellfish condemnation 187A, 4/28/1997.	4A	Aquatic Plants (Macrophytes)	2012	L	0.036

Merged in the 2018 cycle.

CRRMH

VAP-E26E_EWE02A08 / Ewells Prong / Portion of VDH Shellfish Condemnation 021-187B, 10/17/2012 not included on 187A, 4/28/1997.	4A	Aquatic Plants (Macrophytes)	2012	L	0.012

CRRMH

VAP-E26E_HLS01A00 / Hills Creek / The boundaries are described in VDH shellfish condemnation 58A, 4/28/1997.	4A	Aquatic Plants (Macrophytes)	2012	L	0.062

CRRMH

VAP-E26E_JON01A08 / John Creek / Described in VDH-DSS Condemnation 021-132E, 11/17/2015.	4A	Aquatic Plants (Macrophytes)	2012	L	0.036

CRRMH

VAP-E26E_JON02A08 / John Creek / Downstream of condemnation 021-132E, 11/17/2015.	4A	Aquatic Plants (Macrophytes)	2012	L	0.016

CRRMH

VAP-E26E_LIT01A06 / Little Branch / Tidal limit to mouth at Western Branch Corrotoman River	4A	Aquatic Plants (Macrophytes)	2012	L	0.114

CRRMH

VAP-E26E_LOW01A08 / Lowrey Creek / Described in VDH Shellfish Condemnation 021-132D, 11/17/2015.	4A	Aquatic Plants (Macrophytes)	2012	L	0.028

CRRMH

VAP-E26E_MIP01A00 / Millenbeck Prong / Described in VDH shellfish condemnation 187B, 4/28/1997.	4A	Aquatic Plants (Macrophytes)	2012	L	0.037

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

CRRMH VAP-E26E_MOR01A08 / Moran Creek / Described in VDH Condemnation 021-198D, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.049
CRRMH VAP-E26E_MOR01B12 / Moran Creek / Described in VDH-DSS condemnation 021-198F, 10/17/2012.	4A	Aquatic Plants (Macrophytes)	2012	L	0.010
CRRMH VAP-E26E_MOR02A08 / Moran Creek / Downstream of condemnations 021-198, 10/17/2012.	4A	Aquatic Plants (Macrophytes)	2012	L	0.095
CRRMH VAP-E26E_MYE01A00 / Myer Creek / As described in VDH shellfish condemnation 198, 4/28/1997. Merged in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2012	L	0.081
CRRMH VAP-E26E_MYE01B02 / Myer Creek, UT / As described in VDH-DSS SFC 021-198G, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.042
CRRMH VAP-E26E_MYE01C04 / Myer Creek / Described in VDH-DSS condemnation 021-198M1, 11/16/2016. Split in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2012	L	0.074
CRRMH VAP-E26E_MYE01D18 / Myer Creek / Portion of VDH-DSS condemnation 021-198B, 11/16/2016 open in 198, 4/28/1997.	4A	Aquatic Plants (Macrophytes)	2012	L	0.004
CRRMH VAP-E26E_MYE02C16 / Myer Creek / Described in VDH Condemnation 021-198F, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.017
CRRMH VAP-E26E_MYE03A08 / Myer Creek / Downstream of condemnations to mouth at Corrotoman River	4A	Aquatic Plants (Macrophytes)	2012	L	0.470
CRRMH VAP-E26E_SEN01A00 / Senior Creek / The boundaries are described in VDH shellfish condemnation 021-132B, 11/17/2015.	4A	Aquatic Plants (Macrophytes)	2012	L	0.070
CRRMH VAP-E26E_TAY01A00 / Taylor Creek / As described in VDH-DSS condemnations 021-198A and -C, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.078
CRRMH VAP-E26E_TAY02A08 / Taylor Creek / Described in VDH Shellfish Condemnation 021-198E, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.024
CRRMH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

VAP-E26E_TAY03A12 / Taylor Creek / Portion of VDH-DSS condemnation 205, 4/28/1997 open 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.088
CRRMH					
VAP-E26E_TON01A00 / Town Creek / The boundaries are described in VDH shellfish condemnation 021-187C, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.017
CRRMH					
VAP-E26E_WHR01A00 / Whitehouse Creek / The boundaries are described in VDH shellfish condemnation 021-187A and -187B, 11/16/2016.	4A	Aquatic Plants (Macrophytes)	2012	L	0.050
CRRMH					
VAP-E26E_ZZZ02A14 / Unsegmented estuaries in E26 / Unsegmented portion of watershed RA70	4A	Aquatic Plants (Macrophytes)	2012	L	0.105
CRRMH					
VAP-E26E_ZZZ02C14 / Unsegmented estuaries in E26 / Unsegmented portion of watershed RA72	4A	Aquatic Plants (Macrophytes)	2012	L	0.529
CRRMH					

Corrotoman River Mesohaline Estuary (CRRMH)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**9.200**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-01-BAC** **Thumb Run**

Cause Location: Begins at the confluence of West Branch Thumb Run and East Branch Thumb Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 31 samples - 25.8%) at station 3-THU004.69 at Route 688 (Leeds Manor Road). The Thumb Run Watershed fecal coliform TMDL (POL0117) was approved by the EPA on 05/31/2002. The SWCB approved the TMDL on 06/17/2004. Federal ID 24413. A bacteria TMDL Implementation Plan for the Thumb Run watershed (ID 98) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_THU01A00 / Thumb Run / Segment begins at the confluence of West Branch Thumb Run and East Branch Thumb Run and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2010	L	7.67

Thumb Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.67**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Runoff from Forest/Grassland/Parkland	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-01-BEN** **Thumb Run, East Branch**

Cause Location: Begins at the headwaters of East Branch Thumb Run and continues downstream until the confluence of East Branch to the mainstem Thumb Run.

City / County: Fauquier Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of three biological monitoring events in 2011 and 2012 at station 3-THM001.40 at Route 647 resulted in a VSCI assessment which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_THM01A02 / Thumb Run, East Branch / Segment begins at the headwaters of East Branch Thumb Run and continues downstream until the confluence of East Branch to the mainstem Thumb Run.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	6.59

Thumb Run, East Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.59**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-02-BAC** **Thumb Run, West Branch**

Cause Location: Begins at the headwaters of West Branch Thumb Run and continues downstream until the confluence of West Branch to the mainstem Thumb Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 16 samples - 12.5%) at station 3-THW004.68 at Route 635. A new TMDL is not required for this impaired segment of West Branch, Thumb Run because the downstream Thumb Run Watershed bacteria TMDL (24413, 05/31/2002) included modeling, source identification, and reductions that covered the entire Thumb Run watershed. A bacteria TMDL Implementation Plan for the Thumb Run watershed (ID 98) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_THW01A02 / Thumb Run, West Branch / Segment starts at the headwaters of West Branch Thumb Run and continues downstream until the confluence of West Branch to the mainstem Thumb Run.	4A	Escherichia coli	2002	L	12.08

Thumb Run, West Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.08**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Runoff from Forest/Grassland/Parkland	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-02-BEN** **Unnamed Tributary to Thumb Run, West Branch**

Cause Location: Segment begins at the headwaters of an unnamed tributary to West Branch Thumb Run and continues downstream until the confluence with West Branch Thumb Run.

City / County: Fauquier Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2011 at station 3-XHU000.04 resulted in a VSCI assessment which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_XHU01A14 / Unnamed Tributary to Thumb Run, West Branch / Segment begins at the headwaters of an unnamed tributary to West Branch Thumb Run and continues downstream until the confluence with West Branch Thumb Run.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	0.80

Unnamed Tributary to Thumb Run, West Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-04-BAC** **Thumb Run, East Branch**

Cause Location: Begins at the headwaters of East Branch Thumb Run and continues downstream until the confluence of East Branch to the mainstem Thumb Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 16 samples - 50.0%) at station 3-THM001.40 at Route 647. A new TMDL is not required for this impaired segment of Thumb Run, East Branch because the downstream Thumb Run Watershed bacteria TMDL (24413, 05/31/2002) included modeling, source identification, and reductions that covered the entire Thumb Run watershed (POL0117). A bacteria TMDL Implementation Plan for the Thumb Run watershed (ID 98) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_THM01A02 / Thumb Run, East Branch / Segment begins at the headwaters of East Branch Thumb Run and continues downstream until the confluence of East Branch to the mainstem Thumb Run.	4A	Escherichia coli	2004	L	6.59

Thumb Run, East Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.59**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Runoff from Forest/Grassland/Parkland	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-05-BAC** **Fiery Run**

Cause Location: Begins at the headwaters of Fiery Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 3-FIR002.35 at Route 635. A new TMDL is not required for this impaired segment of Fiery Run because the downstream Upper Rappahannock River Watershed bacteria TMDL (33913, 01/23/2008) included modeling, source identification, and reductions that covered the entire Rappahannock River (1) watershed (POL0516).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_FIR01A04 / Fiery Run / Segment begins at the headwaters of Fiery Run and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2010	L	9.38

Fiery Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.38**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-06-BAC** **Jordan River**

Cause Location: Begins at the confluence of Hittles Mill Stream, at rivermile 6.98, and continues downstream until the confluence with the Rappahannock River.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 23 samples - 21.7%) at station 3-JOR000.50 at Route 637. A new TMDL is not required for this impaired segment of Fiery Run because the downstream Upper Rappahannock River Watershed bacteria TMDL (33913, 01/23/2008) included modeling, source identification, and reductions that covered the entire Rappahannock River (1) watershed (POL0516).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_JOR01A04 / Jordan River / Segment begins at the confluence of Hittles Mill Stream, at rivermile 7.05, and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2012	L	7.05

Jordan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.05**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E01R-07-BAC** **Buck Run**

Cause Location: Begins at the headwaters of Buck Run to the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 12 samples - 58.3%) at station 3-BUC001.54 at Route 735. A new TMDL is not required for this impaired segment of Buck Run because the downstream Upper Rappahannock River Watershed bacteria TMDL (33913, 01/23/2008) included modeling, source identification, and reductions that covered the entire Rappahannock River (1) watershed (POL0516).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E01R_BUC01A10 / Buck Run / Headwaters of Buck Run to the confluence with the Rappahannock River.	4A	Escherichia coli	2016	L	9.76

Buck Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.76**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-01-BAC** **Carter Run**

Cause Location: Begins at the confluence with Horner Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 38 samples - 21.1%) at station 3-CAE000.25 at Route 688; E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-CAE002.79 at Route 681; and E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at station 3-CAE006.32 at Route 738. The Carter Run Watershed bacteria TMDL for the Carter Run watershed (POL0155) was approved by the EPA on 03/10/2005. Federal ID 24414. The bacteria TMDL Implementation Plan for the Carter Run watershed (ID 99) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_CAE01A00 / Carter Run / Segment begins at the confluence with South Run and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	1998	L	3.62
VAN-E02R_CAE02A04 / Carter Run / Segment begins at the PWS designation, at rivermile 5.0, and continues downstream until the confluence with South Run.	4A	Escherichia coli	2006	L	1.56
VAN-E02R_CAE02B12 / Carter Run / Segment begins at the confluence with Horner Run and continues downstream until the beginning of the PWS designation, at rivermile 5.0.	4A	Escherichia coli	2006	L	7.20

Carter Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.38**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-01-BEN** **Great Run**

Cause Location: Begins at the confluence with an unnamed tributary to Great Run at rivermile 7.20, approximately 0.6 rivermile downstream from Route 802, and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of three biological monitoring events in 2011 and 2012 at station 3-GRT001.70 at Route 687 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_GRT01A00 / Great Run / Segment begins at the confluence with an unnamed tributary to Great Run, approximately 1.0 rivermile upstream of Route 687, and continues downstream until the confluence with the Rappahannock River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.81
VAN-E02R_GRT02A04 / Great Run / Segment begins at the confluence of an unnamed tributary to Great Run, at approximately rivermile 5.5, and continues downstream until the confluence with an unnamed tributary to Great Run, approximately 1.0 rivermile upstream of Route 687.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.84
VAN-E02R_GRT03A02 / Great Run / Segment begins at the confluence with an unnamed tributary to Great Run at rivermile 7.20, approximately 0.6 rivermile downstream from Route 802, and continues downstream until the confluence with another unnamed tributary, at approximately rivermile 5.5.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.54

Great Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.19**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-02-BAC** **Great Run**

Cause Location: Begins at the headwaters of Great Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 16 samples - 12.5%) at station 3-GRT001.70 at Route 687. 2016 Assessment: E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) at station 3-GRT007.72 at Route 802. The Great Run Watershed bacteria TMDL for the Great Run watershed (POL0156) was approved by the EPA on 03/10/2005. Federal ID 23325. The bacteria TMDL Implementation Plan for the Great Run watershed (ID 160) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_GRT01A00 / Great Run / Segment begins at the confluence with an unnamed tributary to Great Run, approximately 1.0 rivermile upstream of Route 687, and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2004	L	2.81
VAN-E02R_GRT02A04 / Great Run / Segment begins at the confluence of an unnamed tributary to Great Run, at approximately rivermile 5.5, and continues downstream until the confluence with an unnamed tributary to Great Run, approximately 1.0 rivermile upstream of Route 687.	4A	Escherichia coli	2004	L	2.84
VAN-E02R_GRT03A02 / Great Run / Segment begins at the confluence with an unnamed tributary to Great Run at rivermile 7.20, approximately 0.6 rivermile downstream from Route 802, and continues downstream until the confluence with another unnamed tributary, at approximately rivermile 5.5.	4A	Escherichia coli	2004	L	1.54
VAN-E02R_GRT04A04 / Great Run / Segment begins at the headwaters of Great Run and continues downstream until the confluence with an unnamed tributary to Great Run (streamcode XAC), at rivermile 7.20.	4A	Escherichia coli	2004	L	9.46

Great Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.65**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Runoff from Forest/Grassland/Parkland
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-03-BAC** **Rappahannock River**

Cause Location: Begins at the confluence with Great Run, at rivermile 154.9, and continues downstream until the confluence with the Hazel River, at rivermile 147.52.

City / County: Culpeper Co. Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-RPP150.32 at Route 621. A new TMDL is not required for this impaired segment of the Rappahannock River because the downstream Upper Rappahannock River bacteria TMDL (33951, 01/23/2008) included modeling, source identification, and reductions that covered the entire Rappahannock River (2) watershed (POL0508).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_RPP01A02 / Rappahannock River / Segment begins at the confluence with Great Run, at rivermile 154.9, and continues downstream until the confluence with the Hazel River, at rivermile 147.52.	4A	Escherichia coli	2006	L	7.04

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.04**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-04-BAC** **Barrows Run**

Cause Location: Begins at the headwaters of Barrows Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (3 of 4 samples - 75.0%) at station 3-BRW000.29 at Springs Drive. A new TMDL is not required for this impaired segment of Barrows Run because the downstream Upper Rappahannock River Watershed bacteria TMDL (33951, 01/23/2008) included modeling, source identification, and reductions that covered the entire Rappahannock River (2) watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_BRW01A06 / Barrows Run / Segment begins at the headwaters of Barrows Run and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2006	L	4.52

Barrows Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.52**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-05-BAC** **South Run**

Cause Location: Begins at the confluence with Tanner Branch and continues downstream until the confluence with Carter Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at station 3-SUT002.62 at Route 737. A new TMDL is not required for this impaired segment of South Run because the downstream Carter Run bacteria TMDL (24414, 03/10/2005) included modeling, source identification, and reductions that covered the entire Carter Run watershed (POL0508). A bacteria TMDL Implementation Plan for the Carter Run watershed (ID 99) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_SUT01A04 / South Run / Segment begins at the beginning of the PWS designation, at rivermile 1.47, and continues downstream until the confluence with Carter Run.	4A	Escherichia coli	2006	L	1.50
VAN-E02R_SUT01B12 / South Run / Segment begins at the confluence with Tanner Branch and continues downstream to the beginning of the PWS designation, at rivermile 1.47	4A	Escherichia coli	2006	L	2.59

South Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.09**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Runoff from Forest/Grassland/Parkland
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-07-BAC** **Glascock Run**

Cause Location: Begins at the headwaters of Glascock Run, and continues downstream to the confluence with Bee Branch.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (7 of 11 samples -63.6%) at station 3-GLC002.03 at Citation Drive. A new TMDL is not required for this impaired segment of the Rappahannock River because the downstream Upper Rappahannock River bacteria TMDL included modeling, source identification, and reductions that covered the entire Rappahannock River (2) watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_GLC02A12 / Glascock Run / Segment begins at the beginning of the PWS designation, at rivermile 2.49, and continues downstream to the confluence with Bee Branch.	4A	Escherichia coli	2012	L	1.75
VAN-E02R_GLC02B12 / Glascock Run / Segment begins at the headwaters of Glascock Run, and continuous downstream to the beginning of the PWS designation, at rivermile 2.49.	4A	Escherichia coli	2012	L	2.06

Glascock Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.81**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E02R-08-BAC** **Rappahannock River**

Cause Location: Begins below the dam at Waterloo, at rivermile 163.4 and continues downstream until the confluence with an unnamed tributary to the Rappahannock River, downstream from Route 211.

City / County: Culpeper Co. Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 3-RPP163.41 at Route 613. A new TMDL is not required for this impaired segment of the Rappahannock River because the downstream Upper Rappahannock River bacteria TMDL (33951, 01/23/2008) included modeling, source identification, and reductions that covered the entire Rappahannock River (2) watershed (POL0508).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E02R_RPP03A04 / Rappahannock River / Segment begins below the dam at Waterloo, at rivermile 163.4 and continues downstream until the confluence with an unnamed tributary to the Rappahannock River, downstream from Route 211.	4A	Escherichia coli	2016	L	1.42

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.42**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E03R-01-BAC** **Hughes River**

Cause Location: Begins at the confluence with Kilbys Creek and continues downstream until the confluence with the Hazel River.

City / County: Culpeper Co. Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 30 samples - 26.%) at station 3-HUE000.20 at Route 644. The Upper Rappahannock River Watershed bacteria TMDL for the Hughes River watershed (POL0512) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. Federal ID 33916. A bacteria TMDL Implementation Plan for the Hughes River Run watershed (ID 269) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E03R_HUE01A00 / Hughes River / Segment begins at the confluence with Kilbys Creek and continues downstream until the confluence with the Hazel River.	4A	Escherichia coli	2004	L	3.84

Hughes River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.84**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E03R-01-BEN** **Popham Run**

Cause Location: Begins at the confluence with Ragged Run and continues downstream until the confluence with the Hughes River.

City / County: Culpeper Co. Madison Co. Rappahannock Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of three biological monitoring events in 2015 and 2016 at station 3-POH000.48 at Route 603 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E03R_POH01A02 / Popham Run / Segment begins at the confluence with Ragged Run and continues downstream until the confluence with the Hughes River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.21

Popham Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E03R-01-TEMP** **Hughes River**

Cause Location: Begins at the upper crossing of Route 707 near the confluence of Rocky Run and continues downstream until the crossing of Route 231.

City / County: Madison Co. Rappahannock Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

2012 Assessment: Excursions greater than the maximum temperature criterion for stockable trout waters (2 of 6 samples - 33.3%) at station 3-HUE007.31 at the lower crossing of Route 707.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E03R_HUE02A02 / Hughes River / Segment begins at the upper crossing of Route 707 near the confluence of Rocky Run and continues downstream until the crossing of Route 231.	5A	Temperature, water	2008	L	3.21

Hughes River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E03R-02-BAC** **Popham Run**

Cause Location: Begins at the confluence with Ragged Run and continues downstream until the confluence with the Hughes River.

City / County: Culpeper Co. Madison Co. Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (12 of 12 samples - 100.0%) at station 3-POH000.48 at Route 603. A new TMDL is not required for this impaired segment of Popham Run because the downstream Upper Rappahannock River Watershed bacteria TMDL (33916, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hughes River watershed (POL0512). A bacteria TMDL Implementation Plan for the Hughes River watershed (ID 269) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E03R_POH01A02 / Popham Run / Segment begins at the confluence with Ragged Run and continues downstream until the confluence with the Hughes River.	4A	Escherichia coli	2012	L	2.21

Popham Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.21**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E04R-01-BAC** **Hazel River**

Cause Location: Begins at the confluence of an unnamed tributary to Hazel River at rivermile 36.80, approximately 1.6 rivermiles upstream of Route 607, and continues downstream until the confluence with an unnamed tributary to the Hazel River, at rivermile 16.03.

City / County: Culpeper Co. Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

E. coli bacteria criterion excursions (4 of 31 samples - 12.9%) at station 3-HAZ018.29 at Route 729; E. coli bacteria excursions (5 of 11 samples - 45.5%) at station 3-HAZ034.96 at Route 607; 2012 Assessment: E. coli bacteria criterion excursions (3 of 5 samples - 60.0%) at station 3-HAZ026.16 at Route 522; and 2006 Assessment: Fecal coliform bacteria criterion excursions (3 of 14 samples - 21.4%) at station 3-HAZ032.54 at Route 644 (Note: some of the data used for the 2006 assessment at station 3-HAZ032.54 were subsequently determined to be quality failures, and should not have been used for assessment. The appropriate excursion rate for the data used during the 2006 assessment should have been 1 of 4 samples (25.0%), which assesses this stream segment as not supporting of the recreation use for the 2006 water quality assessment.). The Upper Rappahannock River Watershed bacteria TMDL for the Hazel River (1) watershed (POL0514) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. Federal ID 33915. A bacteria TMDL Implementation Plan for the Hazel River watershed (ID 157) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E04R_HAZ01A00 / Hazel River / Segment begins at the confluence with Blackwater Creek and continues downstream until the confluence with an unnamed tributary to the Hazel River, at rivermile 16.03.	4A	Escherichia coli	2002	L	5.77
VAN-E04R_HAZ01B06 / Hazel River / Segment begins at the confluence with Devils Run and continues downstream until the confluence with Blackwater Creek.	4A	Escherichia coli	2006	L	4.47
VAN-E04R_HAZ01C06 / Hazel River / Segment begins at the confluence with the Hughes River and continues downstream until the confluence with Devils Run.	4A	Escherichia coli	2006	L	5.65
VAN-E04R_HAZ02B06 / Hazel River / Segment begins at the confluence of an unnamed tributary to Hazel River at rivermile 36.80, approximately 1.6 rivermiles upstream of Route 607, and continues downstream until the Route 707 bridge.	4A	Escherichia coli	2016	L	3.63

Hazel River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.52**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E04R_HAZ02A02 / Hazel River / Segment begins at the Route 707 bridge and continues downstream until the confluence with the Hughes River.	4A	Fecal Coliform	2006	L	0.83

Hazel River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**0.83**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E04R-01-TEMP** **Hazel River**

Cause Location: Begins at the crossing with the Shenandoah National Park boundary and continues downstream until the Route 707 bridge.

City / County: Rappahannock Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

Excursions greater than the maximum temperature criterion for natural trout waters (3 of 11 samples - 27.3%) at station 3-HAZ034.96 at Route 607. Excursions greater than the maximum temperature criterion for natural trout waters (3 of 12 samples - 25.0%) at station 3-HAZ039.26 at Route 618.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E04R_HAZ02B06 / Hazel River / Segment begins at the confluence of an unnamed tributary to Hazel River at rivermile 36.80, approximately 1.6 rivermiles upstream of Route 607, and continues downstream until the Route 707 bridge.	5A	Temperature, water	2016	L	3.63
VAN-E04R_HAZ03A02 / Hazel River / Segment begins at the crossing with the Shenandoah National Park boundary and continues downstream until the confluence to an unnamed tributary to the Hazel River, at rivermile 36.80.	5A	Temperature, water	2018	L	6.78

Hazel River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**10.41**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E04R-02-BAC** **Blackwater Creek**

Cause Location: Headwaters of Blackwater Creek, downstream to the confluence with the Hazel River.

City / County: Culpeper Co. Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-BLC001.08 at Route 615. A new TMDL is not required for this impaired segment of Blackwater Creek because the downstream Upper Rappahannock River Watershed bacteria TMDL (33915, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hazel River (1) watershed (POL0514). A bacteria TMDL Implementation Plan for the Hazel River watershed (ID 157) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E04R_BLC01A10 / Blackwater Creek / Headwaters of Blackwater Creek to the confluence with the Hazel River	4A	Escherichia coli	2010	L	8.97

Blackwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.97**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E05R-01-BAC** **Rush River**

Cause Location: Begins at the confluence with unnamed tributary at approximately rivermile 7.12 and continues downstream until the confluence with Big Branch, approximately 0.98 rivermile upstream of Route 621.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at station 3-RUS005.24 at Route 626. The Upper Rappahannock River Watershed bacteria TMDL for the Rush River watershed was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. A bacteria TMDL Implementation Plan for the Rush River watershed (ID 270) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E05R_RUS02A02 / Rush River / Segment begins at the confluence with unnamed tributary at approximately rivermile 7.12. and continues downstream until the confluence with Big Branch, approximately 0.98 rivermile upstream of Route 621.	4A	Escherichia coli	2002	L	2.77

Rush River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.77**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E05R-01-BEN** **Thornton River**

Cause Location: Begins at the Sperryville Main Street crossing and continues downstream until the confluence with the North Fork Thornton River.

City / County: Rappahannock Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Four biological monitoring event in 2013 and 2014 at station 3-THO022.27, above the confluence with NF Thornton River, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E05R_THO03A02 / Thornton River / Segment begins at the Sperryville Main Street crossing and continues downstream until the confluence with the North Fork Thornton River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.86

Thornton River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.86**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E05R-02-BAC** **Thornton River**

Cause Location: Begins at the confluence with White Walnut Run, approximately 0.8 rivermile downstream of Route 621, and continues downstream to the confluence with the Rush River.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 31 samples - 16.1%) at station 3-THO014.37 at Route 626. A new TMDL is not required for this impaired segment of Thornton River because the downstream Upper Rappahannock River Watershed bacteria TMDL (33917, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hazel River (2) watershed (POL0517). A bacteria TMDL Implementation Plan for the Thornton River watershed (ID 205) was approved by the EPA on 08/02/2011

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E05R_THO01A02 / Thornton River / Segment begins at the confluence with White Walnut Run, approximately 0.8 rivermile downstream of Route 621, and continues downstream to the confluence with the Rush River.	4A	Escherichia coli	2006	L	3.45

Thornton River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.45**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E05R-03-BAC** **Big Branch**

Cause Location: Segment begins at the headwaters of Big Branch and continues downstream until the confluence with the Rush River.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 11 samples - 54.5%) at station 3-BIG001.15 at Route 211. A new TMDL is not required for this impaired segment of Big Branch because the downstream Upper Rappahannock River Watershed bacteria TMDL (33917, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hazel River (2) watershed (POL0517). A bacteria TMDL Implementation Plan for the Thornton River watershed (ID 205) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E05R_BIG01A08 / Big Branch / Segment begins at the headwaters of Big Branch and continues downstream until the confluence with the Rush River.	4A	Escherichia coli	2010	L	3.04

Big Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.04**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E05R-04-BAC** **Rush River**

Cause Location: Begins at the confluence with Big Branch and continues downstream until the confluence with the Covington River.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 18 samples - 33.3%) at station 3-RUS003.23 at Route 621. A new TMDL is not required for this impaired segment of the Rush River because the downstream Upper Rappahannock River Watershed bacteria TMDL (33917, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hazel River (2) watershed (POL0517). A bacteria TMDL Implementation Plan for the Thornton River watershed (ID 205) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E05R_RUS01B08 / Rush River / Segment begins at the confluence with Big Branch and continues downstream until the confluence with the Covington River.	4A	Escherichia coli	2014	L	3.35

Rush River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.35**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E06R-01-BAC** **Thornton River**

Cause Location: Begins at the confluence with Mill Run, at rivermile 8.65, and continues downstream until the confluence with an unnamed tributary to the Thornton River, at rivermile 3.25.

City / County: Culpeper Co. Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (10 of 31 samples - 32.3%) at station 3-THO006.50 at Route 729. A new TMDL is not required for this impaired segment of the Thornton River because the downstream Upper Rappahannock River Watershed bacteria TMDL (33917, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hazel River (2) watershed (POL0517). A bacteria TMDL Implementation Plan for the Thornton River watershed (ID 205) was approved by the EPA on 08/02/2011

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E06R_THO02A02 / Thornton River / Segment begins at the confluence with Mill Run, at rivermile 8.65, and continues downstream until the confluence with an unnamed tributary to the Thornton River, at rivermile 3.25.	4A	Escherichia coli	2006	L	5.52

Thornton River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.52**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E06R-02-BAC** **Battle Run**

Cause Location: Begins at the confluence with an unnamed tributary to Battle Run, at rivermile 2.27, and continues downstream until the confluence with the Thornton River.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-BTL000.94 at Route 729. A new TMDL is not required for this impaired segment of Battle Run because the downstream Upper Rappahannock River Watershed TMDL (33917, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hazel River (2) watershed (POL0517). A bacteria TMDL Implementation Plan for the Thornton River watershed (ID 205) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E06R_BTL01A02 / Battle Run / Segment begins at the confluence with an unnamed tributary to Battle Run, at rivermile 2.27, and continues downstream until the confluence with the Thornton River.	4A	Escherichia coli	2008	L	2.23

Battle Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.23**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E06R-03-BAC** **Unnamed tributary to Thornton River**

Cause Location: Begins at the headwaters of the unnamed tributary, and continues downstream to the confluence with the Thornton River.

City / County: Culpeper Co. Rappahannock Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-XHH000.24 at Route 626. A new TMDL is not required for this impaired segment of the unnamed tributary to Thornton River because the downstream Upper Rappahannock River Watershed bacteria TMDL (33917, 01/23/2008) included modeling, source identification, and reductions that covered the entire Hazel River (2) watershed (POL0517). A bacteria TMDL Implementation Plan for the Thornton River watershed (ID 205) was approved by the EPA on 08/02/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E06R_XHH01A12 / Unnamed tributary to Thornton River / Segment begins at the headwaters of the unnamed tributary, and continues downstream to the confluence with the Thornton River.	4A	Escherichia coli	2012	L	5.02

Unnamed tributary to Thornton River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.02**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E07R-01-BAC** **Muddy Run**

Cause Location: Begins at the headwaters of Muddy Run and continues downstream until the confluence with the Hazel River.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-MUU000.82 at Route 625 and E. coli bacteria criterion excursions (7 of 11 samples - 63.6%) at station 3-MUU008.52 at Route 632. The Muddy Run bacteria TMDL was approved by the EPA on 07/06/2004. The SWCB approved the TMDL on 12/02/2004. Federal ID 23326. TMDL Eq IDs 1299 and POL0003.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E07R_MUU01A00 / Muddy Run / Segment begins at the confluence with an unnamed tributary to Muddy Run, approximately 0.2 rivermile upstream of Route 229, and continues downstream until the confluence with the Hazel River.	4A	Escherichia coli	1996	L	6.09
VAN-E07R_MUU02A02 / Muddy Run / Segment begins at the headwaters of Muddy Run and continues downstream until the confluence with an unnamed tributary to Muddy Run, approximately 0.2 rivermile upstream of Route 229.	4A	Escherichia coli	2002	L	8.25

Muddy Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.34**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E07R-02-BAC** **Hazel River**

Cause Location: Begins at the confluence with Indian Run and continues downstream until the confluence with Muddy Run.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (9 of 31 samples - 29.0%) at station 3-HAZ005.98 at Route 625. The Upper Rappahannock River Watershed bacteria TMDL for the Hazel River (2) watershed (POL0517) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. Federal ID 33917.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E07R_HAZ01A04 / Hazel River / Segment begins at the confluence with Indian Run and continues downstream until the confluence with Muddy Run.	4A	Escherichia coli	2006	L	3.36

Hazel River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.36**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E08R-01-BAC** **Marsh Run**

Cause Location: Begins at the headwaters of Marsh Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (15 of 32 samples - 46.9%) at station 3-MAH000.19 at Route 651; E. coli bacteria criterion excursions (7 of 16 samples - 43.8%) at station 3-MAH004.18 at Route 668; and E. coli bacteria criterion excursions (6 of 9 samples - 66.7%) at station 3-MAH008.88 at Route 17. The Upper Rappahannock River Watershed bacteria TMDL for the Marsh Run watershed (POL0515) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. Federal ID 34088. A bacteria TMDL Implementation Plan for the Marsh Run watershed (ID 18) was approved by the EPA on 05/24/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E08R_MAH01A00 / Marsh Run / Segment begins at the confluence with Harpers Run, at approximately rivermile 2.4, and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	1996	L	2.32
VAN-E08R_MAH02A02 / Marsh Run / Segment begins at the confluence with Craig Run and continues downstream until the confluence with Harpers Run, at approximately rivermile 2.4.	4A	Escherichia coli	2012	L	6.01
VAN-E08R_MAH03A02 / Marsh Run / Segment begins at the headwaters of Marsh Run and continues downstream until the confluence with Craig Run.	4A	Escherichia coli	2008	L	3.87

Marsh Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.20**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E08R-01-BEN** **Marsh Run**

Cause Location: Begins at the confluence with Craig Run and continues downstream until the confluence with Harpers Run, at approximately rivermile 2.4.

City / County: Fauquier Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: A total of two biological monitoring events in 2009 at station 3-MAH004.18 at Route 668 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E08R_MAH02A02 / Marsh Run / Segment begins at the confluence with Craig Run and continues downstream until the confluence with Harpers Run, at approximately rivermile 2.4.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	6.01

Marsh Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.01**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E08R-02-BAC** **Browns Run**

Cause Location: Begins at the confluence with an unnamed tributary to Browns Run, near the Route 17 bridge, and continues downstream until the confluence with Marsh Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (22 of 32 samples - 68.8%) at station 3-BOS000.72 at Route 653 (Morganburg Road). The Upper Rappahannock River Watershed bacteria TMDL for the Browns Run watershed (POL0510) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. Federal ID 33911. A bacteria TMDL Implementation Plan for the Browns Run watershed (ID 17) was approved by the EPA on 05/24/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E08R_BOS01A02 / Browns Run / Segment begins at the confluence with an unnamed tributary to Browns Run, near the Route 17 bridge, and continues downstream until the confluence with Marsh Run.	4A	Escherichia coli	2002	L	2.54

Browns Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.54**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E08R-03-BAC** **Craig Run**

Cause Location: Begins at the headwaters of Craig Run and continues downstream until the confluence with Marsh Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (11 of 31 samples - 35.5%) at station 3-CRA000.46 at Luck Stone Road. The Upper Rappahannock River Watershed bacteria TMDL for the Craig Run watershed (POL0509) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. A bacteria TMDL Implementation Plan for the Craig Run watershed (ID 116) was approved by the EPA on 05/24/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E08R_CRA01A02 / Craig Run / Segment begins at the headwaters of Craig Run and continues downstream until the confluence with Marsh Run.	4A	Escherichia coli	2004	L	3.72

Craig Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.72**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E08R-04-BAC** **Rappahannock River**

Cause Location: Begins at the confluence with Ruffans Run and continues downstream until the confluence with Tinpot Run.

City / County: Culpeper Co. Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 66 samples - 10.6%) at station 3-RPP147.49 at Route 29. The Upper Rappahannock River Watershed bacteria TMDL for the Rappahannock River (2) watershed (POL0508) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. Federal ID 33951.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E08R_RPP02A02 / Rappahannock River / Segment begins at the confluence with Ruffans Run and continues downstream until the confluence with Tinpot Run.	4A	Escherichia coli	2004	L	2.11

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.11**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E08R-05-BAC** **Rappahannock River**

Cause Location: Begins at the confluence with an unnamed tributary to the Rappahannock River, at approximately rivermile 142.5, and continues downstream until the confluence with Marsh Run.

City / County: Culpeper Co. Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 15 samples - 13.3%) at station 3-RPP142.36 at Route 620. The Upper Rappahannock River Watershed bacteria TMDL for the Rappahannock River (3) watershed (POL0511) was approved by the EPA on 01/23/2008. The SWCB approved the TMDL on 07/31/2008. Federal ID 33952

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E08R_RPP01A02 / Rappahannock River / Segment begins at the confluence with an unnamed tributary to the Rappahannock River, at approximately rivermile 142.5, and continues downstream until the confluence with Marsh Run.	4A	Escherichia coli	2006	L	2.85

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.85**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E08R-06-BAC** **Tinpot Run**

Cause Location: Begins at the confluence with an unnamed tributary to Tinpot Run, at rivermile 1.27, and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 9 samples - 55.6%) at station 3-TIN000.36 at Route 651 (Sumerduck Road). A new TMDL is not required for this impaired segment of Tinpot Run because the downstream Upper Rappahannock River Watershed bacteria TMDL included modeling, source identification, and reductions that covered the entire Rappahannock River (3) watershed (POL0511).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E08R_TIN01A08 / Tinpot Run / Segment begins at the confluence with an unnamed tributary to Tinpot Run, at rivermile 1.27, and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2008	L	1.28

Tinpot Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.28**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09L-01-TP** **Lake Pelham**

Cause Location: Segment includes all of Lake Pelham.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

Excursions above the total phosphorous criterion of 40 µg/L were observed in each of the two most recent years of nutrient monitoring (2014 and 2015), during which algaecides were applied, at DEQ lake monitoring station 3-MTN024.05.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09L_MTN01A02 / Lake Pelham / Segment includes all of Lake Pelham.	5A	Phosphorus (Total)	2018	L	249.70

Lake Pelham **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**249.70**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-01-BAC** **Mountain Run**

Cause Location: Begins at the confluence with Flat Run and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 29 samples - 20.7%) at station 3-MTN000.59 at Route 620. A bacteria TMDL for the Mountain Run watershed (POL0116) was approved by the EPA on 04/27/2001. The SWCB approved the TMDL on 06/17/2004. Federal ID 24415.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN01A00 / Mountain Run / Segment begins at the confluence with Flat Run and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	1996	L	7.58

Mountain Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.58**

Sources:

Grazing in Riparian or Shoreline Zones	Impervious Surface/Parking Lot Runoff	Livestock (Grazing or Feeding Operations)	Manure Runoff
Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-01-BEN** **Mountain Run**

Cause Location: Begins at the Route 15/29 bridge crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: A total of four biological monitoring events in 2003 and 2004 at station 3-MTN003.31 (downstream of Route 672) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community. 2012 Assessment: Two biological monitoring events in 2006 at station 3-MTN018.83 (downstream of the Route 15/29 bypass) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN01A00 / Mountain Run / Segment begins at the confluence with Flat Run and continues downstream until the confluence with the Rappahannock River.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	7.58
VAN-E09R_MTN02A04 / Mountain Run / Segment begins at the confluence with Jonas Run and continues downstream until the confluence with Flat Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	5.67
VAN-E09R_MTN03A00 / Mountain Run / Segment begins at the Route 15/29 bridge crossing and continues downstream until the confluence with Jonas Run.	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	6.65

Mountain Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-01-PCB** **Mountain Run**

Cause Location: Begins at the Route 15/29 bridge crossing near Culpeper City and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A PCB in Water Column / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month. The affected stretch of Mountain Run extends roughly 19 miles, from the Route 15/29 bridge crossing near Culpeper City downstream until the confluence with the Rappahannock River.

The following exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for PCBs in fish tissue were recorded: three exceedances in one species of fish (American eel) collected in 2013 at monitoring station 3-MTN000.59; two exceedances in two species of fish (American eel and yellow bullhead catfish) collected in 2013 at monitoring station 3-MTN005.79; and four exceedances in three species of fish (American eel, yellow bullhead catfish, and sunfish) collected in 2013 at monitoring station 3-MTN014.33.

Additionally, two exceedances of the human health criterion of 640 picogram per liter (pg/l) for total polychlorinated biphenyls (PCBs) in the water column were recorded in water quality samples collected at station 3-MTN014.88 at Route 663.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN01A00 / Mountain Run / Segment begins at the confluence with Flat Run and continues downstream until the confluence with the Rappahannock River.	5A	PCB in Fish Tissue	2006	H, 2yr	7.58
VAN-E09R_MTN02A04 / Mountain Run / Segment begins at the confluence with Jonas Run and continues downstream until the confluence with Flat Run.	5A	PCB in Fish Tissue	2006	H, 2yr	5.67
VAN-E09R_MTN03A00 / Mountain Run / Segment begins at the Route 15/29 bridge crossing and continues downstream until the confluence with Jonas Run.	5A	PCB in Fish Tissue	2006	H, 2yr	6.65

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			**19.90**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN03A00 / Mountain Run / Segment begins at the Route 15/29 bridge crossing and continues downstream until the confluence with Jonas Run.	5A	PCB in Water Column	2018	H, 2yr	6.65

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:			**6.65**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-02-BAC** **Mountain Run**

Cause Location: Segment begins at the outlet from Lake Pelham and continues downstream until the confluence with Jonas Run.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 6 samples - 83.3%) at station 3-MTN014.88 at Route 663 (Stevensburg Road). E. coli bacteria criterion excursions (2 of samples - 50.0%) at station 3-MTN021.11 at Route 799 (Keyser Road). E. coli bacteria criterion excursions (3 of 4 samples - 75.0%) at station 3-MTN022.01 at Old Brandy Road. A new TMDL is not required for this impaired segment of Mountain Run because the downstream TMDL (24415, 04/27/2001) included modeling, source identification, and reductions that covered the entire Mountain Run watershed (POL0116).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN03A00 / Mountain Run / Segment begins at the Route 15/29 bridge crossing and continues downstream until the confluence with Jonas Run.	4A	Escherichia coli	2010	L	6.65
VAN-E09R_MTN04A04 / Mountain Run / Segment begins at the outlet from Lake Pelham and continues downstream until the Route 15/29 bridge crossing.	4A	Escherichia coli	2016	L	4.63

Mountain Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.28**

Sources:

Grazing in Riparian or Shoreline Zones	Impervious Surface/Parking Lot Runoff	Livestock (Grazing or Feeding Operations)	Manure Runoff
Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-02-BEN** **Jonas Run**

Cause Location: Begins at the confluence with an unnamed tributary to Jonas Run (XDZ), at approximately rivermile 3.74, and continues downstream until the confluence with Mountain Run.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: A total of two biological monitoring events in 2009 at station 3-JOA001.60 at Route 684 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_JOA01A06 / Jonas Run / Segment begins at the confluence with an unnamed tributary to Jonas Run (XDZ), at approximately rivermile 3.74, and continues downstream until the confluence with Mountain Run.	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	3.78

Jonas Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.78**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-02-PCB** **Mountain Run**

Cause Location: Begins at the outlet from Lake Pelham and continues downstream until the Route 15/29 bridge crossing.

City / County: Culpeper Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A PCB in Water Column / 5A

Exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in three species of fish (white sucker, American eel, and yellow bullhead catfish) in four total samples collected in 2013 at monitoring station 3-MTN022.21.

Two exceedances of the human health criteria of 640 picogram per liter (pg/l) for total polychlorinated biphenyls (PCBs) in the water column were recorded in water quality samples collected at DEQ station 3-MTN021.11 at Route 799.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN04A04 / Mountain Run / Segment begins at the outlet from Lake Pelham and continues downstream until the Route 15/29 bridge crossing.	5A	PCB in Fish Tissue	2016	L	4.63

Mountain Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**4.63**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN04A04 / Mountain Run / Segment begins at the outlet from Lake Pelham and continues downstream until the Route 15/29 bridge crossing.	5A	PCB in Water Column	2018	L	4.63

Mountain Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**4.63**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-03-BAC** **Mountain Run**

Cause Location: Begins at the confluence with an unnamed tributary that flows from Caymore Lake and continues downstream until Lake Pelham.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (5 of 9 samples - 55.6%) at station 3-MTN027.08 at Route 641. A new TMDL is not required for this impaired segment of Mountain Run because the downstream TMDL included modeling, source identification, and reductions that covered the entire Mountain Run watershed

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_MTN05A04 / Mountain Run / Segment begins at the confluence with an unnamed tributary that flows from Caymore Lake and continues downstream until Lake Pelham.	4A	Escherichia coli	2006	L	1.63

Mountain Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.63**

Sources:

Grazing in Riparian or Shoreline Zones	Impervious Surface/Parking Lot Runoff	Livestock (Grazing or Feeding Operations)	Manure Runoff
Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-04-BAC** **Jonas Run**

Cause Location: Begins at the confluence with an unnamed tributary to Jonas Run (XDZ), at approximately rivermile 3.74, and continues downstream until the confluence with Mountain Run.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (4 of 14 samples - 28.6%) at station 3-JOA000.80 at Route 663 (Stevensburg Road). A new TMDL is not required for this impaired segment of Jonas Run because the downstream bacteria TMDL (24415, 04/27/2001) included modeling, source identification, and reductions that covered the entire Mountain Run watershed (POL0116).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_JOA01A06 / Jonas Run / Segment begins at the confluence with an unnamed tributary to Jonas Run (XDZ), at approximately rivermile 3.74, and continues downstream until the confluence with Mountain Run.	4A	Escherichia coli	2008	L	3.78

Jonas Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.78**

Sources:

Grazing in Riparian or Shoreline Zones	Impervious Surface/Parking Lot Runoff	Livestock (Grazing or Feeding Operations)	Manure Runoff
Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E09R-05-BAC** **Flat Run**

Cause Location: Begins at the headwaters of Flat Run and continues downstream until the confluence with Mountain Run.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 13 samples - 53.8%) at station 3-FLA001.93 at Route 675. A new TMDL is not required for this impaired segment of Flat Run because the downstream bacteria TMDL (24415, 04/27/2001) included modeling, source identification, and reductions that covered the entire Mountain Run watershed (POL0116).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E09R_FLA01A08 / Flat Run / Segment begins at the headwaters of Flat Run and continues downstream until the confluence with Mountain Run.	4A	Escherichia coli	2014	L	6.23

Flat Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.23**

Sources:

Grazing in Riparian or Shoreline Zones	Impervious Surface/Parking Lot Runoff	Livestock (Grazing or Feeding Operations)	Manure Runoff
Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E10R-01-BAC** **Deep Run**

Cause Location: Begins at the headwaters of Deep Run and continues downstream until the confluence with Pine Branch. Begins again at the confluence with Green Branch (at rivermile 4.75) and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co. Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (19 of 32 samples - 59.4%) at station 3-DPR001.70 at Route 17 and E. coli bacteria criterion excursions (2 of 11 - 18.2%) at station 3-DPR008.98 at Route 634. The Deep Run bacteria TMDL (POL0115) was approved by the EPA on 05/26/2004. The SWCB approved the TMDL on 08/31/2004. Federal ID 24417. A bacteria TMDL Implementation Plan for the Deep Run watershed (ID 58) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E10R_DPR01A00 / Deep Run / Segment begins at the confluence with Green Branch, at rivermile 4.75, and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	1996	L	4.93
VAN-E10R_DPR03A02 / Deep Run / Segment begins at the headwaters of Deep Run and continues downstream until the confluence with Pine Branch.	4A	Escherichia coli	2014	L	3.75

Deep Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.68**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E10R-01-BEN** **Sumerduck Run**

Cause Location: Begins at the confluence with an unnamed tributary to Sumerduck Run, approximately 0.55 rivermile upstream of Route 632, and continues downstream until the confluence with another unnamed tributary, at Route 631.

City / County: Fauquier Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of four biological monitoring events in 2013 and 2014 at station 3-SMR004.81 at Route 632 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E10R_SMR02A06 / Sumerduck Run / Segment begins at the confluence with an unnamed tributary to Sumerduck Run, approximately 0.55 rivermile upstream of Route 632, and continues downstream until the confluence with another unnamed tributary, at Route 631.	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	1.85

Sumerduck Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E10R-03-BAC** **Alcotti Run**

Cause Location: Begins at the headwaters of Alcotti Run and continues downstream until the confluence with Deep Run.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-ALC002.74 at Route 614. A new TMDL is not required for this impaired segment of Alcotti Run because the downstream Deep Run bacteria TMDL (24417, 05/26/2004) included modeling, source identification, and reductions that covered the entire watershed (POL0115). A bacteria TMDL Implementation Plan for the Deep Run watershed (ID 47) was approved by the EPA on 05/22/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E10R_ALC01A00 / Alcotti Run / Segment begins at the headwaters of Alcotti Run and continues downstream until the confluence with Deep Run.	4A	Escherichia coli	2012	L	5.16

Alcotti Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.16**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E10R-04-BAC** **Sumerduck Run**

Cause Location: Begins at the confluence with an unnamed tributary to Sumerduck Run, approximately 0.55 rivermile upstream of Route 632, and continues downstream until the confluence with another unnamed tributary, at Route 631.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 19 samples - 31.6%) at station 3-SMR004.81 at Route 632.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E10R_SMR02A06 / Sumerduck Run / Segment begins at the confluence with an unnamed tributary to Sumerduck Run, approximately 0.55 rivermile upstream of Route 632, and continues downstream until the confluence with another unnamed tributary, at Route 631.	5A	Escherichia coli	2016	L	1.85

Sumerduck Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E11R-01-BAC** **Garth Run**

Cause Location: Begins at the headwaters of Garth Run and continues downstream until the confluence with the Rapidan River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 11 samples - 54.5%) at station 3-GAR000.95 at Route 718 and E. coli bacteria criterion excursions (9 of 11 samples - 81.8%) at station 3-GAR005.59 at Route 615. A new TMDL is not required for this impaired segment of Garth Run because the downstream Rapidan River Basin bacteria TMDL (33867, 12/05/2007) included modeling, source identification, and reductions that covered the entire Upper Rapidan River watershed (POL0496). The Upper Rapidan River bacteria TMDL Implementation Plan for the Garth Run watershed (ID 78) was approved by the EPA on 12/31/2015

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E11R_GAR01A02 / Garth Run / Segment begins at the Route 665 crossing, at approximately rivermile 1.9, and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2014	L	1.61
VAN-E11R_GAR02A06 / Garth Run / Segment begins at the headwaters of Garth Run and continues downstream until the Route 665 crossing, at approximately rivermile 1.9.	4A	Escherichia coli	2018	L	5.82

Garth Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.43**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E11R-01-BEN** **Conway River**

Cause Location: Segment begins at the confluence with an unnamed tributary to the Conway River, approximately 0.6 rivermile upstream from Route 230, and continues downstream until the confluence with the Rapidan River.

City / County: Greene Co. Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: A total of three biological monitoring events in 2007 and 2008 at station 3-CON002.26 at Route 230 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E11R_CON01A04 / Conway River / Segment begins at the beginning of the PWS designation, and continues downstream until the confluence with the Rapidan River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.32
VAN-E11R_CON01B12 / Conway River / Segment begins at the confluence with an unnamed tributary to the Conway River, approximately 0.6 rivermile upstream from Route 230, and continues downstream until the start of the PWS designated area.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.67

Conway River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E11R-01-TEMP** **Garth Run**

Cause Location: Begins at the headwaters of Garth Run and continues downstream until the Route 665 crossing, at approximately rivermile 1.9.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

Excursions greater than the maximum temperature criterion for natural trout waters (4 of 10 samples - 40.0%) at station 3-GAR005.59 at Route 615.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E11R_GAR02A06 / Garth Run / Segment begins at the headwaters of Garth Run and continues downstream until the Route 665 crossing, at approximately rivermile 1.9.	5A	Temperature, water	2018	L	5.82

Garth Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**5.82**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E12R-01-BEN** **Rippin Run**

Cause Location: Begins at the confluence with White Run and continues downstream until the confluence with the Rapidan River.

City / County: Greene Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: A total of two biological monitoring events in 2010 at station 3-RIP000.22 at Route 609 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E12R_RIP01A04 / Rippin Run / Segment begins at the confluence with White Run and continues downstream until the confluence with the Rapidan River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	0.60

Rippin Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.60**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E12R-02-BAC** **Rippin Run**

Cause Location: Begins at the confluence with White Run and continues downstream until the confluence with the Rapidan River.

City / County: Greene Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) from station 3-RIP000.22 at Route 609. A new TMDL is not required for this impaired segment of Rippin Run because the downstream Rapidan River Basin bacteria TMDL (33867, 12/05/2007) included modeling, source identification, and reductions that covered the entire Upper Rapidan River watershed. The Upper Rapidan River bacteria TMDL Implementation Plan for the Rippin Run watershed (ID 72) was approved by the EPA on 12/31/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E12R_RIP01A04 / Rippin Run / Segment begins at the confluence with White Run and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2012	L	0.60

Rippin Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.60**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-01-BAC** **Blue Run**

Cause Location: Begins at the headwaters of Blue Run and continues downstream until the confluence with the Rapidan River.

City / County: Albemarle Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-BLU000.80 at Route 641; E. coli bacteria criterion excursions (7 of 12 samples - 58.3%) at station 3-BLU002.60 at Route 20; and E. coli bacteria criterion excursions (7 of 11 samples - 63.6%) at station 3-BLU008.33 at Route 33. The Rapidan River Basin bacteria TMDL for the Blue Run watershed was approved by the EPA on 12/05/2007. The SWCB approved the TMDL on 07/31/2008. Federal ID 33865. The Upper Rapidan River bacteria TMDL Implementation Plan for the Blue Run watershed (ID 77) was approved by the EPA on 12/31/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_BLU01A00 / Blue Run / Segment begins at the beginning of the PWS designation., and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2002	L	0.33
VAN-E13R_BLU01B12 / Blue Run / Segment begins at the confluence with Barbour Run, approximately 0.13 rivermile upstream of the Southern Rail Road bridge, and continues downstream until the start of the PWS designation.	4A	Escherichia coli	2002	L	4.01
VAN-E13R_BLU02A04 / Blue Run / Segment begins at the headwaters of Blue Run and continues downstream until the confluence with Barbour Run.	4A	Escherichia coli	2006	L	8.38

Blue Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.72**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-01-BEN** **Beautiful Run**

Cause Location: Begins at an unnamed tributary at rivermile 3.44, and continues downstream to another unnamed tributary, upstream of Route 620.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2011 at station 3-BFL002.90 at Route 616 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_BFL02A12 / Beautiful Run / Segment begins at an unnamed tributary at rivermile 3.44, and continues downstream to another unnamed tributary, upstream of Route 620.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.50

Beautiful Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-02-BAC** **Rapidan River**

Cause Location: Begins at the confluence with Poplar Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 32 samples - 21.9%) at station 3-RAP045.08 at Route 15. The Rapidan River Basin bacteria TMDL for the Upper Rapidan River watershed (POL0496) was approved by the EPA on 12/05/2007. The SWCB approved the TMDL on 07/31/2008. Federal ID 33867. The Upper Rapidan River bacteria TMDL Implementation Plan for the Rapidan River (#1) watershed (ID 70) was approved by the EPA on 12/31/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_RAP01A00 / Rapidan River / Segment begins at the confluence with Poplar Run and continues downstream until the confluence with the Robinson River.	4A	Escherichia coli	2002	L	7.63

Rapidan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.63**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-04-BAC** **Unnamed tributary to the Rapidan River**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream until the confluence with the Rapidan River.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at station 3-XEZ000.12 at Route 634. The Rapidan River Basin bacteria TMDL for this Unnamed Tributary to the Rapidan River watershed (POL0497) was approved by the EPA on 12/05/2007. The SWCB approved the TMDL on 07/31/2008. Federal ID 33866. The Upper Rapidan River bacteria TMDL Implementation Plan for the Rapidan River (#1) watershed (ID 76) was approved by the EPA on 12/31/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_XEZ01A04 / Unnamed tributary to Rapidan River / Segment begins at the headwaters of the unnamed tributary and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2004	L	2.67

Unnamed tributary to the Rapidan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.67**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-05-BAC** **Beautiful Run**

Cause Location: Begins at the headwaters and continues downstream until the confluence with the Rapidan River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 3-BFL006.28 at Route 621; E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 3-BFL002.90 at Route 616 (2016 Assessment); and E. coli bacteria criterion excursions (8 of 11 samples - 72.7%) at station 3-BFL000.90 at Route 620. A new TMDL is not required for this impaired segment of Beautiful Run because the downstream Rapidan River Basin bacteria TMDL (33867, 12/05/2007) included modeling, source identification, and reductions that covered the entire Upper Rapidan River watershed (POL0496). The Upper Rapidan River bacteria TMDL Implementation Plan for the Beautiful Run watershed (ID 69) was approved by the EPA on 12/31/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_BFL01A04 / Beautiful Run / Segment begins at the confluence of an unnamed tributary, upstream from Route 620, and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2006	L	1.18
VAN-E13R_BFL02A12 / Beautiful Run / Segment begins at an unnamed tributary at rivermile 3.44, and continues downstream to another unnamed tributary, upstream of Route 620.	4A	Escherichia coli	2012	L	2.50
VAN-E13R_BFL03A16 / Beautiful Run / Segment begins at the headwaters of Beautiful Run and continues downstream to an unnamed tributary at rivermile 3.44.	4A	Escherichia coli	2016	L	8.45

Beautiful Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.13**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-06-BAC** **Rapidan River**

Cause Location: Begins at the confluence with Marsh Run and continues downstream until the confluence with Blue Run.

City / County: Madison Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 12 samples - 58.3%) at station 3-RAP055.84 at Route 231. A new TMDL is not required for this impaired segment of Rapidan River because the downstream Rapidan River Basin TMDL (33867, 12/05/2007) included modeling, source identification, and reductions that covered the entire Upper Rapidan River watershed (POL0496). The Upper Rapidan River bacteria TMDL Implementation Plan for the Rapidan River (#2) watershed (ID 73) was approved by the EPA on 12/31/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_RAP02A06 / Rapidan River / Segment begins at the beginning of the PWS designation. and continues downstream until the confluence with Blue Run.	4A	Escherichia coli	2006	L	0.30
VAN-E13R_RAP02B12 / Rapidan River / Segment begins at the confluence with Marsh Run and continues downstream until the start of the PWS designation.	4A	Escherichia coli	2006	L	4.03

Rapidan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.33**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-07-BAC** **Unnamed tributary to Rapidan River**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream until the confluence with the Rapidan River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 12 samples - 66.7%) at station 3-XBO000.26 at Route 621. A new TMDL is not required for this impaired segment of the unnamed tributary to the Rapidan River because the downstream Rapidan River Basin bacteria TMDL (33867, 12/05/2007) included modeling, source identification, and reductions that covered the entire Upper Rapidan River watershed (POL0496). The Upper Rapidan River bacteria TMDL Implementation Plan for the UT to Rapidan River (#2) watershed (ID 75) was approved by the EPA on 12/31/2015

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_XBO01A04 / Unnamed tributary to Rapidan River / Segment begins at the headwaters of the unnamed tributary and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2006	L	3.11

Unnamed tributary to Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.11**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-08-BAC** **Marsh Run**

Cause Location: Begins at the headwaters of Marsh Run and continues downstream until the confluence with the Rapidan River.

City / County: Greene Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) at station 3-MAS001.55 at Route 644. The Rapidan River Basin bacteria TMDL for the Marsh Run watershed (POL0495) was approved by the EPA on 12/05/2007. The SWCB approved the TMDL on 07/31/2008. Federal ID 33864. The Upper Rapidan River bacteria TMDL Implementation Plan for the Marsh Run watershed (ID 74) was approved by the EPA on 12/31/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_MAS01A04 / Marsh Run / Segment begins at the headwaters of Marsh Run and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2014	L	5.64

Marsh Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.64**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E13R-09-BAC** **Poplar Run**

Cause Location: Begins at the headwaters of Poplar Run and continues downstream until the confluence with the Rapidan River.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at station 3-POL000.10 at Route 633 (Amicus Road). A new TMDL is not required for this impaired segment of Poplar Run because the downstream Rapidan River Basin bacteria TMDL (33867, 12/05/2007) included modeling, source identification, and reductions that covered the entire Upper Rapidan River watershed (POL0496). The Upper Rapidan River bacteria TMDL Implementation Plan for the Poplar Run watershed (ID 71) was approved by the EPA on 12/31/2015

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E13R_POL01A04 / Poplar Run / Segment begins at the headwaters of Poplar Run and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2014	L	4.14

Poplar Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.14**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E14R-01-BEN** **White Oak Run**

Cause Location: Begins approximately 0.4 rivermile upstream from the Route 657 crossing, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of one biological monitoring event in 2015 at station 3-WHO001.48 at Route 231 and a total of two biological monitoring events in 2016 at station 3-WHO001.51, just upstream from Route 231, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E14R_WHO01A06 / White Oak Run / Segment begins approximately 0.4 rivermile upstream from the Route 657 crossing, and continues downstream until the confluence with the Robinson River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.19

White Oak Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.19**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E14R-01-TEMP** **Robinson River**

Cause Location: Begins at the confluence with the Rose River, just downstream of Route 670, and continues downstream until the crossing of Route 231, rivermile 21.58.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

Excursions greater than the maximum temperature criterion for stockable trout waters (4 of 10 samples - 40.0%) at station 3-ROB024.06 at Route 649.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E14R_ROB01C00 / Robinson River / Segment begins at the confluence with the Rose River, just downstream of Route 670, and continues downstream until the crossing of Route 231, rivermile 21.58.	5A	Temperature, water	2004	L	3.00

Robinson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**3.00**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E14R-02-BAC** **Finks Run**

Cause Location: Begins at the headwaters of Finks Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 5 samples - 40.0%) at station 3-FIK001.08 at Route 650. A new TMDL is not required for this impaired segment of Finks Run because the downstream Robinson River and Little Dark Run bacteria TMDL (24419, 12/12/2005) included modeling, source identification, and reductions that covered the entire Upper Robinson River watershed (POL0245). The Little Dark Run and Robinson River bacteria TMDL Implementation Plan for the Upper Robinson River watershed (ID 14) was approved by the EPA on 05/31/2011

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E14R_FIK01A06 / Finks Run / Segment begins at the headwaters of Finks Run and continues downstream until the confluence with the Robinson River.	4A	Escherichia coli	2006	L	3.16

Finks Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.16**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E14R-02-TEMP** **Rose River**

Cause Location: Begins at rivermile 2.6, approximately 0.36 rivermile downstream from the confluence with Strother Run, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

2010 Assessment: Excursions greater than the maximum temperature criterion for stockable trout waters (3 of 28 samples - 10.7%) at station 3-ROE000.75 at a private road.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E14R_ROE01A02 / Rose River / Segment starts at rivermile 2.6, approximately 0.36 rivermile downstream from the confluence with Strother Run, and continues downstream until the confluence with the Robinson River.	5A	Temperature, water	2006	L	2.58

Rose River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**2.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E14R-03-BAC** **White Oak Run**

Cause Location: Begins approximately 0.4 rivermile upstream from the Route 657 crossing, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (13 of 23 samples - 56.5%) at station 3-WHO001.48 at Route 231. A new TMDL is not required for this impaired segment of White Oak Run because the downstream Robinson River and Little Dark Run bacteria TMDL (24419, 12/12/2005) included modeling, source identification, and reductions that covered the entire Lower Robinson River watershed (POL0243). A bacteria TMDL Implementation Plan for the Lower Robinson River watershed (ID 119) was approved by the EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E14R_WHO01A06 / White Oak Run / Segment begins approximately 0.4 rivermile upstream from the Route 657 crossing, and continues downstream until the confluence with the Robinson River.	4A	Escherichia coli	2006	L	3.19

White Oak Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.19**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E14R-04-BAC** **Leathers Run**

Cause Location: Begins at the confluence with an unnamed tributary to Leathers Run, approximately 0.65 rivermile downstream from the Route 641 crossing, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 3-LEA000.17 at Route 609. A new TMDL is not required for this impaired segment of Leathers Run because the downstream Robinson River and Little Dark Run bacteria TMDL (24419, 12/12/2005) included modeling, source identification, and reductions that covered the entire Robinson River watershed (POL0245). A bacteria TMDL Implementation Plan for the Upper Robinson River watershed (ID 14) was approved by the EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E14R_LEA01A06 / Leathers Run / Segment begins at the confluence with an unnamed tributary to Leathers Run, approximately 0.65 rivermile downstream from the Route 641 crossing, and continues downstream until the confluence with the Robinson River.	4A	Escherichia coli	2006	L	2.17

Leathers Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.17**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-01-BAC** **Little Dark Run**

Cause Location: Begins at the headwaters of Little Dark Run and continues downstream until the confluence with Dark Run.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-LDR000.70 at Route 680. The Robinson River and Little Dark Run bacteria TMDL for the Little Dark Run watershed (POL0244) was approved by the EPA on 12/12/2005. The SWCB approved the TMDL on 07/31/2008. Federal ID 24418. A bacteria TMDL Implementation Plan for the Little Dark Run watershed (ID 15) was approved by the EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_LDR01A00 / Little Dark Run / Segment begins at the confluence with an unnamed tributary to Little Dark Run, at rivermile 2.17, and continues downstream until the confluence with Dark Run.	4A	Escherichia coli	1998	L	2.11
VAN-E15R_LDR02A02 / Little Dark Run / Segment begins at the headwaters of Little Dark Run and continues downstream until the confluence with an unnamed tributary to Little Dark Run, at rivermile 2.17.	4A	Escherichia coli	2008	L	2.42

Little Dark Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.53**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-02-BAC** **Robinson River**

Cause Location: Begins at the confluence with Crooked Run, and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co. Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (13 of 65 samples - 20.0%) at station 3-ROB001.90 at Route 614. The Robinson River and Little Dark Run bacteria TMDL for the Lower Robinson River watershed (POL0243) was approved by the EPA on 12/12/2005. The SWCB approved the TMDL on 07/31/2008. Federal ID 24419. A bacteria TMDL Implementation Plan for the Lower Robinson River watershed (ID 119) was approved by the U.S. EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_ROB01A00 / Robinson River / Segment begins at the confluence with Crooked Run, and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2004	L	5.31

Robinson River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.31**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-02-BEN** **Deep Run**

Cause Location: Begins at the confluence with Muddy Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 3-DRN001.81 at Route 638 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_DRN01A04 / Deep Run / Segment begins at the confluence with Muddy Run and continues downstream until the confluence with the Robinson River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.47

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-03-BAC** **Deep Run**

Cause Location: Begins at the confluence with Muddy Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) at station 3-DRN001.81 at Route 638. A new TMDL is not required for this impaired segment of Deep Run because the downstream Robinson River and Little Dark Run bacteria TMDL (24419, 12/12/2005) included modeling, source identification, and reductions that covered the entire Lower Robinson River watershed (POL0243). A bacteria TMDL Implementation Plan for the Lower Robinson River watershed (ID 119) was approved by the EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_DRN01A04 / Deep Run / Segment begins at the confluence with Muddy Run and continues downstream until the confluence with the Robinson River.	4A	Escherichia coli	2008	L	2.47

Deep Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.47**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-03-BEN** **Great Run**

Cause Location: Begins at the headwaters of Great Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of four biological monitoring events in 2011 and 2016 at station 3-GRA002.01 at Route 15 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_GRA01A04 / Great Run / Segment begins at the headwaters of Great Run and continues downstream until the confluence with the Robinson River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	9.31

Great Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.31**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-04-BAC** **Crooked Run**

Cause Location: Begins at the confluence with Little Crooked Run and continues downstream until the confluence with the Robinson River.

City / County: Culpeper Co. Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 3-COO000.04 at Route 15. A new TMDL is not required for this impaired segment of Crooked Run because the downstream Robinson River and Little Dark Run bacteria TMDL (24419, 12/12/2005) included modeling, source identification, and reductions that covered the entire Lower Robinson River watershed (POL0243). A bacteria TMDL Implementation Plan for the Lower Robinson River watershed (ID 119) was approved by the EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_COO01A04 / Crooked Run / Segment begins at the confluence with Little Crooked Run and continues downstream until the confluence with the Robinson River.	4A	Escherichia coli	2008	L	7.89

Crooked Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.89**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-05-BAC** **Great Run**

Cause Location: Begins at the headwaters of Great Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (9 of 11 samples - 81.8%) at station 3-GRA002.01 at Route 15. A new TMDL is not required for this impaired segment of Great Run because the downstream Robinson River and Little Dark Run bacteria TMDL (24419, 12/12/2005) included modeling, source identification, and reductions that covered the entire Lower Robinson River watershed (POL0243). A bacteria TMDL Implementation Plan for the Lower Robinson River watershed (ID 119) was approved by the EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_GRA01A04 / Great Run / Segment begins at the headwaters of Great Run and continues downstream until the confluence with the Robinson River.	4A	Escherichia coli	2008	L	9.31

Great Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.31**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E15R-06-BAC** **Dark Run**

Cause Location: Begins at the headwaters of Dark Run and continues to the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-DAK001.18 at Route 634. A new TMDL is not required for this impaired segment of Dark Run because the downstream Robinson River and Little Dark Run bacteria TMDL (24419, 12/12/2005) included modeling, source identification, and reductions that covered the entire Lower Robinson River watershed. A bacteria TMDL Implementation Plan for the Lower Robinson River watershed (ID 119) was approved by the EPA on 05/31/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E15R_DAK01A10 / Dark Run / Segment begins at the headwaters of Dark Run and continues to the confluence with the Robinson River.	4A	Escherichia coli	2010	L	8.59

Dark Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.59**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E16R-01-BAC** **Cedar Run**

Cause Location: Begins at the confluence with Buck Run and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-CED000.59 at Route 522. 2016 Assessment: E. coli bacteria criterion excursions (7 of 10 samples - 70.0%) from station 3-CED003.52 at Route 652. The Rapidan River Basin bacteria TMDL for the Cedar Run watershed (POL0493) was approved by the EPA on 12/05/2007. The SWCB approved the TMDL on 07/31/2008. Federal ID 33868.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E16R_CED01A00 / Cedar Run / Segment begins at the confluence with Cabin Branch and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2018	L	2.25
VAN-E16R_CED02A04 / Cedar Run / Segment begins at the confluence with Buck Run and continues downstream until the confluence with Cabin Branch.	4A	Escherichia coli	2006	L	3.53

Cedar Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.78**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E16R-01-BEN** **Cedar Run**

Cause Location: Begins at the confluence with Cabin Branch and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of one biological monitoring event in 2016 at station 3-CED000.59 at Route 522 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E16R_CED01A00 / Cedar Run / Segment begins at the confluence with Cabin Branch and continues downstream until the confluence with the Rapidan River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.25

Cedar Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.25**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E16R-02-BAC** **Rapidan River**

Cause Location: Begins at the confluence with an unnamed tributary to the Rapidan River, at rivermile 34.5, approximately 0.6 rivermile downstream from Route 689, and continues downstream until the confluence with Cedar Run.

City / County: Culpeper Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (12 of 50 samples - 24.0%) at station 3-RAP030.21 at Route 522. A new TMDL is not required for this impaired segment of the Rapidan River because the downstream Rapidan River Basin bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E16R_RAP01A04 / Rapidan River / Segment begins at the confluence with an unnamed tributary to the Rapidan River, at rivermile 34.5, approximately 0.6 rivermile downstream from Route 689, and continues downstream until the confluence with Cedar Run.	4A	Escherichia coli	2006	L	4.66

Rapidan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.66**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E16R-03-BAC** **Rapidan River**

Cause Location: Begins at the confluence with the Robinson River and continues downstream until the confluence with an unnamed tributary to the Rapidan River, at rivermile 36.6.

City / County: Culpeper Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-RAP037.90 at Route 615 (Rapidan Road). A new TMDL is not required for this impaired segment of the Rapidan River because the downstream Rapidan River Basin bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E16R_RAP03A08 / Rapidan River / Segment begins at the confluence with the Robinson River and continues downstream until the confluence with an unnamed tributary to the Rapidan River, at rivermile 36.6.	4A	Escherichia coli	2008	L	3.39

Rapidan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.39**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-01-BAC** **Mine Run**

Cause Location: Begins at the confluence with Cormack Run, approximately 0.6 rivermile upstream of Route 20, and continues downstream until the confluence with the Rapidan River.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at station 3-MIR004.05 at Route 611. The Mountain Run and Mine Run bacteria TMDL for the Mine Run watershed (POL0242) was approved by the EPA on 11/15/2005. The SWCB approved the TMDL on 09/27/2006. Federal ID 24420.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_MIR01A00 / Mine Run / Segment begins at the confluence with Cormack Run, approximately 0.6 rivermile upstream of Route 20, and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2002	L	10.50

Mine Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.50**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-01-BEN** **Brook Run**

Cause Location: Begins at the confluence with an unnamed tributary to Brook Run, at Route 647, and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: One biological monitoring events in 2009 at station 3-BRK002.64 at Route 647 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_BRK01A04 / Brook Run / Segment begins at the confluence with an unnamed tributary to Brook Run. at Route 647, and continues downstream until the confluence with the Rapidan River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.51

Brook Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.51**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-02-BAC** **Mountain Run**

Cause Location: Begins at the headwaters of Mountain Run and continues downstream until the confluence with Mine Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 32 samples - 21.9%) at station 3-MTR003.51 at Route 611; E. coli bacteria criterion excursions (11 of 12 samples - 91.7%) at station 3-MTR008.31 at Route 621; and E. coli bacteria criterion excursions (9 of 16 samples - 56.3%) at station 3-MTR010.60 at Route 666. The Mountain Run and Mine Run bacteria TMDL for the Mountain Run watershed (POL0241) was approved by the EPA on 11/15/2005. The SWCB approved the TMDL on 09/27/2006. Federal ID 24421.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_MTR01A00 / Mountain Run / Segment begins at the confluence with Mill Run, approximately 0.25 rivermile downstream of Route 617, and continues downstream until the confluence with Mine Run.	4A	Escherichia coli	2002	L	10.10
VAN-E17R_MTR02A02 / Mountain Run / Segment begins at the headwaters of Mountain Run and continues downstream until the confluence with Mill Run.	4A	Escherichia coli	2006	L	7.46

Mountain Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.56**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-02-BEN** **Mountain Run**

Cause Location: Begins at the confluence with Mill Run, approximately 0.25 rivermile downstream of Route 617, and continues downstream until the confluence with Mine Run.

City / County: Orange Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2016 at station 3-MTR003.51 at Route 611 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_MTR01A00 / Mountain Run / Segment begins at the confluence with Mill Run, approximately 0.25 rivermile downstream of Route 617, and continues downstream until the confluence with Mine Run.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	10.10

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-03-BAC** **Black Walnut Run**

Cause Location: Begins at the Route 621 crossing and continues downstream until the confluence with Mine Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 11 samples - 54.5%) at station 3-BWR004.13 at Route 602. A new TMDL is not required for this impaired segment of Black Walnut Run because the downstream Mountain Run and Mine Run bacteria TMDL (24420, 11/15/2005) included modeling, source identification, and reductions that covered the entire Mine Run watershed (POL0242).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_BWR01A06 / Black Walnut Run / Segment begins at the Route 621 crossing and continues downstream until the confluence with Mine Run.	4A	Escherichia coli	2006	L	6.48

Black Walnut Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.48**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-04-BAC** **Sumerduck Run**

Cause Location: Begins at the confluence with Dry Run and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 10 samples - 70.0%) at station 3-SUM002.40 at Route 647 (Twin Mountain Road). A new TMDL is not required for this impaired segment of Sumerduck Run because the downstream Rapidan River Basin bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_SUM01A04 / Sumerduck Run / Segment begins at the confluence with Dry Run and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2014	L	6.20

Sumerduck Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.20**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-05-BAC** **Potato Run**

Cause Location: Begins at the headwaters of Potato Run and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 8 samples - 50.0%) at station 3-POT001.06 at Route 647 (Twin Mountain Road). A new TMDL is not required for this impaired segment of Potato Run because the downstream Rapidan River Basin bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_POT01A14 / Potato Run / Segment begins at the headwaters of Potato Run and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2014	L	6.83

Potato Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.83**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E17R-06-BAC** **Brook Run**

Cause Location: Begins at the confluence with an unnamed tributary to Brook Run. at Route 647, and continues downstream until the confluence with the Rapidan River

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (9 of 12 samples 75.0%) at station 3-BRK002.64 at Route 647. A new TMDL is not required for this impaired segment of Brook Run because the downstream Rapidan River Basin bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E17R_BRK01A04 / Brook Run / Segment begins at the confluence with an unnamed tributary to Brook Run. at Route 647, and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2018	L	2.51

Brook Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.51**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E18R-01-BAC** **Rapidan River**

Cause Location: Begins at the confluence with Wilderness Run, rivermile 7.78, and continues downstream until the confluence with Middle Run.

City / County: Culpeper Co. Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 32 samples - 12.5%) at station 3-RAP006.53 at Route 610. The Rapidan River Basin bacteria TMDL for the Lower Rapidan River watershed (POL0492) was approved by the EPA on 12/05/2007. The SWCB approved the TMDL on 07/31/2008. Federal ID 33869.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E18R_RAP03A02 / Rapidan River / Segment begins at the confluence with Wilderness Run, rivermile 7.78, and continues downstream until the confluence with Middle Run.	4A	Escherichia coli	2006	L	2.58

Rapidan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.58**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E18R-01-HG** **Rapidan River**

Cause Location: Begins at the confluence with Flat Run and continues downstream to the confluence with the Rappahannock River.

City / County: Culpeper Co. Orange Co. Spotsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The fish consumption use is impaired for mercury in fish tissue. Three excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in three species of fish (3 total samples; American eel, rock bass, smallmouth bass) collected in 2006 at monitoring station 3-RAP006.53 at Route 610.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E18R_RAP01A02 / Rapidan River / Segment begins at the confluence with Hunting Run, at rivermile 1.35, and continues downstream until the confluence with the Rappahannock River.	5A	Mercury in Fish Tissue	2010	L	1.24
VAN-E18R_RAP02A02 / Rapidan River / Segment begins at the confluence with Middle Run, rivermile 5.10, and continues downstream until the confluence with Hunting Run.	5A	Mercury in Fish Tissue	2010	L	3.64
VAN-E18R_RAP03A02 / Rapidan River / Segment begins at the confluence with Wilderness Run, rivermile 7.78, and continues downstream until the confluence with Middle Run.	5A	Mercury in Fish Tissue	2010	L	2.58
VAN-E18R_RAP04A04 / Rapidan River / Segment begins at the confluence with Flat Run and continues downstream until the confluence with Wilderness Run.	5A	Mercury in Fish Tissue	2010	L	2.33

Rapidan River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**9.79**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E18R-02-BAC** **Wilderness Run**

Cause Location: Begins at the confluence of North Wilderness Run and South Wilderness Run and continues downstream until the confluence with the Rapidan River.

City / County: Orange Co. Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 11 samples - 63.6%) at station 3-WIL004.00 at Route 3. A new TMDL is not required for this impaired segment of Wilderness Run because the downstream Rapidan River Basin bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E18R_WIL01A08 / Wilderness Run / Segment begins at the confluence of North Wilderness Run and South Wilderness Run and continues downstream until the confluence with the Rapidan River.	4A	Escherichia coli	2008	L	5.56

Wilderness Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.56**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E18R-03-BAC** **Rapidan River**

Cause Location: Begins at the boundary of the public water supply area, approximately 1.21 rivermiles upstream from the Route 3 crossing, and continues downstream until the confluence with Lick Branch.

City / County: Culpeper Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 24 samples - 33.3%) at station 3-RAP014.45 at Route 3. A new TMDL is not required for this impaired segment of the Rapidan River because the downstream Rapidan River bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E18R_RAP05A08 / Rapidan River / Segment begins at the boundary of the public water supply area, approximately 1.17 rivermiles upstream from the Route 3 crossing, and continues downstream to the confluence with Lick Branch.	4A	Escherichia coli	2008	L	3.40

Rapidan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.40**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E18R-04-BAC** **Hazel Run**

Cause Location: Begins at the headwaters of Hazel Run, and continues downstream to the confluence with the Rapidan River.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 3-HAE001.00 at Route 610. A new TMDL is not required for this impaired segment of Hazel Run because the downstream Rapidan River Basin bacteria TMDL (33869, 12/05/2007) included modeling, source identification, and reductions that covered the entire Lower Rapidan River watershed (POL0492).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E18R_HAE01A12 / Hazel Run / Segment begins at the headwaters of Hazel Run, and continues downstream to the confluence with the Rapidan River.	4A	Escherichia coli	2012	L	4.06

Hazel Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.06**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E19L-01-HG** **Motts Run Reservoir**

Cause Location: Includes the entirety of Motts Run Reservoir.

City / County: Spotsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury (Hg) fish consumption advisory. The advisory, dated 8/31/07, limits consumption of largemouth bass to no more than two meals per month. The affected area includes the entirety of Motts Run Reservoir.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E19L_MOT01A02 / Motts Run Reservoir / Segment includes the lower half of Motts Run Reservoir; beginning at rivermile 0.8 and continuing downstream until the lake's discharge.	5A	Mercury in Fish Tissue	2008	L	62.88
VAN-E19L_MOT02A02 / Motts Run Reservoir / Segment includes the upper half of Motts Run Reservoir; beginning at the upper end of the reservoir and continuing downstream until rivermile 0.8.	5A	Mercury in Fish Tissue	2008	L	74.29

Motts Run Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**137.17**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E19R-01-BAC** **Horsepen Run**

Cause Location: Begins at headwaters of Horsepen Run and continues downstream to the confluence with the Rappahannock River.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-HOR000.50 at Route 655 (Holly Corner Road).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E19R_HOR01A04 / Horsepen Run / Segment begins at headwaters of Horsepen Run and continues downstream to the confluence with the Rappahannock River.	5A	Escherichia coli	2014	L	5.70

Horsepen Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.70**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E19R-02-BAC** **Mine Run**

Cause Location: Begins at the headwaters of Mine Run and continues downstream to the upper end of the Motts Run Reservoir.

City / County: Fredericksburg City Spotsylvania Co. Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at station 3-MIN002.14 at Route 620 (Spotswood Furnace Road).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E19R_MIN01A14 / Mine Run / Segment begins at the headwaters of Mine Run and continues downstream to the upper end of the Motts Run Reservoir.	5A	Escherichia coli	2014	L	4.01

Mine Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.01**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20E-01-BAC** **Rappahannock River**

Cause Location: Begins at the fall line at Route 1 and continues downstream until the confluence with Massaponax Creek.

City / County: Fredericksburg City Spotsylvania Co. Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (15 of 60 samples - 25.0%) at station 3-RPP106.01, located upstream from the Fredericksburg Country Club. E. coli bacteria criterion excursions (8 of 33 samples - 24.2%) at station 3-RPP110.57 at Route 1.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20E_RPP02A02 / Rappahannock River / Segment begins at the confluence with Deep Run and continues downstream until the confluence with Massaponax Creek. Portion of CBP segment RPPTF.	4A	Escherichia coli	2002	L	0.231
VAN-E20E_RPP03A02 / Rappahannock River / Segment begins at the fall line at Route 1 and continues downstream until the confluence with Deep Run. Portion of CBP segment RPPTF.	4A	Escherichia coli	2002	L	0.195

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	**0.426**		

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20E-03-PCB** **Rappahannock River**

Cause Location: Extends from the I-95 bridge above Fredericksburg downstream to the mouth of the river near Stingray Point, including its tributaries Hazel Run up to the I-95 bridge crossing and Claiborne Run up to the Route 1 bridge crossing.

City / County: Caroline Co. Essex Co. Fredericksburg City King George Co. Lancaster Co.
Middlesex Co. Richmond Co. Spotsylvania Co. Stafford Co. Westmoreland Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel, blue catfish, carp, channel catfish, croaker, gizzard shad, and anadromous (coastal) striped bass consumption to no more than two meals per month.

Additionally: 2016 fish tissue monitoring data revealed exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in two samples of American eel collected at station 3-CLB000.50 on Claiborne Run; 2016 fish tissue monitoring data revealed exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in two samples of American eel collected at station 3-HAL000.57 on Hazel Run; 2016 fish tissue monitoring data revealed exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in three species of fish (blue catfish, carp, and gizzard shad) in three samples collected at station 3-RPP080.19 on the Rappahannock River; and 2016 fish tissue monitoring data revealed exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in three species of fish (blue catfish, carp, and gizzard shad) in four samples collected at station 3-RPP107.33 on the Rappahannock River

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E19R_RPP01A18 / Rappahannock River / Segment begins at the I-95 bridge and continues downstream to the E19/E20 watershed boundary (at the downstream reach of the PWS designation).	5A	PCB in Fish Tissue	2018	L	0.66
VAN-E20E_RPP01A02 / Rappahannock River / Segment begins at the confluence with Massaponax Creek and continues downstream until the outlet of waterbody VAN-E20E. This segment represents the upper reach of VAN-E21E_RPP05A02. Portion of CBP segment RPPTF.	5A	PCB in Fish Tissue	2004	L	0.188
VAN-E20E_RPP02A02 / Rappahannock River / Segment begins at the confluence with Deep Run and continues downstream until the confluence with Massaponax Creek. Portion of CBP segment RPPTF.	5A	PCB in Fish Tissue	2004	L	0.231
VAN-E20E_RPP03A02 / Rappahannock River / Segment begins at the fall line at Route 1 and continues downstream until the confluence with Deep Run. Portion of CBP segment RPPTF.	5A	PCB in Fish Tissue	2004	L	0.195
VAN-E20R_CLB01A00 / Claiborne Run / Segment begins at the Route 1 crossing of Claiborne Run and continues downstream until the confluence with the Rappahannock River.	5A	PCB in Fish Tissue	2006	L	4.52
VAN-E20R_HAL01A00 / Hazel Run / Segment begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.	5A	PCB in Fish Tissue	2006	L	4.72
VAN-E20R_RPP01A10 / Rappahannock River / Segment begins at the E19/E20 watershed boundary, and extends downstream to the end of the free flowing waters of the Rappahannock River, at the Route 1 Alternate Bridge.	5A	PCB in Fish Tissue	2018	L	2.65

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Rappahannock River Basin

VAN-E21E_RPP01A02 / Rappahannock River / Segment begins at the confluence with Mill Creek, at rivermile 78.94, and continues downstream until immediately upstream of Devils Elbow, at rivermile 70.52. Portion of CBP segment RPPTF.	5A	PCB in Fish Tissue	2006	L	4.547
VAN-E21E_RPP03A02 / Rappahannock River / Segment begins at the confluence with Mount Creek and continues downstream until the confluence with Mill Creek. Portion of CBP segment RPPTF.	5A	PCB in Fish Tissue	2004	L	1.366
VAN-E21E_RPP04A02 / Rappahannock River / Segment begins at the confluence with Ware Creek and continues downstream until the confluence with Mount Creek. Portion of CBP segment RPPTF.	5A	PCB in Fish Tissue	2004	L	1.206
VAN-E21E_RPP05A02 / Rappahannock River / Segment begins at the confluence with Massaponax Creek and continues downstream until the confluence with Ware Creek. The upper reach of this segment (approx. 0.3 sq mi) extends into waterbody VAN-E20E. Portion of CBP segment RPPTF.	5A	PCB in Fish Tissue	2004	L	0.579
VAP-E22E_RPP01A02 / Rappahannock River / The Rappahannock River from Devils Elbow at Toby Point and Green Bay (river mile 70.52) downstream to the tidal freshwater/oligohaline boundary at river mile 57.85. RPPTF	5A	PCB in Fish Tissue	2006	L	5.133
VAP-E22E_RPP02A02 / Rappahannock River / The Rappahannock River from the tidal freshwater/oligohaline boundary downstream to river mile 56.21. RPPOH	5A	PCB in Fish Tissue	2006	L	1.344
VAP-E22E_RPP02B16 / Rappahannock River / The Rappahannock River from rivermile 56.21 downstream to river mile 51.04. RPPOH	5A	PCB in Fish Tissue	2006	L	2.003
VAP-E22E_RPP03A02 / Rappahannock River / The Rappahannock River from river mile 51.04 to river mile 49.04. RPPOH	5A	PCB in Fish Tissue	2006	L	2.012
VAP-E22E_RPP04A02 / Rappahannock River / The Rappahannock River from river mile 49.04 downstream to the oligohaline/mesohaline boundary at approximately river mile 48.51. RPPOH	5A	PCB in Fish Tissue	2006	L	0.942
VAP-E22E_RPP05A02 / Rappahannock River / The oligohaline/mesohaline boundary at river mile 48.51 downstream to the upstream limit of VDH shellfish condemnation area 025A-068A, 3/24/2015. RPPMH	5A	PCB in Fish Tissue	2006	L	6.958
VAP-E23E_RPP02A98 / Rappahannock River / Mainstem Rappahannock as described in VDH shellfish condemnation 025A-068A, 3/24/2015 excluding administratively condemned portion. Adjusted slightly in 2018 cycle. RPPMH	5A	PCB in Fish Tissue	2006	L	7.035

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Rappahannock River Basin

VAP-E23E_RPP02B10 / Rappahannock River / Portion of mainstem Rappahannock River that is administratively condemned within condemnation 025A-068A, 3/24/2015. RPPMH	5A	PCB in Fish Tissue	2006	L	0.158
VAP-E23E_RPP02C12 / Rappahannock River / Portion of VDH shellfish condemnation 025A-068A, 11/14/2005 not included in 025A-068A, 3/24/2015. Size adjusted in the 2018 cycle. RPPMH	5A	PCB in Fish Tissue	2006	L	1.475
VAP-E24E_RPP01B14 / Garrett's Marina / As delineated in VDH shellfish condemnation 026-181A, 3/25/2015. RPPMH	5A	PCB in Fish Tissue	2008	L	0.003
VAP-E24E_RPP01B98 / Rappahannock River: Garrett's Marina / As delineated in VDH shellfish condemnation 026-181M1, 3/25/2015. RPPMH	5A	PCB in Fish Tissue	2008	L	0.025
VAP-E24E_RPP01C06 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/16/2007 (non-admin) that is currently open RPPMH	5A	PCB in Fish Tissue	2006	L	0.644
VAP-E24E_RPP01D10 / Rappahannock River / The portion of the Rappahannock River within VDH shellfish condemnation 025-071A, 3/25/2015(administratively condemned) RPPMH	5A	PCB in Fish Tissue	2006	L	0.137
VAP-E24E_RPP01E18 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/25/2015 (non-admin) RPPMH	5A	PCB in Fish Tissue	2006	L	0.061
VAP-E24E_RPP03A00 / Rappahannock River / The Rappahannock River from the limit of VDH shellfish condemnation 068A, 11/14/2005 downstream to end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) unless otherwise segmented RPPMH	5A	PCB in Fish Tissue	2006	L	10.919
VAP-E25E_RPP01A02 / Rappahannock River / The mainstem of the Rappahannock River from end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) to the start of deep channel. Segment adjusted in the 2018 cycle. RPPMH	5A	PCB in Fish Tissue	2006	L	15.407
VAP-E25E_RPP01C10 / Rappahannock River: Mark Haven Beach Basin / The portion of VDH shellfish condemnation 026-181B, 1/20/2006 not administratively closed. RPPMH	5A	PCB in Fish Tissue	2008	L	0.010

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

VAP-E25E_RPP01C98 / Mark Haven Beach Basin / As delineated in VDH shellfish condemnation 026-181A, 4/3/2012.	5A	PCB in Fish Tissue	2008	L	0.004
RPPMH					
VAP-E25E_RPP02A02 / Rappahannock River / The mainstem of the Rappahannock River from the start of deep channel downstream to the mouth, excluding area in SFC 051A.	5A	PCB in Fish Tissue	2006	L	65.880
Segment adjusted in the 2018 cycle.					
RPPMH					
VAP-E25E_RPP03A06 / Rappahannock River / Described in VDH SFC 024-070B, 12/19/2016.	5A	PCB in Fish Tissue	2006	L	0.008
RPPMH					
VAP-E25E_RPP03B16 / Rappahannock River / As described in VDH shellfish condemnation 026-181M2, 3/25/2015.	5A	PCB in Fish Tissue	2006	L	0.003
RPPMH					
VAP-E26E_RPP02A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051A, 10/3/2005.	5A	PCB in Fish Tissue	2006	L	0.127
RPPMH					
VAP-E26E_RPP03A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051D, 10/3/2005.	5A	PCB in Fish Tissue	2006	L	0.031
RPPMH					
VAP-E26E_RPP04A00 / Rappahannock River / Described in VDH Shellfish Condemnation 030-051B, 9/1/2015.	5A	PCB in Fish Tissue	2006	L	0.131
RPPMH					
VAP-E26E_RPP05A00 / Rappahannock River / Delineated in VDH-DSS condemnation 030-051C, 9/1/2015.	5A	PCB in Fish Tissue	2006	L	0.029
RPPMH					
VAP-E26E_RPP07A02 / Rappahannock River / As delineated in VDH-DSS SFC 018-053A, 12/4/2015	5A	PCB in Fish Tissue	2002	L	0.139
RPPMH					

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:	**128.929**		**12.55**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-01-BAC** **Claiborne Run**

Cause Location: Begins at the Route 1 crossing of Claiborne Run and continues downstream until the confluence with the Rappahannock River.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-CLB000.50 at Naomi Road. A new TMDL is not required for this impaired segment of Claiborne Run because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire tidal freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_CLB01A00 / Claiborne Run / Segment begins at the Route 1 crossing of Claiborne Run and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2004	L	4.52

Claiborne Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.52**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-01-BEN** **Falls Run**

Cause Location: Begins at the headwaters of Falls Run and continues downstream until the confluence with the Rappahannock River.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: A total of two biological monitoring events in 2009 at station 3-FAL000.13 at Washington Street resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_FAL01A04 / Falls Run / Segment begins at the headwaters of Falls Run and continues downstream until the confluence with the Rappahannock River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	7.35

Falls Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.35**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-02-BAC** **Hazel Run**

Cause Location: Begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Fredericksburg City Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 3-HAL001.44 at Route 1 Business (Lafayette Boulevard). E. coli bacteria criterion excursions at citizen stations 3HAL-1-ALL (4 of 11 samples - 36.4%) and 3HAL-6-ALL (10 of 11 samples - 90.9%). A new TMDL is not required for this impaired segment of Hazel Run because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire tidal freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_HAL01A00 / Hazel Run / Segment begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2004	L	4.72

Hazel Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.72**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-02-BEN** **Hazel Run**

Cause Location: Begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Fredericksburg City Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: A total of two biological monitoring events in 2009 at station 3-HAL002.72, upstream of Route 1, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_HAL01A00 / Hazel Run / Segment begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.72

Hazel Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-03-BAC** **Massaponax Creek**

Cause Location: Segment begins at the confluence with an unnamed tributary to Massaponax Creek, approximately 0.25 rivermile upstream from the Route 639 bridge, and continues downstream until the confluence with another unnamed tributary, approximately 0.25 rivermile upstream of Ruffins Pond.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 35 samples - 17.1%) at station 3-MAP002.61 at Route 609. E. coli bacteria criterion excursions (10 of 23 samples - 43.5%) at station 3-MAP007.97 at Route 1. E. coli bacteria criterion excursions (5 of 24 samples - 20.8%) at station 3-MAP009.42 at Route 639. A new TMDL is not required for this impaired segment of Massaponax Creek because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire tidal freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_MAP02A02 / Massaponax Creek / Segment begins at the confluence with an unnamed tributary to Massaponax Creek, at rivermile 2.68, and continues downstream until the confluence with another unnamed tributary, approximately 0.25 rivermile upstream of Ruffins Pond.	4A	Escherichia coli	2006	L	1.20
VAN-E20R_MAP02B12 / Massaponax Creek / Segment begins at the confluence with an unnamed tributary to Massaponax Creek, just upstream of Route 1, and continues downstream until the confluence with another unnamed tributary, at rivermile 2.68.	4A	Escherichia coli	2004	L	5.19
VAN-E20R_MAP03A02 / Massaponax Creek / Segment begins at the confluence with an unnamed tributary to Massaponax Creek, approximately 0.25 rivermile upstream from the Route 639 bridge, and continues downstream until the confluence with another unnamed tributary, just upstream from Route 1.	4A	Escherichia coli	2010	L	1.67

Massaponax Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.06**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-03-BEN** **Little Falls Run**

Cause Location: Begins at the headwaters of Little Falls Run and continues downstream until the confluence with the Rappahannock River.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2013 at station 3-LIA003.14 (0.02 miles downstream from Route 606) resulted in a VCPMI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_LIA01A04 / Little Falls Run / Segment begins at the headwaters of Little Falls Run and continues downstream until the confluence with the Rappahannock River.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.92

Little Falls Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.92**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-04-BAC** **Massaponax Creek**

Cause Location: Begins at the confluence with an unnamed tributary, approximately 1.1 rivermiles downstream from Route 673, and continues downstream until the confluence with another unnamed tributary, approximately 0.25 rivermile upstream from Route 639.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (7 of 7 samples - 100.0%) at station 3-MAP010.37 at Route 208 (Courthouse Road) .

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_MAP04A02 / Massaponax Creek / Segment begins at the confluence with an unnamed tributary, approximately 1.1 rivermiles downstream from Route 673, and continues downstream until the confluence with another unnamed tributary, approximately 0.25 rivermile upstream from Route 639.	4A	Escherichia coli	2008	L	2.17

Massaponax Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.17**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-04-PH** **Deep Run**

Cause Location: Begins at the headwaters of Deep Run, and continues downstream to the confluence with an unnamed tributary at rivermile 2.19, downstream of Route 638.

City / County: Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Excursions less than the lower limit of the pH criterion range (24 of 44 samples - 54.5%) at NPS station 3DEP-06-NPS at Lee Drive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_DEP03A12 / Deep Run / Segment begins at the headwaters of Deep Run, and continues downstream to the confluence with an unnamed tributary at Route 638.	5A	pH	2012	L	1.56

Deep Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.56**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-05-BAC** **Unnamed Tributary to Hazel Run**

Cause Location: Segment begins at the headwaters of the unnamed tributary, and continues downstream to the confluence with Hazel Run.

City / County: Fredericksburg City Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) at citizen monitoring station 3XHN-7-ALL. A new TMDL is not required for this impaired segment of Hazel Run because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire Tidal Freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_XHN01A10 / Unnamed Tributary to Hazel Run / Segment begins at the headwaters of the unnamed tributary, and continues downstream to the confluence with Hazel Run.	4A	Escherichia coli	2014	L	1.53

Unnamed Tributary to Hazel Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.53**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-05-PH** **Unnamed tributary to Massaponax Creek**

Cause Location: Begins where XEN joins XFE and continues downstream until the confluence with Massaponax Creek at rivermile 8.06

City / County: Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Excursions less than the lower limit of the pH criterion range (2 of 11 samples - 18.2%) at station 3-XFE001.05 at Spotsylvania County Parkway.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_XFE01A02 / Unnamed tributary to Massaponax Creek / Segment begins where XEN joins XFE and continues downstream until the confluence with Massaponax Creek at rivermile 8.06	5A	pH	2016	L	1.27

Unnamed tributary to Massaponax Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.27**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-06-BAC** **Unnamed tributary to Hazel Run**

Cause Location: Segment begins at the headwaters of the unnamed tributary, and continues downstream to the confluence with Hazel Run.

City / County: Fredericksburg City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at citizen monitoring station 3XIA-9-ALL. A new TMDL is not required for this impaired segment of an unnamed tributary to Hazel Run because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire Tidal Freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_XIA01A12 / Unnamed tributary to Hazel Run / Segment begins at the headwaters of the unnamed tributary, and continues downstream to the confluence with Hazel Run.	4A	Escherichia coli	2014	L	2.23

Unnamed tributary to Hazel Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.23**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-07-BAC** **Little Falls Run**

Cause Location: Begins at the headwaters of Little Falls Run and continues downstream until the confluence with the Rappahannock River.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 3-LIA002.27 at Route 682 (Colebrooke Road). A new TMDL is not required for this impaired segment of Little Falls Run because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire Tidal Freshwater Rappahannock River watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_LIA01A04 / Little Falls Run / Segment begins at the headwaters of Little Falls Run and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2016	L	4.92

Little Falls Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.92**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-08-BAC** **Deep Run**

Cause Location: Begins at the confluence with an unnamed tributary at Route 638 and continues downstream to the confluence with another unnamed tributary downstream of Route 756 at rivermile 0.74.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (12 of 24 samples 50.0%) at station 3-DEP000.92 at Route 17 and E. coli bacteria criterion excursions (5 of 13 samples 38.5%) at station 3-DEP001.59 at Latimers Knoll Court. A new TMDL is not required for this impaired segment of Deep Run because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire tidal freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_DEP02A18 / Deep Run / Segment begins at the confluence with an unnamed tributary at Route 638 and continues downstream to the confluence with another unnamed tributary downstream of Route 756 at rivermile 0.74.	4A	Escherichia coli	2018	L	1.66

Deep Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.66**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E20R-09-BAC** **Rappahannock River**

Cause Location: Begins at the E19/E20 watershed boundary, and extends downstream to the end of the free flowing waters of the Rappahannock River, at the Route 1 Alternate Bridge.

City / County: Fredericksburg City Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Sufficient excursions from the maximum E. coli bacteria criterion (8 of 35 samples - 22.9%) were recorded at DEQ ambient station 3-RPP110.57 at Route 1 to assess this stream segment as not supporting the recreation use for the 2018 water quality assessment. A new TMDL is not required for this impaired segment of Rappahannock River because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entre Tidal Freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20R_RPP01A10 / Rappahannock River / Segment begins at the E19/E20 watershed boundary, and extends downstream to the end of the free flowing waters of the Rappahannock River, at the Route 1 Alternate Bridge.	4A	Escherichia coli	2018	L	2.65

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.65**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-01-BAC** **Muddy Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Muddy Creek, approximately 0.7 rivermile downstream from Route 218, and continues downstream until the confluence with the Rappahannock River.

City / County: King George Co. Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 3-MUY001.43 at Route 3. A new TMDL is not required for this impaired segment of Muddy Creek because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire tidal freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_MUY01A00 / Muddy Creek / Segment begins at the confluence with an unnamed tributary to Muddy Creek, approximately 0.7 rivermile downstream from Route 218, and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2008	L	3.58

Muddy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.58**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-01-BEN** **Muddy Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Muddy Creek, approximately 0.7 rivermile downstream from Route 218, and continues downstream until the confluence with the Rappahannock River.

City / County: King George Co. Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: A total of two biological monitoring events at station 3-MUY003.63 (at Route 602) in 2007 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_MUY01A00 / Muddy Creek / Segment begins at the confluence with an unnamed tributary to Muddy Creek, approximately 0.7 rivermile downstream from Route 218, and continues downstream until the confluence with the Rappahannock River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	3.58

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-02-BAC** **Ware Creek**

Cause Location: Segment begins at the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road, and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (2 of 17 samples - 11.8%) at station 3-WAE000.72 at Route 17. A new TMDL is not required for this impaired segment of Ware Creek because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire Tidal Freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_WAE01A08 / Ware Creek / Segment begins at the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road, and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2010	L	4.50

Ware Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.50**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-02-BEN** **Ware Creek**

Cause Location: Begins at the headwaters of Ware Creek and continues downstream until the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: One biological monitoring event in 2002 at station 3-WAE005.95 (Fort A.P. Hill) resulted in a VCPMI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_WAE02A04 / Ware Creek / Segment begins at the headwaters of Ware Creek and continues downstream until the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.06

Ware Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.06**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-02-PH** **Ware Creek**

Cause Location: Begins at the headwaters of Ware Creek and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

2014 Assessment: Excursions less than the lower limit of the pH criterion range (2 of 11 samples - 18.2%) at station 3-WAE000.72 at Route 17. 2008 Assessment: Excursions less than the lower limit of the pH criterion range (2 of 2 samples - 100%) at station 3-WAE005.95 at the Fort A.P. Hill property.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_WAE01A08 / Ware Creek / Segment begins at the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road, and continues downstream until the confluence with the Rappahannock River.	5C	pH	2008	L	4.50
VAN-E21R_WAE02A04 / Ware Creek / Segment begins at the headwaters of Ware Creek and continues downstream until the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road.	5C	pH	2004	L	3.06

Ware Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.56**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-03-BAC** **Gingoteague Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at station 3-GIN002.64 at Route 625.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_GIN01A08 / Gingoteague Creek / Segment begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.	5A	Escherichia coli	2008	L	1.49

Gingoteague Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-03-BEN** **Gingoteague Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2010 at station 3-GIN002.64 resulted in a VCPMI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_GIN01A08 / Gingoteague Creek / Segment begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	1.49

Gingoteague Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-03-PH** **Gingoteague Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (2 of 10 samples - 20.0%) at station 3-GIN002.64 at Route 625.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_GIN01A08 / Gingoteague Creek / Segment begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.	5C	pH	2008	L	1.49

Gingoteague Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-04-BEN** **Mill Creek**

Cause Location: Begins at the confluence with an unnamed tributary, at rivermile 9.5, and continues downstream until the confluence with Peumansend Creek, at rivermile 6.06.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2010 Assessment: Two biological monitoring events in 2004 at station 3-MIC008.55 (on Fort A.P. Hill property) resulted in a VCPMI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_MIC02A06 / Mill Creek / Segment begins at the confluence with an unnamed tributary, at rivermile 9.5, and continues downstream until the confluence with Peumansend Creek, at rivermile 6.06.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.59

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.59**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-05-BAC** **Mount Creek**

Cause Location: Begins at the confluence with West Branch and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2012 Assessment: E. coli bacteria criterion excursions (3 of 18 samples - 16.7%) at station 3-MTC001.94 at Route 17. A new TMDL is not required for this impaired segment of Mount Creek because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire Tidal Freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_MTC01A08 / Mount Creek / Segment begins at the confluence with West Branch and continues downstream until the confluence with the Rappahannock River.	4A	Escherichia coli	2008	L	4.46

Mount Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.46**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-05-BEN** **White Oak Run**

Cause Location: Begins just downstream from the Route 604 crossing and continues downstream until the confluence with Muddy Creek.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: A total of two biological monitoring events in 2007 at station 3-WHT003.73 resulted in a VCPMI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_WHT01A06 / White Oak Run / Segment begins just downstream from the Route 604 crossing and continues downstream until the confluence with Muddy Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	6.51

White Oak Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.51**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-05-PH** **Mount Creek**

Cause Location: Begins at the confluence with West Branch and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

2014 Assessment: Excursions less than the lower limit of the pH criterion range (9 of 11 samples - 81.8%) at station 3-MTC001.94 at Route 17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_MTC01A08 / Mount Creek / Segment begins at the confluence with West Branch and continues downstream until the confluence with the Rappahannock River.	5C	pH	2008	L	4.46

Mount Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.46**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-06-BAC** **Lambs Creek**

Cause Location: Begins at the confluence with Popcastle Creek and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) from station 3-LAM000.57 at Route 3. A new TMDL is not required for this impaired segment of Lambs Creek because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire Tidal Freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_LAM01A08 / Lambs Creek / Segment begins at the confluence with Popcastle Creek and continues downstream until tidal waters, near the confluence with the Rappahannock River.	4A	Escherichia coli	2008	L	0.54

Lambs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.54**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-07-BAC** **Mill Creek**

Cause Location: Begins at the confluence with Peumansend Creek, at rivermile 6.06, and continues downstream until the tidal waters of Mill Creek.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 3-MIC0001.66 at Route 17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_MIC01A08 / Mill Creek / Segment begins at the confluence with Peumansend Creek, at rivermile 6.06, and continues downstream until the tidal waters of Mill Creek.	5A	Escherichia coli	2008	L	4.58

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-08-PH** **Goldenvale Creek**

Cause Location: Begins at the confluence with Doctor Branch and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (8 of 10 samples - 80.0%) at station 3-GLL001.98 at Route 17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_GLL01A08 / Goldenvale Creek / Segment begins at the confluence with Doctor Branch and continues downstream until tidal waters, near the confluence with the Rappahannock River.	5C	pH	2008	L	5.31

Goldenvale Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.31**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-10-BAC** **Jetts Creek**

Cause Location: Segment begins at the confluence of Boom Swamp with Jetts Creek, and continues downstream to the end of the free flowing waters.

City / County: King George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 3-JET003.49 at Route 625.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_JET01A10 / Jetts Creek / Segment begins at the confluence of Boom Swamp with Jetts Creek, and continues downstream to the end of the free flowing waters.	5A	Escherichia coli	2010	L	1.85

Jetts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-10-PH** **White Oak Run**

Cause Location: Begins just downstream from the Route 604 crossing and continues downstream until the confluence with Muddy Creek.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (2 of 12 samples - 16.7%) at station 3-WHT000.35 at Route 601 (downstream crossing).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_WHT01A06 / White Oak Run / Segment begins just downstream from the Route 604 crossing and continues downstream until the confluence with Muddy Creek.	5C	pH	2014	L	6.51

White Oak Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**6.51**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-11-BAC** **Portobago Creek**

Cause Location: Segment begins at the confluence of two intermittent tributaries around rivermile 6.66 and extends downstream to the end of the free-flowing waters.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

2014 Assessment: E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at station 3-PBC003.09 at Route 17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_PBC01A10 / Portobago Creek / Segment begins at the confluence of two intermittent tributaries around rivermile 6.66 and extends downstream to the end of the free-flowing waters.	5A	Escherichia coli	2010	L	7.00

Portobago Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.00**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-11-DO** **Portobago Creek**

Cause Location: Begins at the confluence of two intermittent tributaries around rivermile 6.66 and extends downstream to the end of the free-flowing waters.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

2014 Assessment: Excursions less than the lower limit of the DO criterion range (3 of 12 samples - 25.0%) at station 3-PBC003.09 at Route 17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_PBC01A10 / Portobago Creek / Segment begins at the confluence of two intermittent tributaries around rivermile 6.66 and extends downstream to the end of the free-flowing waters.	5C	Oxygen, Dissolved	2010	L	7.00

Portobago Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.00**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E21R-12-BAC** **White Oak Run**

Cause Location: Begins just downstream from the Route 604 crossing and continues downstream until the confluence with Muddy Creek.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 3-WHT000.35 at Route 601 (downstream crossing). A new TMDL is not required for this impaired segment of White Oak Run because the downstream bacteria TMDL (34369, 05/05/2008) included modeling, source identification, and reductions that covered the entire Tidal Freshwater Rappahannock River watershed (POL0569).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E21R_WHT01A06 / White Oak Run / Segment begins just downstream from the Route 604 crossing and continues downstream until the confluence with Muddy Creek.	4A	Escherichia coli	2014	L	6.51

White Oak Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.51**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-01-EBEN** **Rappahannock River**

Cause Location: The oligohaline mainstem of the Rappahannock River

City / County: Essex Co. Richmond Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

During the 2010 cycle, the oligohaline portion of the mainstem Rappahannock indicated benthic impairment based on the Chesapeake Bay Benthic Index of Biological Integrity.

There was insufficient information to assess the B-IBI in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_RPP02A02 / Rappahannock River / The Rappahannock River from the tidal freshwater/oligohaline boundary downstream to river mile 56.21.	5A	Estuarine Bioassessments	2010	L	1.344
RPPOH					
VAP-E22E_RPP02B16 / Rappahannock River / The Rappahannock River from rivermile 56.21 downstream to river mile 51.04.	5A	Estuarine Bioassessments	2010	L	2.003
RPPOH					
VAP-E22E_RPP03A02 / Rappahannock River / The Rappahannock River from river mile 51.04 to river mile 49.04.	5A	Estuarine Bioassessments	2010	L	2.012
RPPOH					
VAP-E22E_RPP04A02 / Rappahannock River / The Rappahannock River from river mile 49.04 downstream to the oligohaline/mesohaline boundary at approximately river mile 48.51.	5A	Estuarine Bioassessments	2010	L	0.942
RPPOH					

Rappahannock River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**6.302**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-02-EBEN** **Rappahannock River**

Cause Location: The mesohaline mainstem of the Rappahannock River

City / County: Essex Co. Lancaster Co. Middlesex Co. Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

In 2004 the mesohaline portion of the mainstem Rappahannock indicated benthic impairment based on the Chesapeake Bay Benthic Index of Biological Integrity. The impairment was attributed to low oxygen and the benthic impairment was treated as a confirmation of the impairment. The mainstem remained impaired in the 2006 cycle; however, due to guidance changes the segment was 303(d) listed for estuarine bioassessments.

The segment remains impaired in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_RPP05A02 / Rappahannock River / The oligohaline/mesohaline boundary at river mile 48.51 downstream to the upstream limit of VDH shellfish condemnation area 025A-068A, 3/24/2015.	5A	Estuarine Bioassessments	2006	L	6.958
RPPMH					
VAP-E23E_RPP02A98 / Rappahannock River / Mainstem Rappahannock as described in VDH shellfish condemnation 025A-068A, 3/24/2015 excluding administratively condemned portion.	5A	Estuarine Bioassessments	2006	L	7.035
Adjusted slightly in 2018 cycle.					
RPPMH					
VAP-E23E_RPP02B10 / Rappahannock River / Portion of mainstem Rappahannock River that is administratively condemned within condemnation 025A-068A, 3/24/2015.	5A	Estuarine Bioassessments	2006	L	0.158
RPPMH					
VAP-E23E_RPP02C12 / Rappahannock River / Portion of VDH shellfish condemnation 025A-068A, 11/14/2005 not included in 025A-068A, 3/24/2015.	5A	Estuarine Bioassessments	2006	L	1.475
Size adjusted in the 2018 cycle.					
RPPMH					
VAP-E24E_RPP01B14 / Garrett's Marina / As delineated in VDH shellfish condemnation 026-181A, 3/25/2015.	5A	Estuarine Bioassessments	2008	L	0.003
RPPMH					
VAP-E24E_RPP01B98 / Rappahannock River: Garrett's Marina / As delineated in VDH shellfish condemnation 026-181M1, 3/25/2015.	5A	Estuarine Bioassessments	2008	L	0.025
RPPMH					
VAP-E24E_RPP01C06 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/16/2007 (non-admin) that is currently open	5A	Estuarine Bioassessments	2006	L	0.644

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

RPPMH VAP-E24E_RPP01D10 / Rappahannock River / The portion of the Rappahannock River within VDH shellfish condemnation 025-071A, 3/25/2015(administratively condemned)	5A	Estuarine Bioassessments	2006	L	0.137
RPPMH VAP-E24E_RPP01E18 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/25/2015 (non-admin)	5A	Estuarine Bioassessments	2006	L	0.061
RPPMH VAP-E24E_RPP03A00 / Rappahannock River / The Rappahannock River from the limit of VDH shellfish condemnation 068A, 11/14/2005 downstream to end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) unless otherwise segmented	5A	Estuarine Bioassessments	2006	L	10.919
RPPMH VAP-E25E_RPP01A02 / Rappahannock River / The mainstem of the Rappahannock River from end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) to the start of deep channel. Segment adjusted in the 2018 cycle.	5A	Estuarine Bioassessments	2006	L	15.407
RPPMH VAP-E25E_RPP01C10 / Rappahannock River: Mark Haven Beach Basin / The portion of VDH shellfish condemnation 026-181B, 1/20/2006 not administratively closed.	5A	Estuarine Bioassessments	2008	L	0.010
RPPMH VAP-E25E_RPP01C98 / Mark Haven Beach Basin / As delineated in VDH shellfish condemnation 026-181A, 4/3/2012.	5A	Estuarine Bioassessments	2008	L	0.004
RPPMH VAP-E25E_RPP02A02 / Rappahannock River / The mainstem of the Rappahannock River from the start of deep channel downstream to the mouth, excluding area in SFC 051A. Segment adjusted in the 2018 cycle.	5A	Estuarine Bioassessments	2006	L	65.880
RPPMH VAP-E25E_RPP03A06 / Rappahannock River / Described in VDH SFC 024-070B, 12/19/2016.	5A	Estuarine Bioassessments	2006	L	0.008
RPPMH VAP-E25E_RPP03B16 / Rappahannock River / As described in VDH shellfish condemnation 026-181M2, 3/25/2015.	5A	Estuarine Bioassessments	2006	L	0.003
RPPMH VAP-E26E_CRR02A08 / Corrotoman River / The portion of the Corrotoman River that is within CB segment RPPMH.	5A	Estuarine Bioassessments	2006	L	1.039
VAP-E26E_RPP02A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051A,	5A	Estuarine Bioassessments	2006	L	0.127

Rappahannock River Basin

10/3/2005.

RPPMH

VAP-E26E_RPP03A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051D, 10/3/2005.	5A	Estuarine Bioassessments	2006	L	0.031

RPPMH

VAP-E26E_RPP04A00 / Rappahannock River / Described in VDH Shellfish Condemnation 030-051B, 9/1/2015.	5A	Estuarine Bioassessments	2006	L	0.131

RPPMH

VAP-E26E_RPP05A00 / Rappahannock River / Delineated in VDH-DSS condemnation 030-051C, 9/1/2015.	5A	Estuarine Bioassessments	2006	L	0.029

RPPMH

VAP-E26E_RPP07A02 / Rappahannock River / As delineated in VDH-DSS SFC 018-053A, 12/4/2015	5A	Estuarine Bioassessments	2006	L	0.139

RPPMH

Rappahannock River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**110.220**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-03-BAC** **Peedee Creek**

Cause Location: Tidal Peedee Creek

City / County: Essex Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

During the 2014 cycle, tidal Peedee Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 6/13 at 3-PEE003.97.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_PEE01A14 / Peedee Creek / Tidal portion of Peedee Creek.	5A	Enterococcus	2014	H, 2yr	0.150

RPPOH

Peedee Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.150**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-04-BAC** **Occupacia Creek**

Cause Location: Tidal Occupacia Creek

City / County: Essex Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2014 cycle, tidal Occupacia Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 9/11 at 3-OCC005.62.

It is nested in the bacterial TMDL for Occupacia and Farmers Hall Creeks, which was developed and was approved by the EPA on 7/30/2007; therefore, the segment is considered Category 4A. The TMDL addresses the nontidal watersheds feeding into the tidal portion and the upstream bacterial reductions should improve water quality downstream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_OCC01A08 / Occupacia Creek / The tidal portion of Occupacia Creek	4A	Enterococcus	2014	L	0.668

RPPOH

Occupacia Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.668**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-05-BAC** **Rappahannock River**

Cause Location: The Rappahannock River from the tidal freshwater/oligohaline boundary downstream to river mile 56.21.

City / County: Essex Co. Richmond Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

During the 2014 cycle, the Rappahannock River from the tidal freshwater oligohaline boundary downstream to rivermile 51.04 was impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 3-RPP056.20.

The impairment was nested within the Upper Rappahannock River Shellfish TMDL, which was approved by the EPA on 8/10/2010 and was considered Category 4A.

However, during the 2016 cycle, the upper portion of the impairment, which was not located within the actual TMDL study area boundary, was split off and will be considered Category 5A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_RPP02A02 / Rappahannock River / The Rappahannock River from the tidal freshwater/oligohaline boundary downstream to river mile 56.21.	5A	Enterococcus	2014	L	1.344

RPPOH

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**1.344**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-06-BAC** **Rappahannock River**

Cause Location: The oligohaline/mesohaline boundary at river mile 48.51 downstream to the upstream limit of VDH shellfish condemnation area 025A-068A, 4/3/2012.

City / County: Essex Co. Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2014 cycle, the segment was impaired of the Recreation Use due to an enterococci exceedance rate of 4/12 at 3-RPP046.26.

It is located within the study area for the Upper Rappahannock River Shellfish TMDL, which was approved by the EPA on 8/10/2010. The enterococci impairment is considered nested within the TMDL; therefore, the segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_RPP05A02 / Rappahannock River / The oligohaline/mesohaline boundary at river mile 48.51 downstream to the upstream limit of VDH shellfish condemnation area 025A-068A, 3/24/2015.	4A	Enterococcus	2014	L	6.958

RPPMH

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**6.958**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-07-BAC** **Rappahannock River**

Cause Location: The Rappahannock River from rivermile 56.21 downstream to river mile 51.04.

City / County: Essex Co. Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2014 cycle, the Rappahannock River from the tidal freshwater oligohaline boundary downstream to rivermile 51.04 was impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 3-RPP056.20.

The impairment was nested within the Upper Rappahannock River Shellfish TMDL, which was approved by the EPA on 8/10/2010 and was considered Category 4A.

However, during the 2016 cycle, the upper portion of the impairment, which was not located within the actual TMDL study area boundary, was split off and is considered Category 5A. This nested segment remains Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_RPP02B16 / Rappahannock River / The Rappahannock River from rivermile 56.21 downstream to river mile 51.04.	4A	Enterococcus	2014	L	2.003

RPPOH

Rappahannock River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**2.003**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-08-CHLR** **Rappahannock River**

Cause Location: The lower tidal freshwater Rappahannock River downstream of Devils Elbow.

City / County: Essex Co. King George Co. Westmoreland Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Chloride / 5C

During the 2004 cycle, the lower tidal freshwater area downstream of Devils Elbow at Toby Point and Green Bay (rivermile 70.52) and the transitional area of the Rappahannock River were assessed as not supporting the Aquatic Life and Wildlife Uses based on chloride exceedances at multiple stations, including 3-RPP064.40.

During the 2010 cycle, the Water Quality Standards were revised during Triennial Review. The freshwater-transitional zone boundary was moved upstream to rivermile 57.85. In addition, the chloride standard was removed in transitional waters. The standard still applies in freshwater areas and station 3-RPP064.40 remains in the freshwater area; therefore, this impairment has been shortened to extend from Devils Elbow at Toby Point and Green Bay to the transitional zone boundary. The Rappahannock River below the new transitional boundary was delisted.

No additional monitoring has been conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_RPP01A02 / Rappahannock River / The Rappahannock River from Devils Elbow at Toby Point and Green Bay (river mile 70.52) downstream to the tidal freshwater/oligohaline boundary at river mile 57.85.	5C	Chloride	2004	L	5.133

RPPTF

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chloride - Total Impaired Size by Water Type:	**5.133**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22E-09-BAC** **Waterview Creek**

Cause Location: The tidal portion of Waterview Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2018 cycle, tidal Waterview Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 10/12 at 3-WAR001.81.

It is located within the study area for the Upper Rappahannock River Shellfish TMDL, which was approved by the EPA on 8/10/2010. The enterococci impairment is considered nested within the TMDL; therefore, the segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_WAR01A18 / Waterview Creek / Tidal portion of Waterview Creek	4A	Enterococcus	2018	L	0.038

RPPMH

Waterview Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.038**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-01-BAC** **Occupacia Creek**

Cause Location: Occupacia Creek from the Hunters Millpond Dam to the extent of tidal influences.

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Occupacia Creek was initially assessed as impaired of the Recreation Use during the 2002 cycle based on fecal coliform violations at the Route 17 bridge (3-OCC010.47). In 2006 the segment was also impaired for E. coli. During the 2008 cycle, the impairment converted to E. coli with a violation rate of 3/21.

The bacterial TMDL for Occupacia and Farmers Hall Creeks was developed and was approved by the EPA on 7/30/2007; therefore, the segment is considered Category 4A.

Occupacia Creek remained impaired in the 2014 cycle due to an E.coli exceedance rate of 3/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_OCC01A98 / Occupacia Creek / Occupacia Creek from Hunters Millpond downstream to the tidal limit.	4A	Escherichia coli	2006	L	2.34

Occupacia Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.34**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-02-BAC** **Farmers Hall Creek**

Cause Location: Farmers Hall Creek from its headwaters to its tidal limit

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

Farmers Hall Creek was assessed as not supporting the Recreation Use support goal based on a fecal coliform exceedance rate of 3/13 at the Route 631 bridge (3-FAR002.88).

No additional data has been collected since the 2006 cycle.

The bacterial TMDL for Occupacia and Farmers Hall Creeks was approved by the EPA on 7/30/2007; therefore, the segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_FAR01A04 / Farmers Hall Creek / Headwaters to tidal limit	4A	Fecal Coliform	2004	L	4.00

Farmers Hall Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.00**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-02-DO** **Farmers Hall Creek**

Cause Location: Farmers Hall Creek from its headwaters to its tidal limit

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Farmers Hall Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 3-FAR002.88. The exceedance rate at 3-FAR004.38 was acceptable (0/11).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_FAR01A04 / Farmers Hall Creek / Headwaters to tidal limit	5C	Oxygen, Dissolved	2012	L	4.00

Farmers Hall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.00**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-02-PH** **Farmers Hall Creek**

Cause Location: Farmers Hall Creek from its headwaters to its tidal limit

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

In 2006, Farmers Hall Creek was assessed as not supporting of the Aquatic Life Use support goal based on pH violations at the Route 631 bridge (3-FAR002.88).

Additional monitoring was conducted during the 2012 cycle. The impairment was confirmed due to the following exceedance rates:

6/11 at 3-FAR002.88
4/11 at 3-FAR004.38

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_FAR01A04 / Farmers Hall Creek / Headwaters to tidal limit	5C	pH	2006	L	4.00

Farmers Hall Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.00**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-03-MIREX** **Occupacia Creek and Tributaries**

Cause Location: Occupacia Creek from the headwaters to Hunters Millpond dam, and all tributaries entering above the tidal limit.

City / County: Essex Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Mirex / 5A

During the 2010 cycle, it was determined that station 3-BLK001.92 failed the water quality standard for Mirex in two 2002 SPMD values.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_OCC01B06 / Occupacia Creek and tributaries / Occupacia Creek from the headwaters to Hunters Millpond dam, and all tribs entering above the tidal limit.	5A	Mirex	2010	L	74.69
	5A	Mirex	2010	L	74.69

Occupacia Creek and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Wildlife			
Mirex - Total Impaired Size by Water Type:			**149.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-04-BAC** **Elmwood Creek and Tributary XHY**

Cause Location: The nontidal portion of Elmwood Creek and its tributary XHY in its entirety.

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Elmwood Creek and its tributary were assessed as not supporting of the Recreation Use in the 2014 cycle based on multiple E. coli exceedances.

The exceedance rates were as follows in the 2016 cycle:
5/23 at 3-ELM002.23
5/13 at 3-ELM002.92
1/13 (FS) at 3-ELM004.27
4/13 at 3-XHY000.06
1/12 (FS) at 3-XHY002.50

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_ELM01A06 / Elmwood Creek and tributary XHY / Headwaters to tidal limit, including tributary XHY.	5A	Escherichia coli	2014	H, 2yr	9.07

Elmwood Creek and Tributary XHY **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.07**

Sources:

Agriculture	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-04-DO** **Elmwood Creek and Tributary XHY**

Cause Location: The nontidal portion of Elmwood Creek and its tributary XHY in its entirety.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Elmwood Creek was assessed as not supporting of the Aquatic Life Use in the 2014 cycle based on dissolved oxygen exceedances throughout the watershed.

The exceedance rates were as follows in the 2016 cycle:
3/24 at 3-ELM002.23
0/26 (FS) at 3-ELM002.92
6/26 at 3-ELM004.27
8/26 at 3-XHY000.06
0/25 (FS) at 3-XHY002.50

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_ELM01A06 / Elmwood Creek and tributary XHY / Headwaters to tidal limit, including tributary XHY.	5C	Oxygen, Dissolved	2014	L	9.07

Elmwood Creek and Tributary XHY **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.07**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-04-PH** **Elmwood Creek and Tributary XHY**

Cause Location: The nontidal portion of Elmwood Creek and its tributary XHY in its entirety.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Elmwood Creek was assessed as not supporting of the Aquatic Life Use in the 2006 cycle based on a pH exceedance rate of 4/10 at 3-ELM002.23, which is located at the Route 17 bridge.

Additional data was collected during the 2014 and 2016 cycles. The impairment was expanded to incorporate tributary XHY. The exceedance rates were as follows:
5/24 at 3-ELM002.23
5/26 at 3-ELM002.92
4/26 at 3-ELM004.27
6/26 at 3-XHY000.06
2/25 (FS) at 3-XHY002.50

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_ELM01A06 / Elmwood Creek and tributary XHY / Headwaters to tidal limit, including tributary XHY.	5C	pH	2006	L	9.07

Elmwood Creek and Tributary XHY **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**9.07**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-05-BAC** **Baylors Creek**

Cause Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2008 cycle, Baylors Creek was assessed as impaired of the Recreation Use due to an E.coli exceedance rate of 2/16 at the Route 17 bridge (3-BAY002.62).

Additional data was collected in the 2014 cycle. The impairment was confirmed with the following exceedance rates:
3/12 at 3-BAY002.62
3/11 at 3-BAY004.39
1/12 (FS) at 3-BAY006.66

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_BAY01A08 / Baylors Creek / Headwaters to extent of backwater at Baylors Pond.	5A	Escherichia coli	2008	H, 2yr	5.89

Baylors Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.89**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-05-PH** **Baylors Creek**

Cause Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2008 cycle, Baylors Creek was assessed as impaired of the Aquatic Life Use due to a pH exceedance rate of 6/16 at the Route 17 bridge (3-BAY002.62).

Additional monitoring was conducted during the 2014 cycle. The impairment was confirmed with the following exceedance rates:
2/13 at 3-BAY002.62
2/12 at 3-BAY004.39
11/13 at 3-BAY006.66

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_BAY01A08 / Baylors Creek / Headwaters to extent of backwater at Baylors Pond.	5C	pH	2008	L	5.89

Baylors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-06-DO** **Peedee Creek**

Cause Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Peedee Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at the Route 640 bridge (3-PEE004.46). Additional monitoring was conducted along the creek in the 2014 and 2018 cycles.
7/12 at 3-PEE004.11
24/48 at 3-PEE004.46
7/12 at 3-PEE004.96
0/12 (FS) at 3-PEE006.57

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_PEE01A08 / Peedee Creek / Headwaters to tidal limit	5C	Oxygen, Dissolved	2010	L	3.29

Peedee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.29**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-06-PH** **Peedee Creek**

Cause Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2008 cycle, Peedee Creek was assessed as not supporting of the Aquatic Life Use due to pH exceedances at the Route 640 bridge (3-PEE004.46).

Additional monitoring was conducted along the creek in the 2014 and 2018 cycles.
1/12 (FS) at 3-PEE004.11
2/48 (FS) at 3-PEE004.46
3/12 at 3-PEE004.96
3/12 at 3-PEE006.57

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_PEE01A08 / Peedee Creek / Headwaters to tidal limit	5C	pH	2008	L	3.29

Peedee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.29**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-07-DO** **Occupacia Creek, UT - XGI**

Cause Location: The unnamed tributary XGI in its entirety.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

During the 2008 cycle, tributary XGI was mistakenly included within the nontidal Occupacia Creek segment. The segment failed for dissolved oxygen with an exceedance rate of 7/22 at station 3-XGI000.44.

However, this stream actually enters below the fall line on Occupacia Creek and therefore was not reclassified as Class VII waters. The TMDL is due in 2020. As the station was addressed in the Occupacia Natural Conditions Assessment (4/4/2005), it is considered Category 4C.

Additional monitoring in the 2016 cycle confirmed the impairment (2/5 for dissolved oxygen).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_XGI01A10 / Occupacia Creek, UT / Headwaters to mouth at tidal Occupacia Creek	4C	Oxygen, Dissolved			1.96

Occupacia Creek, UT - XGI **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-07-PH** **Occupacia Creek, UT - XGI**

Cause Location: The unnamed tributary XGI in its entirety.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

During the 2008 cycle, tributary XGI was mistakenly included within the nontidal Occupacia Creek segment. The segment failed for pH with an exceedance rate of 22/22 at station 3-XGI000.44.

However, this stream actually enters below the fall line on Occupacia Creek and therefore was not reclassified as Class VII waters. The TMDL is due in 2020. As the station was addressed in the Occupacia Natural Conditions Assessment (4/4/2005), it is considered Category 4C.

Additional monitoring in the 2016 cycle confirmed the impairment (3/5 for pH).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_XGI01A10 / Occupacia Creek, UT / Headwaters to mouth at tidal Occupacia Creek	4C	pH			1.96

Occupacia Creek, UT - XGI **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-08-BAC** **Stillwater Creek**

Cause Location: Stillwater Creek from its headwaters at Cockerel Creek downstream to its tidal limit

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Stillwater Creek was assessed as not supporting of the Recreation Use in the 2014 cycle based on an E. coli exceedance rate of 3/12 at 3-STL003.35 (Route 17 South).

Note: monitoring at 3-STL001.54, which is located at the Route 674 bridge, was acceptable (0/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_STL01A14 / Stillwater Creek / Headwaters at Cockerel Creek to tidal limit	5A	Escherichia coli	2014	H, 2yr	3.52

Stillwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.52**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-08-DO** **Stillwater Creek**

Cause Location: Stillwater Creek from its headwaters at Cockerel Creek downstream to its tidal limit

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Stillwater Creek was assessed as not supporting of the Aquatic Life Use in the 2014 cycle based on a dissolved oxygen exceedance rate of 4/13 at 3-STL003.35 (Route 17 South).

Note: monitoring at 3-STL001.54, which is located at the Route 674 bridge, was acceptable (1/13).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_STL01A14 / Stillwater Creek / Headwaters at Cockerel Creek to tidal limit	5C	Oxygen, Dissolved	2014	L	3.52

Stillwater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.52**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-08-PH** **Stillwater Creek**

Cause Location: Stillwater Creek from its headwaters at Cockerel Creek downstream to its tidal limit

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Stillwater Creek was assessed as not supporting of the Aquatic Life Use in the 2014 cycle based on pH exceedance rates of 12/13 at 3-STL003.35 (Route 17 South) and 4/13 at 3-STL001.54 (Route 674).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_STL01A14 / Stillwater Creek / Headwaters at Cockerel Creek to tidal limit	5C	pH	2014	L	3.52

Stillwater Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.52**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-09-BAC** **XHW - UT to Peedee Creek, UT (XHV)**

Cause Location: Headwaters to mouth

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, tributary XHW was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 3-XHW000.20, which is located at the Route 640 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_XHW01A14 / XHW - UT to Peedee Creek, UT (XHV) / Headwaters to mouth at XHV	5A	Escherichia coli	2014	H, 2yr	0.48

Channel adjusted in 2018 cycle due to stream relocation

XHW - UT to Peedee Creek, UT (XHV)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-10-PH** **Mill Swamp**

Cause Location: Nontidal Mill Swamp below Horners Pond

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, Mill Swamp was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 3-MSW000.85, which is located at Route 625 below Horners Pond.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_MSW01A14 / Mill Swamp / Horners Pond dam to tidal limit	5C	pH	2014	L	0.72

Mill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-11-DO** **Smoots Mill Run, UT**

Cause Location: From its headwaters to its mouth at Smoots Mill Run.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, the tributary was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/12 at 3-SMO001.58, which is located at Route 697.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_SMO01A14 / Smoots Mill Run, UT / Headwaters to mouth at Smoots Mill Run	5C	Oxygen, Dissolved	2014	L	1.67

Smoots Mill Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.67**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E22R-11-PH** **Smoots Mill Run, UT**

Cause Location: From its headwaters to its mouth at Smoots Mill Run.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, the tributary was impaired of the Aquatic Life Use due to a pH exceedance rate of 7/12 at 3-SMO001.58, which is located at Route 697.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22R_SMO01A14 / Smoots Mill Run, UT / Headwaters to mouth at Smoots Mill Run	5C	pH	2014	L	1.67

Smoots Mill Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.67**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23E-01-SF** **Upper Rappahannock River, Little Carter Creek, Jugs Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 025-068A, 3/21/2013

City / County: Essex Co. Richmond Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 025-068A, 3/24/2015

The Upper Rappahannock River Watershed Shellfish TMDL was approved by the EPA on 8/10/2010; therefore, the impaired area is considered Category 4A. The condemnation has since shortened; the area currently open for harvest is considered Cat. 2C.

Note: a previous Little Carter Creek/Jugs Creek VDH-DSS Shellfish Condemnation (068B, 3/6/2002) remains closed but is now incorporated into this shellfish condemnation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23E_LIE01A98 / Little Carter Creek, Jugs Creek / Tidal limit to mouth at the Rappahannock River.	4A	Fecal Coliform	1998	L	0.419
RPPMH					
VAP-E23E_PIS02A00 / Piscataway Creek / The estuarine portion of Piscataway Creek.	4A	Fecal Coliform	1998	L	0.589
RPPMH					
VAP-E23E_RPP02A98 / Rappahannock River / Mainstem Rappahannock as described in VDH shellfish condemnation 025A-068A, 3/24/2015 excluding administratively condemned portion. Adjusted slightly in 2018 cycle.	4A	Fecal Coliform	1998	L	7.035
RPPMH					
VAP-E23E_ZZZ02A06 / Unsegmented estuaries in E23 / Unsegmented portion within SFC 025A-068A, 3/24/2015.	4A	Fecal Coliform	2006	L	0.046
RPPMH					

Upper Rappahannock River, Little Carter Creek, Jugs Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**8.088**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23E-02-BAC** **Cat Point Creek**

Cause Location: The tidal portion of Cat Point Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Tidal Cat Point Creek was impaired of the Recreation Use in the 2010 cycle due to enterococci violations at 3-CAT006.58, which is located below Rt. 624. During the 2014 cycle, enterococci exceedance rates were 9/23 at 3-CAT006.58, as well as 3/12 at 3-CAT000.46.

Cat Point Creek is located within the study area for the downstream Upper Rappahannock Shellfish TMDL, which was approved by the EPA on 8/10/2010; therefore, it is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23E_CAT01A02 / Cat Point Creek / The tidal portion of Cat Point Creek.	4A	Enterococcus	2010	L	1.280

RPPMH

Cat Point Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**1.280**		

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23E-03-BAC** **Hoskins Creek**

Cause Location: The tidal portion of Hoskins Creek from the Tappahannock STP to its mouth at the Rappahannock River.

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Tidal Hoskins Creek was initially included on the 1994 303(d) list based on excessive fecal coliform standard exceedances recorded at the Rt. 360 bridge (3-HOK000.74). The upstream limit was extended to the Town of Tappahannock STP in the 1998 cycle in recognition that the STP may be a contributing source. During the 2006 cycle, the segment remained impaired and enterococci was added as an impairing cause. TMDL monitoring was initiated in the 2008 cycle; the impairment was confirmed, extended upstream to the tidal limit, and switched to enterococci based on exceedances at multiple stations.

The entire segment remained impaired in the 2010 cycle due to the following enterococci exceedance rates:
5/13 at 3-CRC000.15
10/13 at 3-HOK000.15
24/36 at 3-HOK000.74
7/13 at 3-HOK002.74
7/13 at 3-HOK003.61

No additional data has been collected.

The bacterial TMDL, which was approved by the EPA on 3/27/2008 and by the SWCB on 4/28/2009 only addressed the area from the Tappahannock STP to its mouth. The extension was split off and is addressed in fact sheet E23E-03-BAC2; it is considered to be nested. Both areas are Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23E_HOK01A98 / Hoskins Creek / Hoskins Creek from the Tappahannock STP downstream to the mouth at the Rappahannock River.	4A	Enterococcus	2006	L	0.084

RPPMH

Hoskins Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.084**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23E-03-BAC2** **Hoskins Creek, Church Swamp**

Cause Location: The tidal portion of Hoskins Creek and Church Swamp downstream to the Tappahannock STP.

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Tidal Hoskins Creek was initially included on the 1994 303(d) list based on excessive fecal coliform standard exceedances recorded at the Rt. 360 bridge (3-HOK000.74). The upstream limit was extended to the Town of Tappahannock STP in the 1998 cycle in recognition that the STP may be a contributing source. During the 2006 cycle, the segment remained impaired and enterococci was added as an impairing cause. TMDL monitoring was initiated in the 2008 cycle; the impairment was confirmed, extended upstream to the tidal limit, and switched to enterococci based on exceedances at multiple stations.

The entire segment remained impaired in the 2010 cycle due to the following enterococci exceedance rates:
5/13 at 3-CRC000.15
10/13 at 3-HOK000.15
24/36 at 3-HOK000.74
7/13 at 3-HOK002.74
7/13 at 3-HOK003.61

No additional data has been collected.

The bacterial TMDL, which was approved by the EPA on 3/27/2008 and by the SWCB on 4/28/2009 only addressed the area from the Tappahannock STP to its mouth. The extension was split off. It is considered to be nested. Both areas are Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23E_CRC01A08 / Church Swamp / Tidal limit to mouth at Hoskins Creek	4A	Enterococcus	2008	L	0.002
RPPMH					
VAP-E23E_HOK02A08 / Hoskins Creek / Hoskins Creek from its tidal limit to the confluence with Church Swamp.	4A	Enterococcus	2008	L	0.052
RPPMH					
VAP-E23E_HOK02A10 / Hoskins Creek / Hoskins Creek from the confluence with Church Swamp downstream to the Tappahannock STP.	4A	Enterococcus	2006	L	0.016
RPPMH					

Hoskins Creek, Church Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.069**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23E-03-PH** **Hoskins Creek**

Cause Location: Hoskins Creek from its tidal limit to the confluence with Church Swamp.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

During the 2006 cycle, pH was added as an impairment because of exceedances at 3-HOK003.61, which is located at the Route 659 bridge. The violation rate was 13/36 in the 2010 cycle.

The upstream segment extent was corrected in the 2008 cycle due to acceptable pH values at three downstream stations.

A Natural Conditions Assessment was completed for Hoskins Creek during the 2012 cycle. The report recommends that tidal Hoskins Creek from its tidal limit downstream to the confluence with Church Swamp be reclassified as Class VII swampwaters. The stream will be considered Category 4C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23E_HOK02A08 / Hoskins Creek / Hoskins Creek from its tidal limit to the confluence with Church Swamp.	4C	pH			0.052

RPPMH

Hoskins Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**0.052**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23E-05-BAC** **Little Carter Creek & Jugs Creek**

Cause Location: Tidal Little Carter Creek and Jugs Creek downstream it their mouths at the Rappahannock River.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Little Carter Creek and Jugs Creek were impaired of the Recreation Use due to an enterococci exceedance rate of 5/11 at 3-LIE003.62.

The area is within the study area for the Upper Rappahannock Watershed Shellfish TMDL, which was approved by the EPA on 8/10/2010. Implementation of the TMDL is expected to lower bacterial levels; therefore, the impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23E_LIE01A98 / Little Carter Creek, Jugs Creek / Tidal limit to mouth at the Rappahannock River.	4A	Enterococcus	2012	L	0.419

RPPMH

Little Carter Creek & Jugs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.419**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23E-06-BAC** **Piscataway Creek**

Cause Location: Tidal Piscataway Creek

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2016 cycle, the tidal Piscataway Creek was assessed not supporting of the Recreation Use based on an enterococci exceedance rate of 2/10 at the Route 17 bridge (3-PIS004.79).

The area is within the study area for the Upper Rappahannock Watershed Shellfish TMDL, which was approved by the EPA on 8/10/2010. Implementation of the TMDL is expected to lower bacterial levels; therefore, the impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23E_PIS02A00 / Piscataway Creek / The estuarine portion of Piscataway Creek.	4A	Enterococcus	2016	L	0.589

RPPMH

Piscataway Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.589**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23L-01-HG** **Chandlers Millpond**

Cause Location: Chandlers Millpond in its entirety

City / County: Westmoreland Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

On 8/31/2007, the Virginia Department of Health issued a fish consumption advisory for Chandlers Millpond based upon DEQ fish tissue monitoring at station 3-CMR001.00 in 2006. The advisory recommends consuming no more than two meals/month of largemouth bass due to the presence of mercury.

The DEQ monitoring showed mercury exceedances in both largemouth bass and black crappie.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23L_CMR01A08 / Chandlers Millpond / Chandlers Millpond in its entirety	5A	Mercury in Fish Tissue	2008	L	47.99

Chandlers Millpond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**47.99**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-03-PH** **Piscataway Creek & Tribs Mill Creek and Mussell Swamp**

Cause Location: Piscataway Creek from Sturgeon Swamp to tidal limit, Mill Creek and Mussell Swamp.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

Piscataway Creek from Sturgeon Swamp downstream to the tidal limit was initially assessed not supporting of the Aquatic Life use support goal in 1998 based on pH standard exceedances recorded at monitoring station 3-PIS009.24, located at the Route 691 bridge. The TMDL was due in 2010.

During the 2004 cycle, UT XFL was also considered impaired for pH (2004 fact sheet VAP-E23R-08). The TMDL was due by 2014.

During the 2006 cycle, additional watershed monitoring was performed and all of Piscataway Creek was impaired for pH, as well as XFL, XFM, XFN, Mussell Swamp, Sturgeon Swamp, and Mill Creek; therefore, the segment was expanded with TMDL due dates of 2018. The "Natural Conditions Assessment for low pH, Piscataway Creek, Essex, Virginia" was completed; it recommends that Piscataway Creek and its tributaries from its headwaters to its mouth at the Rappahannock River be reclassified as Class VII swampwaters. However, only the Piscataway Creek watershed upstream of Sturgeon Swamp was reclassified as Class VII swampwaters; the reclassified portion was delisted for pH based upon acceptable exceedance rates at the following stations:

3-PIS014.13
3-STU000.92
3-XFL001.04
3-XFM000.82
3-XFN000.01

The portion of nontidal Piscataway Creek below Sturgeon Swamp was determined to meet Class III limits and was removed from the Class VII reclassification. Although no additional data was collected during the 2010 cycle, the segment was delisted based upon the acceptable 2008 exceedance rate.

The remainder includes Mill Creek and Mussell Swamp. In addition, the original lower portion of Piscataway Creek (Sturgeon Swamp to tidal limit) was relisted during the 2014 cycle. Until the remainder of the watershed is reclassified, it is considered Cat. 4C for pH. During the 2018 cycle, the pH exceedance rates were 4/44 at 3-PIS009.24 and 0/4 at 3-PIS008.15.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_MLC01A04 / Mill Creek / Headwaters to tidal limit	4C	pH			5.26
VAP-E23R_MUS01A04 / Mussell Swamp / Headwaters to tidal limit.	4C	pH			5.13
VAP-E23R_PIS01A98 / Piscataway Creek / Piscataway Creek from Sturgeon Swamp (river mile 10.5) downstream to the tidal limit (river mile 8.2).	4C	pH			3.17

Piscataway Creek & Tribs Mill Creek and Mussell Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**13.56**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-04-BAC** **Hoskins Creek**

Cause Location: Headwaters to tidal limit

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Hoskins Creek was assessed as impaired of the Recreation Use during the 2014 cycle due to E. coli exceedances at 3-HOK011.45. The exceedance rate is 7/36 during the 2018 cycle.

The impairment is nested within the tidal Hoskins Creek TMDL, which was approved by the EPA on 3/27/2008; therefore, it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_HOK01A04 / Hoskins Creek / Headwaters to the tidal limit	4A	Escherichia coli	2014	L	13.16

Hoskins Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.16**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-06-BAC** **Cat Point Creek and Tributaries**

Cause Location: Nontidal Cat Point Creek and all tributaries draining to that segment.

City / County: Richmond Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Cat Point Creek from Ruin Branch (river mile 14.1) downstream to the tidal limit near Canal Swamp (river mile 10.54) was assessed as not supporting of the Recreation Use due to E. coli violations at 3-CAT011.62, which is located at the Route 637 bridge.

During the 2012 cycle, Nanny Sanford Swamp above Chandlers Millpond was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/12 at 3-NSS000.77, which is located at the Route 622 bridge. It was addressed in 2012 fact sheet E23R-01-BAC.

Additional monitoring was conducted during the 2014 cycle. The E. coli exceedances were widespread (see below); therefore, the impairments were combined and expanded to include all tributaries to nontidal Cat Point Creek.

The watershed is located within the study area for the downstream Upper Rappahannock Shellfish TMDL, which was approved by the EPA on 8/10/2010; therefore, it is considered nested (Category 4A).

6/30 at 3-CAT011.62 (2018 cycle)
3/12 at 3-NSS000.77
2/12 at 3-BLA002.31
4/12 at 3-CAT015.44
4/12 at 3-BRL000.15
3/12 at 3-CMR000.50
2/12 at 3-PAN003.00
5/12 at 3-RUN000.13
3/12 at 2-SYN000.42
2/12 at 3-TBS001.08
3/12 at 3-TBS003.39

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_BLA01A06 / Black Swamp / Black Swamp from its headwaters downstream to Chandlers Millpond	4A	Escherichia coli	2014	L	4.18
VAP-E23R_CAT01A98 / Cat Point Creek / Cat Point Creek from Ruin Branch downstream to tidal limit near Canal Swamp (river mile 10.54)	4A	Escherichia coli	2010	L	5.33
VAP-E23R_CAT02A02 / Cat Point Creek / Cat Point Creek from The Big Swamp to Ruin Branch.	4A	Escherichia coli	2014	L	1.19
VAP-E23R_CAT03A04 / Cat Point Creek tributaries / Cat Point Creek tributaries above the tidal limit, excluding Black Swamp, The Big Swamp, Ruin Branch, and Nanny Sanford Swamp above Chandlers Millpond	4A	Escherichia coli	2014	L	94.76
VAP-E23R_NSS01A12 / Nanny Sanford Swamp / Mainstem above Chandlers Millpond	4A	Escherichia coli	2012	L	3.58
VAP-E23R_RUN01A14 / Ruin Branch / Headwaters to mouth at Cat Point Creek	4A	Escherichia coli	2014	L	2.53
VAP-E23R_TBS01A06 / The Big Swamp / Headwaters to mouth at Cat Point Creek	4A	Escherichia coli	2014	L	6.74

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

Cat Point Creek and Tributaries		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation				
	Escherichia coli - Total Impaired Size by Water Type:			**118.31**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-07-BEN** **Ruin Branch**

Cause Location: Ruin Branch in its entirety

City / County: Richmond Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2014 cycle, Ruin Branch was assessed as not supporting the Aquatic Life Use due to impairment of the benthic community at 3-RUN000.13.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_RUN01A14 / Ruin Branch / Headwaters to mouth at Cat Point Creek	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.53

Ruin Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-08-BAC** **Muddy Run**

Cause Location: Nontidal Muddy Run

City / County: Richmond Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Muddy Run was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/12 at 3-MUR001.19, which is located at the Route 690 bridge.

The impairment is nested within the downstream Upper Rappahannock Shellfish TMDL, which was approved by the EPA on 8/10/2010; therefore, it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_MUR01A04 / Muddy Run / Headwaters to tidal limit	4A	Escherichia coli	2014	L	4.65

Muddy Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.65**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-12-DO** **Mussell Swamp**

Cause Location: Headwaters to mouth at Piscataway Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Mussell Swamp was assessed as impaired of the Aquatic Life Use based on dissolved oxygen exceedances at 3-MUS001.23, located at the Route 615 bridge. Natural conditions are suspected; therefore, the segment is assessed as Cat. 5C until the natural conditions assessment can be performed. During the 2008 cycle, the exceedance rate was 3/26. No additional monitoring has been conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_MUS01A04 / Mussell Swamp / Headwaters to tidal limit.	5C	Oxygen, Dissolved	2006	L	5.13

Mussell Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.13**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-16-BEN** **Church Swamp**

Cause Location: Church Swamp from its headwaters to its tidal limit at Hoskins Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Church Swamp was assessed as not supporting the Aquatic Life Use due to impairment of the benthic community at freshwater probabilistic monitoring station 3-CRC001.38.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_CRC01A06 / Church Swamp / Headwaters to tidal limit	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.24

Church Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.24**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-19-BAC** **Clarks Run**

Cause Location: Nontidal Clarks Run

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Clarks Run was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/12 at 3-CLK000.27, which is located at the Route 621 bridge.

The impairment is considered nested within the downstream Upper Rappahannock Shellfish TMDL, which was approved by the EPA on 8/10/2010; therefore, it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_CLK01A14 / Clarks Run / Headwaters to tidal limit	4A	Escherichia coli	2014	L	3.82

Clarks Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.82**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-20-DO** **Scates Millstream**

Cause Location: Nontidal Scates Millstream

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Scates Millstream was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/12 at station 3-SMS000.77, which is located at Route 635.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_SMS01A14 / Scates Millstream / Headwaters to tidal limit	5C	Oxygen, Dissolved	2014	L	2.89

Scates Millstream	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-20-PH** **Scates Millstream**

Cause Location: Nontidal Scates Millstream

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, Scates Millstream was impaired of the Aquatic Life Use due to a pH exceedance rate of 6/12 at station 3-SMS000.77, which is located at Route 635.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_SMS01A14 / Scates Millstream / Headwaters to tidal limit	5C	pH	2014	L	2.89

Scates Millstream	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E23R-21-BAC** **Piscataway Creek**

Cause Location: Piscataway Creek from Sturgeon Swamp to tidal limit.

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Piscataway Creek from Sturgeon Swamp downstream to the tidal limit was assessed as not supporting of the Recreation Use based on E. coli exceedances at station 3-PIS009.24, which is located at the Route 691 bridge.

The stream is considered nested within the Piscataway Creek Shellfish TMDL, which was approved by the EPA on 8/10/2010.

The exceedance rate was 7/36 during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E23R_PIS01A98 / Piscataway Creek / Piscataway Creek from Sturgeon Swamp (river mile 10.5) downstream to the tidal limit (river mile 8.2).	4A	Escherichia coli	2014	L	3.17

Piscataway Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.17**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24E-01-SF** **Richardson Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 025-071A, 3/25/2015

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 025-071A, 3/25/2015

Previous shellfish condemnations have included Totuskey and Richardson Creeks (separately or combined). The streams have been impaired since the 1998 cycle. However, in 2006 the segments were recombined and extended into the Rappahannock mainstem. The condemnation was further extended in the 2008 cycle.

However, during the 2010 cycle the condemnation was shortened and it was determined that the entire portion of the condemnation located within Totuskey Creek and portions of the Rappahannock River and Richardson Creek were considered administrative (VDH-DSS SFC 025-071A, 4/2/2008.) Those areas were partially delisted. The condemned portion remained Cat. 5B.

The upstream portion of Richardson Creek remains listed.

The Totuskey and Richardson Creeks Bacterial TMDL was approved by the EPA on 2/19/2010. The TMDL was based on the maximum extent of the condemnation, which occurred in condemnation 025-071A, 3/16/2007.

The condemnation was shortened and split in the 2012 cycle and the Rappahannock River and the mouth of Richardson Creek were now open for harvest; those portions were partially delisted. The closed portion is considered Category 4A.

Condemnations expanded and merged again in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24E_RIC01A04 / Richardson Creek / Richardson Creek within SFC 025-071A, 3/25/2015 (non-administrative.) Size increased in the 2018 cycle. RPPMH	4A	Fecal Coliform	1998	L	0.277
VAP-E24E_RPP01E18 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/25/2015 (non-admin) RPPMH	4A	Fecal Coliform	2018	L	0.061

Richardson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.338**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24E-02-BAC** **Totuskey Creek**

Cause Location: The tidal portions of Totuskey Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Totuskey Creek was previously assessed as not supporting of the Recreation Use because of fecal coliform exceedances at the Route 3 bridge (3-TOT005.11). During the 2006 cycle, the segment remained impaired for fecal coliform and enterococci was added as an impairment. During the 2008 cycle, the impairment converted solely to enterococci. The bacteria TMDL was due in 2014.

The bacterial TMDL was approved by the EPA on 2/19/2010. Totuskey Creek is considered a Category 4A water.

During the 2016 cycle, the enterococci exceedance rates were as follows:

17/36 at 3-TOT005.11 (2018 cycle)
6/12 at 3-TOT006.34
6/12 at 3-LIK000.15
2/11 at 2-MAY000.12
1/6 (IN) at 3-LIK002.12

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24E_LIK01A12 / Little Totuskey Creek / Tidal limit to mouth at Totuskey Creek	4A	Enterococcus	2006	L	0.055
RPPMH					
VAP-E24E_TOT01A00 / Totuskey Creek / The segment boundary is delineated in VDH condemnation 025-071B, 3/25/2015 excluding Little Totuskey Creek.	4A	Enterococcus	2006	L	0.302
RPPMH					
VAP-E24E_TOT02A00 / Totuskey Creek / Portion of VDH shellfish condemnation 025-071A, 3/25/2015 within Totuskey Creek.	4A	Enterococcus	2006	L	0.647
RPPMH					
VAP-E24E_TOT02B10 / Totuskey Creek / Downstream of VDH shellfish condemnation 025-071A, 3/25/2015.	4A	Enterococcus	2006	L	0.064
RPPMH					

Totuskey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**1.068**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24E-02-EBTOX Totuskey Creek**

Cause Location: The tidal portions of Totuskey Creek.

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Sediment Bioassays for Estuarine and Marine Water / 5A

During the 2006 cycle, estuarine probabilistic monitoring was conducted through the Coastal 2000 program at 3-TOT007.84 and 3-TOT004.92. The data was assessed by DEQ-CO through the Weight of Evidence approach. The alteration at station 3-TOT007.84 was assessed as Category 5A for toxics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24E_LIK01A12 / Little Totuskey Creek / Tidal limit to mouth at Totuskey Creek	5A	Sediment Bioassays for Estuarine and Marine Water	2006	L	0.055
RPPMH					
VAP-E24E_TOT01A00 / Totuskey Creek / The segment boundary is delineated in VDH condemnation 025-071B, 3/25/2015 excluding Little Totuskey Creek.	5A	Sediment Bioassays for Estuarine and Marine Water	2006	L	0.302
RPPMH					
VAP-E24E_TOT02A00 / Totuskey Creek / Portion of VDH shellfish condemnation 025-071A, 3/25/2015 within Totuskey Creek.	5A	Sediment Bioassays for Estuarine and Marine Water	2006	L	0.647
RPPMH					
VAP-E24E_TOT02B10 / Totuskey Creek / Downstream of VDH shellfish condemnation 025-071A, 3/25/2015.	5A	Sediment Bioassays for Estuarine and Marine Water	2006	L	0.064
RPPMH					

Totuskey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sediment Bioassays for Estuarine and Marine Water - Total Impaired Size by Water Type:	**1.068**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24E-04-SF** **Garretts Marina**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 026-181A, 3/25/2015

City / County: Essex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 026-181A, 3/25/2015

Garrett's Marina has been impaired of the Shellfish Consumption Use since the 1998 cycle (E24E-03-SF). During the 2008 cycle, the condemnation expanded and incorporated previous condemnation M271, which had been seasonally condemned (observed effects). VDH condemnation 026-181A, 1/20/2006 was rescinded during the 2012 cycle; the area was seasonally condemned and was delisted.

However, a portion of the area was relisted in the 2014 cycle (026-18B, 4/3/2012). The entire area reverted to seasonally condemned again in the 2016 cycle and was delisted.

It was relisted in 2018.

Garrett's Marina was included in the Upper Rappahannock Watershed Shellfish TMDL, which was approved by the EPA on 8/10/2010; therefore, this portion is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24E_RPP01B14 / Garrett's Marina / As delineated in VDH shellfish condemnation 026-181A, 3/25/2015.	4A	Fecal Coliform	2018	L	0.003

RPPMH

Garretts Marina **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.003**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24E-05-PH** **Little Totuskey Creek**

Cause Location: The tidal portion of Little Totuskey Creek.

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2010 cycle, nontidal Little Totuskey Creek was considered not supporting of the Aquatic Life Use based on pH exceedances at 3-LIK002.12, which is located at the Route 697 bridge. During the 2012 cycle, it was determined that the stream is tidally influenced at that location. The TMDL will be due in 2022 because the station was first impaired in the 2010 cycle.

Additional stations within the segment were fully supporting and the impaired station has a marginal exceedance rate (3/25); therefore, continued monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24E_LIK01A12 / Little Totuskey Creek / Tidal limit to mouth at Totuskey Creek	5C	pH	2012	L	0.055

RPPMH

Little Totuskey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.055**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-01-BAC** **Bookers Mill Stream**

Cause Location: Bookers Mill Stream from its headwaters to its mouth at the confluence with Totuskey Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Bookers Mill Stream was assessed not supporting of the Recreation Use support goal in 2002 based on fecal coliform exceedances recorded at the Route 612 bridge (3-BMS002.00). Monitoring was discontinued in 2001; therefore, the previous assessment was carried over.

The bacterial TMDL for the tidal Recreation Use and Shellfish Use impairments on Totuskey Creek was completed during the 2010 cycle and was approved by the EPA on 2/19/2010. The impairment is considered to be nested (Category 4A).

Additional monitoring was conducted during the 2012 cycle; the E. coli exceedance rates were as follows:
3/12 at 3-BMS000.37
2/12 at 3-BMS002.00
5/12 at 3-BMS004.42

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_BMS01A98 / Bookers Mill Stream / Bookers Mill Stream in its entirety.	4A	Escherichia coli	2012	L	6.53

Bookers Mill Stream **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.53**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-01-DO** **Bookers Mill Stream**

Cause Location: Bookers Mill Stream from its headwaters to its mouth at the confluence with Totuskey Creek.

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Bookers Mill Stream was impaired of the Aquatic Life Use due to the following dissolved oxygen exceedance rates:

2/12 at 3-BMS000.37
0/14 at 3-BMS002.00 (FS)
3/12 at 3-BMS004.42

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_BMS01A98 / Bookers Mill Stream / Bookers Mill Stream in its entirety.	5C	Oxygen, Dissolved	2012	L	6.53

Bookers Mill Stream **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.53**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-02-BAC** **Totuskey Creek**

Cause Location: The free flowing portion of Totuskey Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, the nontidal portion of Totuskey Creek was assessed as not supporting the Recreation Use due to E. coli exceedances at 3-TOT009.95, which is located at the Route 619 bridge.

The bacterial TMDL for the tidal Recreation Use and Shellfish Use impairments was completed during the 2010 cycle and was approved by the EPA on 2/19/2010. The nontidal Recreation Use impairment is considered to be nested (Category 4A).

During the 2012 cycle, the exceedance rates were as follows:
5/25 at 3-TOT009.95
3/12 at 3-TOT012.53
4/12 at 3-TOT014.49

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_TOT01A06 / Totuskey Creek / The nontidal portion of Totuskey Creek	4A	Escherichia coli	2006	L	8.04

Totuskey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.04**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-03-BAC** **Muddy Gut**

Cause Location: Headwaters to mouth at Rappahannock River.

City / County: Essex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Muddy Gut was assessed as impaired of the Recreation Use based on an E. coli violation rate of 5/10 at the Route 607 bridge (3-MUG000.96).

Muddy Gut is located within the study area for the Upper Rappahannock Shellfish TMDL, which was approved by the EPA on 2/10/2010. Muddy Gut is considered nested (Category 4A).

No additional data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_MUG01A08 / Muddy Gut / Headwaters to mouth at the Rappahannock River.	4A	Escherichia coli	2008	L	2.63

Muddy Gut **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.63**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-03-PH** **Muddy Gut**

Cause Location: Headwaters to mouth at Rappahannock River.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2008 cycle, Muddy Gut was assessed as impaired of the Aquatic Life Use based on a pH exceedance rate of 4/10 at the Route 607 bridge (3-MUG000.96).

No additional data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_MUG01A08 / Muddy Gut / Headwaters to mouth at the Rappahannock River.	5C	pH	2008	L	2.63

Muddy Gut	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.63**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-04-BAC** **Little Totuskey Creek**

Cause Location: Headwaters to the tidal limit

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Little Totuskey Creek was assessed as not supporting the Recreation Use due to an E. coli exceedance rate of 2/12 at LIK002.21, which is located at the Route 360 bridge.

The bacterial TMDL for the tidal Totuskey Creek Recreation Use and Shellfish Use impairments was approved by the EPA on 2/19/2010. The Recreation Use impairment is considered to be nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_LIK01A08 / Little Totuskey Creek / Headwaters to tidal limit	4A	Escherichia coli	2012	L	1.90

Little Totuskey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.90**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-05-PH** **Branham Mill Swamp**

Cause Location: Branham Mill Swamp from its headwaters to its mouth at Marshy Swamp

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Branham Mill Swamp was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 3-BRA000.85.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_BRA01A08 / Branham Mill Swamp / Headwaters to mouth at Marshy Swamp	5C	pH	2012	L	3.66

Branham Mill Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-06-BAC** **Richardson Creek and Tributaries**

Cause Location: Headwaters to the tidal limit

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the streams were assessed as impaired of the Recreation Use due to E. coli exceedances. The violation rates are as follows:

4/23 at 2-RIC003.85
4/12 at 3-RIC005.00
5/12 at 3-RIC006.43
3/12 at 3-RNF002.04
1/12 at 3-XHJ000.04 (FS)

The bacterial TMDL for the tidal Totuskey and Richardson Creeks Recreation Use and Shellfish Use impairments was completed during the 2010 cycle and was approved by the EPA on 2/19/2010. The Recreation Use impairment is considered to be nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_RIC01A12 / Richardson Creek and Tributaries / The nontidal streams in the Richardson Creek watershed.	4A	Escherichia coli	2012	L	17.21

Richardson Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.21**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-06-DO** **Richardson Creek and Tributaries**

Cause Location: Headwaters to the tidal limit

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Richardson Creek and its tributaries were impaired of the Aquatic Life Use due to dissolved oxygen exceedances. During the 2016 cycle, the exceedance rates are as follows:

11/24 at 3-RIC003.85
0/12 (FS) at 3-RIC005.00
4/12 at 3-RIC006.43
1/12 (FS) at 3-RNF002.04
7/12 at 3-XHJ000.04

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_RIC01A12 / Richardson Creek and Tributaries / The nontidal streams in the Richardson Creek watershed.	5C	Oxygen, Dissolved	2012	L	17.21

Richardson Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**17.21**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-06-PH** **Richardson Creek and Tributaries**

Cause Location: Headwaters to the tidal limit

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Richardson Creek and its tributaries were impaired of the Aquatic Life Use due to pH exceedances. The pH exceedance rates were as follows in the 2016 cycle:

16/24 at 3-RIC003.85
3/12 at 3-RIC005.00
11/12 at 3-RIC006.43
2/12 at 3-RNF002.04
7/12 at 3-XHJ000.04

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_RIC01A12 / Richardson Creek and Tributaries / The nontidal streams in the Richardson Creek watershed.	5C	pH	2012	L	17.21

Richardson Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**17.21**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-07-BAC** **Totuskey Creek Tributaries**

Cause Location: The tributaries of Totuskey Creek above the confluence with Little Totuskey Creek, excluding Bookers Mill Swamp

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the tributaries were impaired of the Recreation Use due to widespread E. coli exceedances.

3/11 at 3-MIL000.15
4/12 at 3-DRK001.35
4/12 at 3-XHK000.65
4/11 at 3-XHL000.96
6/11 at 3-XHM000.27

The bacterial TMDL for the tidal Totuskey and Richardson Creeks Recreation Use and Shellfish Use impairments was approved by the EPA on 2/19/2010. The Recreation Use impairment is considered to be nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_TOT02B12 / Totuskey Creek Tributaries / The nontidal tributaries of Totuskey Creek above the confluence with Little Totuskey, unless otherwise segmented.	4A	Escherichia coli	2012	L	73.26
VAP-E24R_XHL01A12 / XHL - Bookers Mill Stream, UT / Headwaters to mouth at Bookers Mill Stream	4A	Escherichia coli	2012	L	2.01

Totuskey Creek Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**75.27**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-08-PH** **XHL - Bookers Mill Stream, UT**

Cause Location: Headwaters to mouth at Bookers Mill Stream

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, tributary XHL was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/11 at 3-XHL000.96, which is located at the Route 603 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_XHL01A12 / XHL - Bookers Mill Stream, UT / Headwaters to mouth at Bookers Mill Stream	5C	pH	2012	L	2.01

XHL - Bookers Mill Stream, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-09-BAC** **Marshy Swamp**

Cause Location: Headwaters to tidal limit

City / County: Northumberland Co. Richmond Co. Westmoreland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, nontidal Marshy Swamp was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 3-MAY003.35. Other stations in the stream were acceptable; therefore, continued monitoring is recommended.

The bacterial TMDL for the tidal Totuskey and Richardson Creeks Recreation Use and Shellfish Use impairments was approved by the EPA on 2/19/2010. The Recreation Use impairment is considered to be nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_MAY01A12 / Marshy Swamp / Headwaters to tidal limit	4A	Escherichia coli	2012	L	9.53

Marshy Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.53**

Sources:

Municipal Point Source Impacts from Inadequate Industrial/Commercial Pretreatment	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E24R-09-DO** **Marshy Swamp**

Cause Location: Headwaters to tidal limit

City / County: Northumberland Co. Richmond Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, nontidal Marshy Swamp was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 3-MAY008.43, which is located at Route 618.

Other stations in the stream were acceptable. In addition, the exceedance rate fell to 4/24 during the 2016 cycle; therefore, further monitoring is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24R_MAY01A12 / Marshy Swamp / Headwaters to tidal limit	5C	Oxygen, Dissolved	2012	L	9.53

Marshy Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.53**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-01-BAC** **Lagrange Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 028-127A, 6/11/1996

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Lagrange Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 3-LGG001.92, which is located at the end of Route 656.

The Lagrange Creek Shellfish Bacterial TMDL was approved by the EPA on 11/15/2005. Implementation of that TMDL is expected to bring the stream into compliance with the Recreation WQS; therefore, the impairment is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_LGG01A98 / Lagrange Creek / As described in VDH SFC 028-127A, 1/28/2016.	4A	Enterococcus	2012	L	0.555
RPPMH					
VAP-E25E_LGG01B18 / Lagrange Creek / Portion of VDH SFC 127, 6/11/1996 open on 028-127, 1/28/2016.	4A	Enterococcus	2012	L	0.035
RPPMH					

Lagrange Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.590**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-01-SF** **Lagrange Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 028-127A, 6/11/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 028-127A, 1/28/2016

A portion of Lagrange Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 127, 6/11/1996. The TMDL for this portion was approved by the EPA on 11/15/2005. The segment is classified as Cat. 4A.

The condemnation has expanded and contracted several times. The condemnation expanded during the 2016 cycle and became larger than the TMDL area. The expansion was nested in the upstream TMDL and was addressed in fact sheet E25E-06-SF.

The condemnation shrank in the 2018 cycle and is now smaller than the 1998 impairment. The expansion was delisted. The condemned area is Category 4A. The now-open area which was addressed in the TMDL will be partially delisted (Category 2C.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_LGG01A98 / Lagrange Creek / As described in VDH SFC 028-127A, 1/28/2016.	4A	Fecal Coliform	1998	L	0.555

RPPMH

Lagrange Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.555**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-02-BAC** **Robinson Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 177, 5/28/1997

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

In 2002, the segment was assessed as not supporting the Recreation Use due to fecal coliform exceedances at the end of Route 680 (3-ROS001.35). The violation rate in the 2004 cycle was 4/20. There has been no additional monitoring since 2001.

The area was addressed in the "Rappahannock River: Lagrange and Robinson Creeks TMDL Report for Shellfish Condemnation Areas Listed due to Bacteria Contamination" which was approved by the EPA on 11/15/2005 and by the SWCB on 9/27/2006. Because the bacteria standard for the Shellfish Use is more stringent than the standard for the Recreation Use, the area was considered nested.

The shellfish condemnation shrank during the 2016 cycle (028-177, 1/24/2014) and a portion will be partially delisted (Category 2A.) The condemnation was expanded in the 2018 cycle to continue to match the shellfish impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_ROS01A00 / Robinson Creek / Described in VDH shellfish condemnation 177, 5/28/1997	4A	Fecal Coliform	1998	L	0.207

Merged in the 2018 cycle.

RPPMH

Robinson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.207**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-02-SF** **Robinson Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 177, 5/28/1997

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 028-177A, 1/24/2014

The upstream portion of Robinson Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 177, 5/28/1997.

The TMDL was approved by the EPA on 11/15/2005 and by the SWCB on 9/27/2006. The impairment is classified as Category 4A.

The condemnation shrank during the 2016 cycle and a portion was partially delisted (Category 2C.)

It expanded in the 2018 cycle and matches the 1998 impairment again.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_ROS01A00 / Robinson Creek / Described in VDH shellfish condemnation 177, 5/28/1997	4A	Fecal Coliform	1998	L	0.207

Merged in the 2018 cycle.

RPPMH

Robinson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.207**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-03-SF** **Weeks Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 027-202A not included in 202, 10/8/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 027-202A, 1/27/2015

Weeks Creek was assessed as not supporting of the Shellfish Use during the 1998 cycle due to VDH shellfish condemnation 202, 10/8/1996. The TMDL was approved by the EPA on 11/15/2005 and by the SWCB on 9/27/2006.

However, during the 2012 cycle, the condemnation was rescinded on 8/16/2010; therefore, the impairment was delisted.

The 1998 portion was relisted in the 2014 cycle (Category 4A).

The condemnation expanded in the 2018 cycle; this portion is proposed for nesting in the upstream TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_WEE02A04 / Weeks Creek / The portion of VDH shellfish condemnation 027-202A, 1/27/2015 not included in the 1989 closure.	4A	Fecal Coliform	2018	L	0.013

Segment shrank slightly in the 2018 cycle.

RPPMH

Weeks Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.013**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-05-BAC** **Farnham Creek**

Cause Location: Farnham Creek from its tidal limit to its mouth at the Rappahannock River.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

In 2002, Farnham Creek was assessed as not supporting of the Recreation Use due to fecal coliform exceedances at 3-FAM002.62, which is located at the Route 608 bridge.

The bacteria TMDL for shellfish condemnations in Farnham Creek was completed was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2008. The Recreation Use impairment is considered to be nested.

The impairment converted to enterococci in the 2010 cycle.

During the 2016 cycle, the exceedance rate was 8/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_FAM01A98 / Farnham Creek / The segment boundaries are delineated in VDH shellfish condemnation 024-070A, 12/19/2016.	4A	Enterococcus	2010	L	0.360
RPPMH					
VAP-E25E_FAM01B10 / Farnham Creek / Portion of VDH shellfish condemnation 070, 10/22/1996 open on 12/19/2016.	4A	Enterococcus	2010	L	0.067
RPPMH					

Farnham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.427**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-05-SF** **Farnham Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 024-070A, 12/19/2016.

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 024-070A, 12/19/2016

Farnham Creek has been assessed as not supporting the Shellfish Use since 1998. The TMDL was due in 2010.

The bacteria TMDL for shellfish condemnations in Farnham Creek was approved by the EPA on 8/2/2006. The TMDL was based on the extent of the 1998 condemnation, which extended to the mouth of Farnham Creek.

During the 2010 cycle, the condemnation size was reduced; the lower portion now open for harvest was partially delisted (Category 2C). The condemned area is considered a Category 4A water for the Shellfish Consumption Use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_FAM01A98 / Farnham Creek / The segment boundaries are delineated in VDH shellfish condemnation 024-070A, 12/19/2016.	4A	Fecal Coliform	1998	L	0.360

RPPMH

Farnham Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.360**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-07-SF** **Parrotts Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 090, 4/27/1989

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 027-090A, 1/27/2015

The Shellfish TMDL report for "Rappahannock River: Mud and Parrotts Creeks" was approved by the EPA on 11/15/2005 and by the SWCB on 8/26/2008. The TMDL addressed the 1998 portion of the current condemnation; therefore, the impairment is considered Cat. 4A. The downstream portion of the Parrotts Creek condemnation is addressed in fact sheet E25E-27-SF.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_PRR01A02 / Parrotts Creek / The segment boundaries are delineated in VDH shellfish condemnation 090, 4/27/1989.	4A	Fecal Coliform	1998	L	0.153

RPPMH

Parrotts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.153**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-09-SF** **Weeks Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 202, 10/8/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 027-202A, 1/27/2015

Weeks Creek was assessed as not supporting of the Shellfish Use during the 1998 cycle due to VDH shellfish condemnation 202, 10/8/1996. The TMDL was approved by the EPA on 11/15/2005 and by the SWCB on 9/27/2006.

However, during the 2012 cycle, the condemnation was rescinded on 8/16/2010; therefore, the impairment was delisted.

The 1998 portion was relisted in the 2014 cycle (Category 4A).

The condemnation expanded in the 2018 cycle; the downstream expansion will be addressed in fact sheet E25E-03-SF.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_WEE01A00 / Weeks Creek / The segment boundaries are delineated in VDH shellfish condemnation 202, 10/8/1996.	4A	Fecal Coliform	2014	L	0.123

RPPMH

Weeks Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.123**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-10-SF** **Deep Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 121, 11/16/1994

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 023-121B, 12/17/2015

A 0.0491 sq. mi. portion of Deep Creek was assessed as impaired of the Shellfish Consumption Use on the 1998 303(d) list due to VDH condemnation 121, 11/16/1994.

The condemnation began expanding in the 2002 cycle. However, the shellfish TMDL, which was approved by the EPA on 8/2/2006, only addressed the 1998 impairment. The original area is considered a Category 4A water; the TMDL for the downstream portion is addressed in fact sheet E25E-10-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_DEE01A04 / Deep Creek / Described in VDH shellfish condemnation 121, 11/16/1994.	4A	Fecal Coliform	1998	L	0.049

RPPMH

Deep Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-10-SF2** **Deep Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 023-121B 12/14/2015 not included in 121, 11/16/1994 and Condemnations 023-121C, and - E, 12/17/2015.

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 023-121B not included in the 11/16/1994 condemnation and VDH-DSS condemnations 023-121C, and -E, 12/17/2015

A 0.0491 sq. mi. portion of Deep Creek was assessed as impaired of the Shellfish Consumption Use on the 1998 303(d) list due to VDH condemnation 121, 11/16/1994. The condemnation began expanding in the 2002 cycle; however, the TMDL was completed only for the original impairment (see fact sheet E25E-10-SF). The TMDL for this downstream portion was due in 2014.

The expanded portion is nested within the upstream Deep Creek Shellfish TMDL, which was approved by the EPA on 8/2/2006.

The condemnations expanded slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_DEE01B08 / Deep Creek / VDH-DSS condemnations 023-121B, -C, and -E, 12/17/2015 not included in the 11/16/1994 condemnation.	4A	Fecal Coliform	2002	L	0.092

Size increased in the 2018 cycle.

RPPMH

Deep Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.092**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-11-SF** **Lancaster Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 023-120A, 8/14/1995

City / County: Lancaster Co. Richmond Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 020-120A, 12/19/2016

A portion of Lancaster Creek was assessed as impaired of the Shellfish Use in the 1998 cycle due to VDH Shellfish Condemnation 120A, 8/14/1995.

The TMDL Report for Shellfish Areas Listed due to Bacterial Contamination for Lancaster Creek was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007. Although the condemnation on Lancaster Creek has extended downstream since the 1998 cycle, only the original impairment was included in the TMDL. The expansion is addressed in fact sheet E25E-11-SF2. This segment is considered Category 4A for the Shellfish Use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_LAN01A98 / Lancaster Creek / As delineated in VDH SFC 023-120A, 8/14/1995.	4A	Fecal Coliform	1998	L	0.270

RPPMH

Lancaster Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.270**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-11-SF2** **Lancaster Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 023-120A, 1219/2016 not included in condemnation 023-120A, 8/14/1995

City / County: Lancaster Co. Richmond Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 020-120A, 12/19/2016

A portion of Lancaster Creek was assessed as impaired of the Shellfish Use in the 1998 cycle due to VDH Shellfish Condemnation 120A, 8/14/1995. Although the condemnation on Lancaster Creek has extended downstream since the 1998 cycle, only the original impairment was included when the TMDL was developed. Since the segment was first expanded downstream in the 2002 cycle, the TMDL for this downstream segment was due in 2014.

It is considered nested in the upstream "TMDL Report for Shellfish Areas Listed due to Bacterial Contamination for Lancaster Creek," which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

The condemnation expanded slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_LAN01B08 / Lancaster Creek / The portion of VDH SFC 023-120A, 12/19/2016 open on 8/14/1995.	4A	Fecal Coliform	2002	L	0.238

Segment expanded in the 2018 cycle.

RPPMH

Lancaster Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.238**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-12-SF** **Morattico Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 023-120B, 12/19/2016

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 023-120B, 12/19/2016

The Morattico Creek shellfish impairment is nested in the neighboring "TMDL Report for Shellfish Areas Listed due to Bacterial Contamination for Lancaster Creek," which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_MTT01A00 / Morattico Creek / Delineated in VDH SFC 023-120B, 12/19/2016.	4A	Fecal Coliform	2002	L	0.138

RPPMH

Morattico Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.138**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-13-SF** **Mulberry Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 0123-121A, 1217/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 023-121A, 12/17/2015

A portion of Mulberry Creek was included on the 1998 303(d) list due to VDH Shellfish condemnation 120B, 8/14/1995. The TMDL for Shellfish Areas Listed due to Bacterial Contamination for Mulberry Creek was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

The TMDL only addressed the fecal coliform impairment within the 1998 portion of Mulberry Creek. The segment has shrunk and extended several times. During the 2014 cycle, the condemnation expanded again and was larger than the TMDL area; the expansion was addressed in fact sheet E25E-03-SF. It shrank again during the 2016 cycle and the condemnation is smaller than the original impairment. The closed area remains Category 4A and the opened area was partially delisted (Category 2C).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_MUB01A02 / Mulberry Creek / Described in VDH shellfish condemnation 023-121A, 12/17/2015.	4A	Fecal Coliform	1998	L	0.136

RPPMH

Mulberry Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.136**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-14-SF** **Beach Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 116, 1/7/1992

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 022-116A, 10/28/2014

A portion of Beach Creek was assessed as impaired of the Shellfish Use in the 1998 cycle based on VDH Shellfish Condemnation 116, 1/7/1992. The bacteria TMDL was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

During the 2014 cycle, Beach Creek was reopened for harvest (9/27/2012); applicable areas were considered Category 2C.

It was relisted in the 2016 cycle (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_XDV01A02 / Beach Creek / The segment boundaries are delineated in VDH shellfish condemnation 022-116A, 10/28/2014.	4A	Fecal Coliform	2016	L	0.083

RPPMH

Beach Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.083**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-15-BAC** **Greenvale Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 094, 11/7/1994

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Greenvale Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 4/5 at 3-GEE001.44, which is located at Route 624.

As the area is within the Greenvale Creek Shellfish TMDL which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007, the impairment is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_GEE01A98 / Greenvale Creek / The segment boundaries are delineated in VDH shellfish condemnation 094, 11/7/1994.	4A	Enterococcus	2012	L	0.087

RPPMH

Greenvale Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.087**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-15-SF** **Greenvale Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 094, 11/7/1994

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 022-094A, 9/24/2009

A portion of Greenvale Creek was included on the 1998 303(d) list due to VDH condemnation 94, 11/7/1994.

The bacteria TMDL for the Shellfish Impairment on Greenvale Creek was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

The impairment has subsequently expanded; however, the TMDL only addressed the 1998 portion, which is considered Category 4A. The expansion is addressed in E25E-29-SF.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_GEE01A98 / Greenvale Creek / The segment boundaries are delineated in VDH shellfish condemnation 094, 11/7/1994.	4A	Fecal Coliform	1998	L	0.087

RPPMH

Greenvale Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.087**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-22-SF** **Robinson Creek / Perkins Creek**

Cause Location: As described in VDH Shellfish Condemnation 028-177B and -C, 1/28/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Described in VDH Shellfish Condemnation 028-177B and -C, 1/28/2016

The upstream portion of Robinson Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 177, 5/28/1997. The TMDL for this original portion has been completed.

During the 2006 cycle, however, the condemnation extended downstream. It is considered nested in the upstream Robinson Creek Shellfish TMDL, which was approved by the EPA on 11/15/2005.

During the 2016 cycle, a tributary (028-177D) was converted to seasonally condemned (028-177M2, 1/24/2014. Therefore, it was partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_ROS02A04 / Robinson Creek / Perkins Creek / Described in VDH Shellfish Condemnation 028-177B and -C, 1/28/2016.	4A	Fecal Coliform	2006	L	0.039

RPPMH

Robinson Creek / Perkins Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.039**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-23-SF** **Robinson Creek**

Cause Location: As described in VDH Shellfish Condemnation 028-177D, 1/28/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Described in VDH Shellfish Condemnation 028-177D, 1/28/2016

The upstream portion of Robinson Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 177, 5/28/1997. The TMDL for this original portion has been completed.

During the 2006 cycle, however, the condemnation extended downstream. It is considered nested in the upstream Robinson Creek Shellfish TMDL, which was approved by the EPA on 11/15/2005.

During the 2016 cycle, a tributary (028-177D) was converted to seasonally condemned (028-177M2, 1/24/2014. Therefore, it was partially delisted.

It was relisted in the 2018 cycle and is still considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_ROS02C16 / Robinson Creek / Described in VDH Shellfish Condemnation 028-177D, 1/28/2016.	4A	Fecal Coliform	2018	L	0.016

Expanded slightly in the 2018 cycle.

RPPMH

Robinson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-25-SF** **Mulberry Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 023-121D, 12/17/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The UT to Mulberry Creek is impaired of the Shellfish Use due to VDH Shellfish Condemnation 023-121D, 12/17/2015.

It is considered nested within the TMDL for Shellfish Areas Listed due to Bacterial Contamination for Mulberry Creek, which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_MUB03A08 / Mulberry Creek / Described in VDH shellfish condemnation 023-021D, 12/19/2015.	4A	Fecal Coliform	2018	L	0.008

RPPMH

Mulberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.008**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-27-SF** **Parrotts Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 027-090A, 1/27/2015 not included in 90, 4/27/1989

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 027-090A, 1/27/2015

A portion of Parrotts Creek was listed in the 1998 cycle due to VDH condemnation 027-090A, 8/18/2009. The Shellfish TMDL report for "Rappahannock River: Mud and Parrotts Creeks" was approved by the EPA on 11/15/2005 and by the SWCB on 8/26/2008.

The condemnation subsequently expanded. The impairment is considered nested in the upstream Parrotts Creek TMDL. It expanded again slightly in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_PRR02A08 / Parrotts Creek / Condemnation 027-090A, 1/27/2015 downstream of VDH Condemnation 090, 4/27/1989.	4A	Fecal Coliform	2008	L	0.011

Shortened in the 2018 cycle.

RPPMH

Parrotts Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-28-SF** **Paynes Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 022-094B, 9/24/2009

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 022-094B, 9/24/2009

On older summaries Paynes Creek was shown to be non-productive. However, during the 2008 cycle, the area was determined to be condemned.

It is considered nested in the nearby Greenvale Creek Shellfish TMDL, which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_PAY01A02 / Paynes Creek / As delineated in VDH-DSS SFC 022-094B, 9/24/2009.	4A	Fecal Coliform	2008	L	0.049

RPPMH

Paynes Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-29-SF** **Greenvale Creek**

Cause Location: The portion of VDH Notice and Description of Shellfish Condemnation 022-094A, 9/24/2009 that is not included in the 11/7/1994 condemnation

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 022-094A, 9/24/2009

A portion of Greenvale Creek was included on the 1998 303(d) list due to VDH condemnation 94, 11/7/1994 (see E25E-15-SF). The TMDL was developed during the 2008 cycle.

The condemnation subsequently expanded to the mouth in the 2012 cycle. The expansion is nested in the upstream Greenvale Creek Shellfish TMDL, which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_GEE02A06 / Greenvale Creek / Described in VDH-DSS condemnation 022-094M1, 9/23/2008.	4A	Fecal Coliform	2012	L	0.012

RPPMH

Greenvale Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.012**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25E-30-BAC** **Town Bridge Swamp**

Cause Location: Town Bridge Swamp from its tidal limit to its mouth at tidal Urbanna Creek

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, sampling on Town Bridge Swamp at 3-TWN000.35 upstream of Urbanna Creek indicated that a portion of the creek is tidally influenced. Town Bridge Swamp is impaired of the Recreation Use due to an enterococci exceedance rate of 5/11.

The impairment is considered nested due to the downstream Urbanna Creek Shellfish TMDL, which was approved by the EPA on 11/15/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_TWN01A12 / Town Bridge Swamp / Tidal limit to mouth at Urbanna Creek	4A	Enterococcus	2012	L	0.002

RPPMH

Town Bridge Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.002**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25R-01-BAC** **Laton Swamp**

Cause Location: Laton Swamp from its headwaters to its mouth at Farnham Creek

City / County: Richmond Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Laton Swamp was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 3-LAT002.34, which is located at Route 3.

The impairment is nested in the downstream Farnham Creek Shellfish TMDL, which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25R_LAT01A14 / Laton Swamp / Headwaters to mouth at Farnham Creek.	4A	Escherichia coli	2014	L	4.86

Laton Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.86**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25R-01-PH** **Mud Creek**

Cause Location: The tidal portion of Mud Creek.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

Mud Creek was initially assessed as not supporting the Aquatic Life Use support goal in 2004 based on pH exceedances at 3-MUC002.31, located at the Route 648 bridge.

During the 2006 cycle, it was thought that the station's classification as tidal during the 2004 cycle was a mistake. The impairments were transferred to nontidal Mud Creek.

However, during the 2012 cycle, it was determined that the station is actually tidally influenced. The pH impairment was transferred to the tidal portion of Mud Creek.

A Natural Conditions Assessment was completed during the 2014 cycle; the report recommends that the pH impairment be considered "...Category 4C, Impairment Caused by Pollution."

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25E_MUC01A04 / Mud Creek / Described in VDH SFC 027-090B, 1/27/2015	4C	pH			0.204

RPPMH

Mud Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:	**0.204**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25R-02-DO** **Lagrange Creek**

Cause Location: Lagrange Creek from the headwaters to the extent of tide at approximately river mile 3.75.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Lagrange Creek was assessed in 2010 as not supporting of the Aquatic Life Use support goal based on dissolved oxygen exceedances recorded at the Route 610 bridge (3-LGG004.54). The exceedance rate was 7/24 during the 2012 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25R_LGG01A98 / Lagrange Creek / Lagrange Creek from its headwaters to the limit of tidal influence.	5C	Oxygen, Dissolved	2010	L	2.49

Lagrange Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25R-03-BAC** **Nickleberry Swamp**

Cause Location: Nickleberry Swamp from its headwaters to its mouth at Hilliard Pond

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Nickleberry Swamp was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 3-NIC000.38, which is located at Route 17.

The stream is located within the Lagrange Creek watershed, which has a completed shellfish TMDL. The TMDL was approved by the EPA on 11/15/2005. The impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25R_NIC01A12 / Nickleberry Swamp / Headwaters to mouth at Hilliard Pond	4A	Escherichia coli	2012	L	1.86

Nickleberry Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.86**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25R-04-BAC** **South Branch Lagrange Creek**

Cause Location: The nontidal portion of South Branch Lagrange Creek.

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the nontidal portion of South Branch Lagrange Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 3-LSB002.17, which is located at Route 602.

The stream is located within the Lagrange Creek watershed, which has a completed shellfish TMDL. The TMDL was approved by the EPA on 11/15/2005. The impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25R_LSB01A12 / South Branch Lagrange Creek / Start at Hilliard Pond dam to tidal limit	4A	Escherichia coli	2012	L	0.40

South Branch Lagrange Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.40**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25R-04-DO** **South Branch Lagrange Creek**

Cause Location: The nontidal portion of South Branch Lagrange Creek.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

South Branch Lagrange Creek was impaired of the Aquatic Life Use during the 2012 cycle due to a dissolved oxygen exceedance rate of 2/12 at 3-LSB002.17. The low dissolved oxygen (~2 mg/L) occurred during the summer months.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25R_LSB01A12 / South Branch Lagrange Creek / Start at Hilliard Pond dam to tidal limit	5A	Oxygen, Dissolved	2012	L	0.40

South Branch Lagrange Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E25R-17-DO** **Masons Mill Swamp**

Cause Location: Masons Mill Swamp from its headwaters downstream to its tidal limit.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During previous cycles, Masons Mill Swamp was mistakenly assessed as a tidal water. The creek was assessed as not supporting of the Aquatic Life Use for dissolved oxygen since the 2006 cycle because it was thought to be a part of the mesohaline portion of the Rappahannock; the TMDL had a 2010 due date because of the Bay Overlist.

However, during the 2008 cycle, it was determined that station 3-MAO000.62 is on the free flowing section of Masons Mill Swamp. The stream remained impaired for dissolved oxygen due to an exceedance rate of 4/13. The dissolved oxygen TMDL due date was changed to 2018.

Additional monitoring during the 2012 cycle confirmed the dissolved oxygen impairment (6/14).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E25R_MAO01A00 / Masons Mill Swamp / Masons Mill Swamp from its headwaters to its tidal limit near Route 604.	5C	Oxygen, Dissolved	2008	L	3.37

Masons Mill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.37**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-01-SF** **Meachim Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 179A, 12/9/1996 closed on 030-179A, 8/16/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 030-179A, 8/16/2016

Two portions of Meachim Creek were included on the 1998 303(d) list due to 179A and 179B, 12/9/1996. The Shellfish TMDL was approved by the EPA on 11/15/2005 and by the SWCB on 9/27/2006.

The condemnations have expanded and shrunk several times. In the 2018 cycle, the condemnations are currently smaller than the TMDL study areas.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MEA01A00 / Meachim Creek / Described in VDH shellfish condemnation 030-179A, 8/16/2016.	4A	Fecal Coliform	1998	L	0.075

RPPMH

Meachim Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.075**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-02-SF** **Meachim Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 179B, 12/9/1996 closed in 030-179B, 8/16/2016.

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 030-179B, 8/16/2016

This area was included on the 1998 303(d) list due to VDH condemnation 179B, 12/9/1996. The impairment was addressed in the Meachim and Whiting Creek Shellfish TMDL, which was approved by the EPA on 11/15/2005. The impairment has subsequently expanded and contracted in multiple cycles.

During the 2012 cycle, the condemnation shrank considerably and is now smaller than the TMDL study area. The open area within the TMDL study area was partially delisted (Category 2C.) The condemnation remains Category 4A.

The condemnation shrank again in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MEA01B00 / Meachim Creek / Described in VDH shellfish condemnation 030-179B, 8/16/2016.	4A	Fecal Coliform	1998	L	0.012

Shrank in the 2018 cycle.

RPPMH

Meachim Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.012**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-03-SF** **Taylor Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198A and -C, 11/16/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnations 021-198C and -C, 11/16/2016

During the 2012 cycle, two portion of Taylors Creek closed. These areas are within the study area for the Taylors Creek TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008; therefore, they are considered Category 4A.

The condemnations expanded and merged in the 2014 cycle and then split again in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_TAY01A00 / Taylor Creek / As described in VDH-DSS condemnations 021-198A and -C, 11/16/2016.	4A	Fecal Coliform	2012	L	0.078

CRRMH

Taylor Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.078**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-04-EBEN** **Corrotoman River**

Cause Location: The mainstem Corrotoman River and its large branches within segment CRRMH.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

During the 2014 cycle, the mainstem Corrotoman River and its large tributaries were impaired of the Aquatic Life Use due to an insufficient Chesapeake Bay Index of Biological Integrity (B-IBI).

The impairment continued in the 2018 cycle. In addition, an impaired benthic community was noted at estuarine probabilistic monitoring station 3-CTM000.38 during monitoring in 2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CRR01A00 / Corrotoman River / The mainstem of the Corrotoman River within segment CRRMH.	5A	Estuarine Bioassessments	2014	L	3.769
VAP-E26E_CTM01A00 / Eastern Branch Corrotoman River / The boundaries are described in VDH shellfish condemnations 021-058B, 11/16/2016. Size increased in the 2018 cycle. CRRMH	5A	Estuarine Bioassessments	2014	L	0.540
VAP-E26E_CTM01B10 / Eastern Branch Corrotoman River / Portion of VDH shellfish condemnation 058C, 4/28/1997 open on 11/16/2016. Size decreased in the 2018 cycle. CRRMH	5A	Estuarine Bioassessments	2014	L	0.081
VAP-E26E_CTM03A08 / Eastern Branch Corrotoman River / Downstream boundary of VDH condemnation 021-058C, 4/28/1997 to mouth. CRRMH	5A	Estuarine Bioassessments	2014	L	0.758
VAP-E26E_CTO01A02 / Western Branch Corrotoman River / The boundaries are described in VDH shellfish condemnation 021-132A, 11/17/2015, not otherwise segmented. Size increased in the 2018 cycle. CRRMH	5A	Estuarine Bioassessments	2014	L	0.452
VAP-E26E_CTO01B12 / Western Branch Corrotoman River / Portion of SFC 132, 4/28/1997 open in 021-132, 11/17/2015. Size reduced in the 2018 cycle. CRRMH	5A	Estuarine Bioassessments	2014	L	0.144
VAP-E26E_CTO02A06 / Western Branch Corrotoman River / Mainstem downstream of SFC 132A, 4/28/1997 CRRMH	5A	Estuarine Bioassessments	2014	L	1.209

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**6.953**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-05-SF** **Myer Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 198, 4/28/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 021-198B, 11/16/2016

A portion of Myer Creek was included on the 1998 303(d) list due to VDH-DSS Condemnation 198, 4/28/1997. The TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

In the 2018 cycle, the area expanded and is now larger than the 1997 condemnation. The completed area is considered Category 4A. The expansion will be addressed in fact sheet E26E-22-SF.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MYE01A00 / Myer Creek / As described in VDH shellfish condemnation 198, 4/28/1997.	4A	Fecal Coliform	1998	L	0.081

Merged in the 2018 cycle.

CRRMH

Myer Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.081**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-07-SF** **Town Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 021-187EC, 11/16/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

During the 2018 cycle, Town Creek was impaired of the Shellfish Consumption Use due to VDH shellfish condemnation 021-187C, 11/16/2016.

It is proposed for nesting in the nearby Millenbeck Prong Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_TON01A00 / Town Creek / The boundaries are described in VDH shellfish condemnation 021-187C, 11/16/2016.	4A	Fecal Coliform	2018	L	0.017

CRRMH

Town Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.017**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-08-SF** **Senior Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 021-132B, 11/17/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 021-132B, 11/17/2015

Senior Creek was included on the 1998 303(d) list due to VDH condemnation 132B, 4/28/1997. The TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The condemned portion is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_SEN01A00 / Senior Creek / The boundaries are described in VDH shellfish condemnation 021-132B, 11/17/2015.	4A	Fecal Coliform	1998	L	0.070

CRRMH

Senior Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.070**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-09-SF** **Western Branch Corrotoman River**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 021-132A, 11/17/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 021-132A, 11/17/2015

A portion of the Western Branch Corrotoman River was included on the 1998 303(d) list due to VDH condemnation 132A, 4/28/1997. The condemnation has subsequently shortened several times.

The TMDL was completed for the 1998 boundary; it was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The condemned portion is considered Category 4A; the open portion is considered Category 2C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_BLD01A98 / Belwood Swamp / Tidal limit to its mouth at the Western Branch Corrotoman River.	4A	Fecal Coliform	2002	L	0.009
CRRMH					
VAP-E26E_CTO01A02 / Western Branch Corrotoman River / The boundaries are described in VDH shellfish condemnation 021-132A, 11/17/2015, not otherwise segmented.	4A	Fecal Coliform	1998	L	0.452
Size increased in the 2018 cycle.					
CRRMH					
VAP-E26E_LIT01A06 / Little Branch / Tidal limit to mouth at Western Branch Corrotoman River	4A	Fecal Coliform	1998	L	0.114
CRRMH					

Western Branch Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.574**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-10-SF** **Bush Park Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 109, 4/27/1989

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 032-109A, 12/10/2009

Bush Park Creek was included on the 1998 303(d) list as impaired of the Shellfish Consumption Use due to VDH condemnation 109, 4/27/1989. The TMDL for this area was approved by the EPA on 6/7/2006 and by the SWCB on 6/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_BPC01A98 / Bush Park Creek / The segment boundaries are delineated in VDH shellfish condemnation 109, 4/27/1989.	4A	Fecal Coliform	1998	L	0.103

RPPMH

Bush Park Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.103**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-11-SF** **Mill Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 031-102A, 8/16/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 031-102A, 8/16/2016

A portion of Mills Creek was impaired in the 1998 cycle due to VDH condemnation 103, 12/10/1991. The TMDL for this segment was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007. The segment is considered Category 4A.

However, during the 2012 cycle, the condemnation retracted and is smaller than the TMDL study area. The open area within the TMDL study area was partially delisted (Category 2C.)

The condemnation expanded slightly in the 2014 cycle, but remains smaller than the TMDL area.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MLL01A98 / Mill Creek / VDH shellfish condemnation 031-102A, 8/16/2016	4A	Fecal Coliform	1998	L	0.111

RPPMH

Mill Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.111**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-12-SF** **Sturgeon Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 032-104B, 8/16/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH condemnation 032-104B, 8/16/2016

A portion of Sturgeon Creek was included on the 1998 303(d) list due to VDH shellfish condemnation 104, 11/28/1994. The TMDL was approved by the EPA on 6/7/2006 and by the SWCB on 6/27/2007.

In the 2012 cycle, the condemnation shortened and split. A portion was reopened for harvest and another portion is now seasonally condemned (032-104M1); both areas were partially delisted (Category 2C). The remaining condemned area is Category 4A.

The condemned area shrank further during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_STE01A98 / Sturgeon Creek / The segment boundaries are delineated in VDH shellfish condemnation 032-104B, 8/16/2016.	4A	Fecal Coliform	1998	L	0.066

RPPMH

Sturgeon Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.066**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-13-BAC** **Locklies Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 102, 10/31/1994

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Locklies Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 3-LOL000.77.

As this impairment is within the study area for the Locklies and Mill Creek Shellfish TMDL, which was approved by the EPA on 8/2/2006, the impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_LOL01A02 / Locklies Creek / Delineated in VDH shellfish condemnation 031-102B. 8/6/2016.	4A	Enterococcus	2012	L	0.073
RPPMH					
VAP-E26E_LOL01B12 / Locklies Creek / Portion of VDH shellfish condemnation 102, 10/31/1994 seasonally condemned in 031-102M1, 8/16/2016.	4A	Enterococcus	2012	L	0.028
RPPMH					

Locklies Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.101**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-13-SF** **Locklies Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 102,10/31/1994 included in 031-102B, 8/6/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 031-102B, 8/6/2016

Locklies Creek was included on the 1998 303(d) list due to VDH condemnation 102, 4/13/1993. The Locklies Creek Shellfish TMDL was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007; the TMDL was based on the extent of condemnation 102, 10/31/1994.

During the 2012 cycle, the condemnation retracted and a portion of the TMDL study area was included in the seasonal condemnation 031-102M1. The seasonally condemned segment was partially delisted (Category 2C); the condemned area is considered a Category 4A water.

The condemnation grew slightly during the 2014 cycle, but remains smaller than the TMDL study area.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_LOL01A02 / Locklies Creek / Delineated in VDH shellfish condemnation 031-102B. 8/6/2016.	4A	Fecal Coliform	1998	L	0.073

RPPMH

Locklies Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.073**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-14-SF** **Hills Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 58A, 4/25/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 021-058A, 11/16/2016

Hills Creek was included on the 1998 303(d) list due to VDH-DSS Condemnation 58A, 4/28/1997. The TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_HLS01A00 / Hills Creek / The boundaries are described in VDH shellfish condemnation 58A, 4/28/1997.	4A	Fecal Coliform	1998	L	0.062

CRRMH

Hills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.062**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-15-SF** **Bells Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 058B, 4/28/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 021-058C, 11/16/2016

Bells Creek was included on the 1998 303(d) list due to VDH condemnation 58B, 4/28/1997. The TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The segment is considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_BES01A98 / Bells Creek / The boundaries are described in VDH shellfish condemnation 58B, 4/28/1997.	4A	Fecal Coliform	1998	L	0.055

CRRMH

Bells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.055**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-16-SF** **Eastern Branch Corrotoman River**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnations 021-058B, 11/16/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnations 021-058B, 11/16/2016

The Eastern Branch Corrotoman River was included on the 1998 303(d) list due to VDH condemnation 58C, 4/28/1997. The TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The condemnation subsequently shortened. The condemned area is considered Category 4A waters; the open area was previously partially delisted and is Category 2C. The condemnations shrank and split further during the 2016 cycle. Merged again in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CTM01A00 / Eastern Branch Corrotoman River / The boundaries are described in VDH shellfish condemnations 021-058B, 11/16/2016.	4A	Fecal Coliform	1998	L	0.540

Size increased in the 2018 cycle.

CRRMH

Eastern Branch Corrotoman River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.540**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-17-SF** **Eastern Branch Carter Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 041C, 11/1/1996

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 020-041A, 10/25/2018

A portion of Eastern Branch Carters Creek was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41C, 11/1/1996. Although the segment has expanded several times, the TMDL was completed only for the original segment. It was approved by the EPA on 9/20/2007 and by the SWCB on 7/31/2008. The original segment is considered Category 4A; the TMDL due date for the downstream portion was 2014 since it first expanded during the 2002 cycle (see fact sheet E26E-46-SF).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CEB01A00 / Eastern Branch Carter Creek / Described in VDH shellfish condemnation 041C, 11/1/1996.	4A	Fecal Coliform	1998	L	0.084

RPPMH

Eastern Branch Carter Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.084**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-18-SF** **Yopps Cove**

Cause Location: Described in VDH-DSS condemnation 020-041E, 10/25/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 020-041E, 10/25/2016

It is proposed for nesting in the upstream Eastern Branch Carter Creek Shellfish TMDL, which was approved by the EPA on 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CTR03D18 / Yopps Cove / Described in VDH-DSS condemnation 020-041E, 10/25/2016.	4A	Fecal Coliform	2018	L	0.022

RPPMH

Yopps Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.022**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-21-SF** **XII - Windmill Point, UT (aka White Marsh)**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 018-503B, 12/4/2015

City / County: Lancaster Co. Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 018-053B, 12/4/2015

The impairment is proposed for nesting in the shellfish TMDL for Oyster Creek, which was approved by the EPA on 4/15/2009 and by the SWCB on 7/27/2009.. It will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_XII01A18 / XII - Windmill Point, UT (aka White Marsh) / Described in VDH-DSS condemnation 018-053B, 12/4/2015	4A	Fecal Coliform	2018	L	0.034

RPPMH

XII - Windmill Point, UT (aka White Marsh)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.034**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-22-SF** **Myer Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 021-198B, 11/16/2016 that was open in 4/28/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation 021-198B, 11/16/2016

A portion of Myer Creek was included on the 1998 303(d) list due to VDH-DSS Condemnation 198, 4/28/1997. The TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008 (see E26E-05-SF).

During the 2018 cycle, condemnation B grew and is currently larger than the 1997 impairment. The expansion is considered nested within the upstream Myer Creek TMDL; it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MYE01D18 / Myer Creek / Portion of VDH-DSS condemnation 021-198B, 11/16/2016 open in 198, 4/28/1997.	4A	Fecal Coliform	2018	L	0.004

CRRMH

Myer Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.004**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-23-SF** **Bridge Cove**

Cause Location: Described in VDH-DSS condemnation 020-041D, 10/25/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 020-041D, 10/25/2016

It is proposed for nesting in the upstream Eastern Branch Carter Creek Shellfish TMDL, which was approved by the EPA on 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CTR03C18 / Bridge Cove / Described in 020-041D, 10/25/2016.	4A	Fecal Coliform	2018	L	0.040

RPPMH

Bridge Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.040**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-24-BAC** **Whiting Creek**

Cause Location: Tidal Whiting Creek as described in VDH Shellfish Condemnation 030-051A, 9/1/2015

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

During the 2012 cycle, Whiting Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 3/19 at 3-WHS000.89.

Although Whiting Creek is administratively condemned by VDH and the Shellfish Use is therefore considered removed, the TMDL was completed and was approved by the EPA on 11/15/2005. However, the TMDL did not include a nearby VPDES discharger; therefore, the Recreation Use cannot be considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_WHS01B00 / Whiting Creek / As delineated in VDH shellfish condemnation 030-051A, 9/1/2015.	5A	Enterococcus	2012	L	0.195

RPPMH

Whiting Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.195**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-25-SF** **Myer Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 021-198F, 11/16/2016.

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 021-198F, 11/16/2016

The impairment is considered nested within the upstream Myer Creek TMDL which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. It is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MYE02C16 / Myer Creek / Described in VDH Condemnation 021-198F, 11/16/2016.	4A	Fecal Coliform	2018	L	0.017

CRRMH

Myer Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.017**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-26-BAC** **Little Branch**

Cause Location: Little Branch from its tidal limit to its mouth at the Western Branch Corrotoman River

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Little Branch was assessed as not supporting of the Recreation Use during the 2006 cycle due to enterococci exceedances at 3-LIT000.85, which is located at a private dock off Route 620. The segment remained impaired during the 2010 cycle; the violation rate was 3/11. No additional data has been collected.

The area was addressed in the Western Branch Corrotoman River Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. Because the bacterial standard for the Shellfish Use is more stringent than the standard for the Recreation Use, the impairment is considered to be nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_LIT01A06 / Little Branch / Tidal limit to mouth at Western Branch Corrotoman River	4A	Enterococcus	2006	L	0.114

CRRMH

Little Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.114**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-27-BAC** **Belwood Swamp**

Cause Location: Tidal Belwood Swamp

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Riverine Belwood Swamp was initially assessed in 1998 as fully supporting but threatened of the Recreation Use based on exceedances of the fecal coliform standard at monitoring station 3-BLD000.58, located at the Route 3 bridge. During the year 2002 cycle, the segment was downgraded to impaired.

However, in the 2006 cycle, it was determined that the station is tidally influenced. The station remained impaired for fecal coliform and the fact sheet and AU were renamed. The TMDL was due in 2014. There had been no Enterococci monitoring at this site; therefore, the fecal coliform impairment was carried over.

The area was addressed in the Western Branch Corrotoman River Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. Because the bacterial standard for the Shellfish Use is more stringent than the standard for the Recreation Use, the impairment is considered to be nested (Category 4A).

Additional monitoring was conducted during the 2012 cycle. The impairment converted to enterococci due to an exceedance rate of 8/12 at 3-BLD000.58.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_BLD01A98 / Belwood Swamp / Tidal limit to its mouth at the Western Branch Corrotoman River.	4A	Enterococcus	2012	L	0.009

CRRMH

Belwood Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.009**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-28-BAC** **Western Branch Corrotoman River**

Cause Location: The Western Branch Corrotoman River from its tidal limit to the downstream extent of VDH-DSS condemnation 021-132A, 10/28/2014.

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, the upper portion of the Western Branch Corrotoman River was impaired of the Recreation Use due to an enterococci exceedance rate of 7/12 at 3-CTO007.51, which is located off of Route 3.

The area was already addressed in the Corrotoman River Watershed Shellfish Bacterial TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The condemned portion is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CTO01A02 / Western Branch Corrotoman River / The boundaries are described in VDH shellfish condemnation 021-132A, 11/17/2015, not otherwise segmented.	4A	Enterococcus	2012	L	0.452

Size increased in the 2018 cycle.

CRRMH

Western Branch Corrotoman River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.452**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-30-SF** **Carter Cove**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 020-041C, 10/25/2018

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 020-041C, 10/25/2016

A portion of Carters Cove was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41A, 11/1/1996. The TMDL was approved by the EPA on 9/20/2007.

The condemnation was shortened during the 2014 cycle and the lower portion was seasonally condemned (020-041M1, 10/23/2012); it was partially delisted (Category 2B/2C.) The condemned area remains Category 4A.

The condemnation expanded slightly in the 2016 cycle and shrank again in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CTR04A02 / Carter Cove / Portion of VDH-DSS SFC 020-041C, 10/25/2016	4A	Fecal Coliform	2002	L	0.018

Size decreased in the 2018 cycle.

RPPMH

Carter Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.018**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-31-SF** **Myer Creek, UT**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198G, 11/16/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 021-198G, 11/16/2016

It is considered nested within the Myer Creek Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008, and is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MYE01B02 / Myer Creek, UT / As described in VDH-DSS SFC 021-198G, 11/16/2016.	4A	Fecal Coliform	2018	L	0.042

CRRMH

Myer Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-33-SF** **Whitehouse Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 021-187A and -187B, 11/16/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 021-187A and -187B, 11/16/2016

These condemnations are nested in the nearby Ewells Prong Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_WHR01A00 / Whitehouse Creek / The boundaries are described in VDH shellfish condemnation 021-187A and -187B, 11/16/2016.	4A	Fecal Coliform	2002	L	0.050

CRRMH

Whitehouse Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.050**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-35-SF** **Davis Creek**

Cause Location: As described in VDH Notice and Description of Shellfish Condemnation 021-132C, 11/17/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 021-132C, 11/17/2015

Davis Creek is considered nested within the Western Branch Corrotoman River Shellfish TMDL, which was approved by the EPA on 1/23/2008. The condemnation shrank slightly in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_DAS01A02 / Davis Creek / As described in VDH-DSS SFC 021-132C. 11/17/2015.	4A	Fecal Coliform	2002	L	0.029

CRRMH

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.029**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-42-SF** **Hunting Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 032-104A, 8/16/2016

City / County: Lancaster Co. Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 032-104A, 8/16/2016

The Hunting Creek shellfish impairment is nested in the nearby Sturgeon Creek Shellfish TMDL, which was approved by the EPA on 6/7/2006.

The size decreased in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_HNU01A08 / Hunting Creek / Described in VDH Condemnation 032-104A, 9/24/2013.	4A	Fecal Coliform	2008	L	0.020

RPPMH

Hunting Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.020**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-46-SF** **Eastern Branch Carter Creek**

Cause Location: Portion of VDH condemnation 020-041A, 10/25/2016 not included on condemnation 41, 11/1/1996

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 020-041A, 10/25/2016

A portion of Eastern Branch Carter Creek was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41C, 11/1/1996. Although the segment has expanded several times, the TMDL was completed only for the original segment. The TMDL due date for this downstream portion was 2014 since it first expanded during the 2002 cycle.

It is considered nested in the upstream Eastern Branch Carter Creek Shellfish TMDL, which was approved by the EPA on 9/20/2007.

It expanded further in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CEB01B08 / Eastern Branch Carter Creek / Portion of VDH shellfish condemnation 020-041A, 10/25/2016 not included in 041C, 11/1/1996.	4A	Fecal Coliform	2002	L	0.132

Expanded and merged in the 2018 cycle.

RPPMH

Eastern Branch Carter Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing	Fecal Coliform - Total Impaired Size by Water Type:	**0.132**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-48-SF** **Taylor Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 021-198E, 11/16/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 021-198E, 11/16/2016

A large portion of Taylor Creek was included on the 1998 303(d) list due to VDH condemnation 205, 4/28/1997. The entire area was delisted in the 2002 cycle. However, during later cycles, two portions of the area were relisted - 021-198E, 10/19/2006 and 021-198F, 10/19/2006 (see fact sheet E26E-03SF).

The TMDL for the entire 1998 portion was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. Section E remains condemned and is assessed as Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_TAY02A08 / Taylor Creek / Described in VDH Shellfish Condemnation 021-198E, 11/16/2016.	4A	Fecal Coliform	2008	L	0.024

CRRMH

Taylor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.024**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-49-SF** **Moran Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 021-198D, 11/16/2106

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 021-198D, 11/16/2016

It is nested within the nearby Taylor Creek Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_MOR01A08 / Moran Creek / Described in VDH Condemnation 021-198D, 11/16/2016.	4A	Fecal Coliform	2008	L	0.049

CRRMH

Moran Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-51-SF** **Eastern Branch Corrotoman River, UT**

Cause Location: Described in VDH condemnation 021-058D, 11/16/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 021-058D, 11/16/2016

This cove was first assessed as impaired of the Shellfish Consumption Use during the 2008 cycle due to the expansion of condemnation 021-058B, 10/19/2005. This condemnation shrank and split during the 2010 cycle and this cove remains the only portion without a completed TMDL.

The TMDL for the cove is due in 2020. However, it is considered nested in the nearby Bells Creek Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The segment is considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_CTM02A08 / Eastern Branch Corrotoman River, UT / Described in VDH Shellfish Condemnation 021-058D, 11/16/2016.	4A	Fecal Coliform	2008	L	0.010

CRRMH

Eastern Branch Corrotoman River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.010**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-53-SF** **John Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 021-132E, 11/17/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 021-132E, 11/17/2015

John Creek is considered nested within the Western Branch Corrotoman River Shellfish TMDL, which was approved by the EPA on 1/23/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_JON01A08 / John Creek / Described in VDH-DSS Condemnation 021-132E, 11/17/2015.	4A	Fecal Coliform	2008	L	0.036

CRRMH

John Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.036**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26E-54-SF** **Lowrey Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 021-132D, 11/17/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 021-132D, 11/17/2015

Lowrey Creek is considered nested within the Western Branch Corrotoman River Shellfish TMDL, which was approved by the EPA on 1/23/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26E_LOW01A08 / Lowrey Creek / Described in VDH Shellfish Condemnation 021-132D, 11/17/2015.	4A	Fecal Coliform	2008	L	0.028

CRRMH

Lowrey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.028**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26R-01-BAC** **Belwood Swamp and Tributaries**

Cause Location: Belwood Swamp and tributaries from its headwaters to its tidal limit.

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the nontidal Belwood Swamp watershed was impaired of the Recreation Use due to E. coli exceedances at Belwood Swamp at station 3-BLD001.54 and McMahon Swamp at 3-MCM000.96. In the 2014 cycle, the exceedance rates were 9/27 and 6/12, respectively.

The area drains to tidal Belwood Swamp, which was included in the Corrotoman River Shellfish Bacterial TMDL, which was approved by the EPA on 1/23/2008. Implementation of the TMDL is expected to address the nontidal area; therefore, the impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26R_BLD01A08 / Belwood Swamp and Tributaries / Watershed from its headwaters to tidal limit	4A	Escherichia coli	2012	L	24.54

Belwood Swamp and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**24.54**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26R-03-DO** **Norris Prong**

Cause Location: Norris Prong from its headwaters to its tidal limit.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Norris Prong was considered impaired of the Aquatic Life Use based on a dissolved oxygen exceedance rate of 4/10 at the Route 3 bridge (3-NOR001.00).

No additional data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26R_NOR01A08 / Norris Prong / Headwaters to tidal limit	5C	Oxygen, Dissolved	2008	L	2.47

Norris Prong	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.47**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26R-04-BAC** **Browns Creek**

Cause Location: Browns Creek from its headwaters to its tidal limit.

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Browns Creek was considered impaired of the Recreation Use based on E. coli exceedances at the Route 614 bridge (3-BON001.65).

The impairment is considered nested (Category 4A) because it is located within the watershed study area for the Corrotoman River Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

The exceedance rate was 5/24 in the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26R_BON01A08 / Browns Creek / Headwaters to tidal limit	4A	Escherichia coli	2008	L	2.58

Browns Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.58**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26R-04-DO** **Browns Creek**

Cause Location: Browns Creek from its headwaters to its tidal limit.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Browns Creek was considered impaired of the Aquatic Life Use based on dissolved oxygen exceedances at the Route 614 bridge (3-BON001.65). The exceedance rate was 5/25 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26R_BON01A08 / Browns Creek / Headwaters to tidal limit	5C	Oxygen, Dissolved	2008	L	2.58

Browns Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.58**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* E26R-05-BAC** **Little Branch**

Cause Location: Nontidal Little Branch below Blakemore Millpond

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, the segment was impaired of the Recreation Use due to an E. coli exceedance rate of 5/12 at station 3-LIT001.89, which is located on Little Branch at Route 201.

The watershed was addressed in the Western Branch Corrotoman River Shellfish Bacterial TMDL, which was approved by the EPA on 1/23/2008. Implementation of the TMDL is expected to address the nontidal area; therefore, the impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E26R_LIT01A14 / Little Branch / Blakemore Millpond dam downstream to its tidal limit	4A	Escherichia coli	2014	L	0.63

Little Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.63**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* RPPMH-DO-BAY Rappahannock River**

Cause Location: The mesohaline Rappahannock River and tidal tributaries.

City / County: Essex Co. Lancaster Co. Middlesex Co. Richmond Co.

Use(s): Aquatic Life | Deep-Channel Seasonal Refuge | Deep-Water Aquatic Life | Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A Oxygen, Dissolved / 4D

The mainstem of the Rappahannock River from Myrtle Swamp to its mouth was originally listed in 1998 by DEQ due to dissolved oxygen exceedances and nutrient overenrichment. The EPA extended the segment upstream to the confluence with Totuskey Creek. In the 2004 cycle, dissolved oxygen exceedances were noted in deep water and deep channel stations downstream of the confluence with Lancaster Creek (Morattico), which is further downstream.

The Chesapeake Bay Water Quality Standards were implemented during the 2006 cycle. During the 2014 cycle, the mesohaline portion of the Rappahannock failed the Chesapeake Bay Open Water Subuse's summer 30-day mean dissolved oxygen criterion. Applicable areas also failed the Deep Water 30-day mean dissolved oxygen criteria and the Deep Channel Subuse's instantaneous minimum dissolved oxygen criteria.

In the 2018 cycle, the Deep Channel Subuse continues to be impaired in applicable areas. The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, it is considered Category 4A.

RPPMH passed both Open Water Subuse 30-day mean criterion as well as the Deep Water summer 30-day mean criterion in the 2016 cycle; these areas were delisted in the tributaries (Category 2C). However, due to EPA rules, areas included on the 1998 EPA overlist for dissolved oxygen must remain listed until all dissolved oxygen criteria can be assessed. This includes the Rappahannock River mainstem from Totuskey Creek to the mouth as well as the tidal Corrotoman River. These areas will be considered Category 4D.

In the 2018 cycle, Deep Water areas also were impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E24E_RPP01B98 / Rappahannock River: Garrett's Marina / As delineated in VDH shellfish condemnation 026-181M1, 3/25/2015. RPPMH	4D	Oxygen, Dissolved	1998	L	0.025
VAP-E24E_RPP01C06 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/16/2007 (non-admin) that is currently open RPPMH	4D	Oxygen, Dissolved	1998	L	0.644
VAP-E24E_RPP01D10 / Rappahannock River / The portion of the Rappahannock River within VDH shellfish condemnation 025-071A, 3/25/2015(administratively condemned) RPPMH	4D	Oxygen, Dissolved	1998	L	0.137
VAP-E24E_RPP01E18 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/25/2015 (non-admin) RPPMH	4D	Oxygen, Dissolved	1998	L	0.061
VAP-E24E_RPP03A00 / Rappahannock River / The Rappahannock River from the limit of VDH shellfish condemnation 068A, 11/14/2005	4D	Oxygen, Dissolved	1998	L	10.919

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

downstream to end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) unless otherwise segmented

RPPMH

VAP-E25E_RPP01A02 / Rappahannock River / The mainstem of the Rappahannock River from end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) to the start of deep channel.	4A	Oxygen, Dissolved	1998	L	15.407

Segment adjusted in the 2018 cycle.

RPPMH

VAP-E25E_RPP01C10 / Rappahannock River: Mark Haven Beach Basin / The portion of VDH shellfish condemnation 026-181B, 1/20/2006 not administratively closed.	4D	Oxygen, Dissolved	1998	L	0.010

RPPMH

VAP-E25E_RPP02A02 / Rappahannock River / The mainstem of the Rappahannock River from the start of deep channel downstream to the mouth, excluding area in SFC 051A.	4A	Oxygen, Dissolved	1998	L	65.880

Segment adjusted in the 2018 cycle.

RPPMH

VAP-E25E_RPP03A06 / Rappahannock River / Described in VDH SFC 024-070B, 12/19/2016.	4D	Oxygen, Dissolved	1998	L	0.008

RPPMH

VAP-E25E_RPP03B16 / Rappahannock River / As described in VDH shellfish condemnation 026-181M2, 3/25/2015.	4D	Oxygen, Dissolved	1998	L	0.003

RPPMH

VAP-E25E_ZZZ01D14 / Unsegmented estuaries in E25 / Unsegmented portion of watershed RA69.	4A	Oxygen, Dissolved	2018	L	0.274

RPPMH

VAP-E26E_CRR02A08 / Corrotoman River / The portion of the Corrotoman River that is within CB segment RPPMH.	4A	Oxygen, Dissolved	1998	L	1.039
VAP-E26E_RPP02A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051A, 10/3/2005.	4D	Oxygen, Dissolved	1998	L	0.127

RPPMH

VAP-E26E_RPP03A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051D, 10/3/2005.	4D	Oxygen, Dissolved	1998	L	0.031

RPPMH

VAP-E26E_RPP04A00 / Rappahannock River / Described in VDH Shellfish Condemnation 030-051B, 9/1/2015.	4D	Oxygen, Dissolved	1998	L	0.131

RPPMH

VAP-E26E_RPP05A00 / Rappahannock River / Delineated in VDH-DSS condemnation 030-051C, 9/1/2015.	4D	Oxygen, Dissolved	1998	L	0.029

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

RPPMH

VAP-E26E_RPP07A02 / Rappahannock River / As delineated in VDH-DSS SFC 018-053A, 12/4/2015	A	Oxygen, Dissolved	1998	L	0.139

RPPMH

Rappahannock River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**94.862**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* RPPMH-SAV-BAY Rappahannock River**

Cause Location: The mesohaline Rappahannock River and tidal tributaries.

City / County: Essex Co. Lancaster Co. Middlesex Co. Richmond Co. Westmoreland Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The mesohaline portion of the Rappahannock River does not meet the Chesapeake Bay Shallow Water Subuse's submerged aquatic vegetation acreage standards. However, RPPMH had acceptable water clarity acreage during the 2010 cycle and the segment was delisted.

In the 2014 cycle, there was insufficient information to assess the water clarity criteria; therefore, the segment was relisted based upon the inadequate SAV acreage. It remains impaired during the 2018 cycle.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, it is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_RPP05A02 / Rappahannock River / The oligohaline/mesohaline boundary at river mile 48.51 downstream to the upstream limit of VDH shellfish condemnation area 025A-068A, 3/24/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	6.958
RPPMH					
VAP-E22E_WAR01A18 / Waterview Creek / Tidal portion of Waterview Creek	4A	Aquatic Plants (Macrophytes)	2014	L	0.038
RPPMH					
VAP-E22E_ZZZ02A06 / Unsegmented estuaries in E22 / Unsegmented portion of watershed.	4A	Aquatic Plants (Macrophytes)	2014	L	0.014
RPPMH					
VAP-E23E_CAT01A02 / Cat Point Creek / The tidal portion of Cat Point Creek.	4A	Aquatic Plants (Macrophytes)	2014	L	1.280
RPPMH					
VAP-E23E_CRC01A08 / Church Swamp / Tidal limit to mouth at Hoskins Creek	4A	Aquatic Plants (Macrophytes)	2014	L	0.002
RPPMH					
VAP-E23E_HOK01A98 / Hoskins Creek / Hoskins Creek from the Tappahannock STP downstream to the mouth at the Rappahannock River.	4A	Aquatic Plants (Macrophytes)	2006	L	0.084
RPPMH					
VAP-E23E_HOK02A08 / Hoskins Creek / Hoskins Creek from its tidal limit to the confluence with Church Swamp.	4A	Aquatic Plants (Macrophytes)	2014	L	0.052
RPPMH					
VAP-E23E_HOK02A10 / Hoskins Creek / Hoskins Creek from the confluence with Church Swamp downstream to the Tappahannock STP.	4A	Aquatic Plants (Macrophytes)	2014	L	0.016

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

RPPMH

VAP-E23E_LIE01A98 / Little Carter Creek, Jugs Creek / Tidal limit to mouth at the Rappahannock River. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.419

RPPMH

VAP-E23E_MTL01A10 / Mount Landing Creek / Tidal limit to mouth at the Rappahannock River. | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.172

RPPMH

VAP-E23E_PIS02A00 / Piscataway Creek / The estuarine portion of Piscataway Creek. | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.589

RPPMH

VAP-E23E_RPP02A98 / Rappahannock River / Mainstem Rappahannock as described in VDH shellfish condemnation 025A-068A, 3/24/2015 excluding administratively condemned portion. | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 7.035

Adjusted slightly in 2018 cycle.

RPPMH

VAP-E23E_RPP02B10 / Rappahannock River / Portion of mainstem Rappahannock River that is administratively condemned within condemnation 025A-068A, 3/24/2015. | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.158

RPPMH

VAP-E23E_RPP02C12 / Rappahannock River / Portion of VDH shellfish condemnation 025A-068A, 11/14/2005 not included in 025A-068A, 3/24/2015. | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 1.475

Size adjusted in the 2018 cycle.

RPPMH

VAP-E23E_ZZZ02A06 / Unsegmented estuaries in E23 / Unsegmented portion within SFC 025A-068A, 3/24/2015. | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.046

RPPMH

VAP-E23E_ZZZ02B10 / Unsegmented estuaries in E23 / Administrative portion within SFC 025A-068A, 3/24/2015 | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.007

RPPMH

VAP-E23E_ZZZ02C12 / Unsegmented estuaries in E23 / Unsegmented portion within Upper Rappahannock TMDL not included in SFC 025-068A, 3/24/2015. | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.004

RPPMH

VAP-E24E_LIK01A12 / Little Totuskey Creek / Tidal limit to mouth at Totuskey Creek | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.055

RPPMH

VAP-E24E_RIC01A04 / Richardson Creek / Richardson Creek within SFC 025-071A, 3/25/2015 (non-administrative.) | 4A | Aquatic Plants (Macrophytes) | 2014 | L | 0.277

Size increased in the 2018 cycle.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

RPPMH

VAP-E24E_RIC01B10 / Richardson Creek / Portion of Richardson Creek within VDH-DSS condemnation 025-071A, 3/16/2007 open on 3/25/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.148

Segment shrank in the 2018 cycle.

RPPMH

VAP-E24E_RIC01C10 / Richardson Creek / Portion of Richardson Creek within SFC 025-071A, 3/25/2015 (administratively condemned)	4A	Aquatic Plants (Macrophytes)	2014	L	0.024

RPPMH

VAP-E24E_RPP01B14 / Garrett's Marina / As delineated in VDH shellfish condemnation 026-181A, 3/25/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.003

RPPMH

VAP-E24E_RPP01B98 / Rappahannock River: Garrett's Marina / As delineated in VDH shellfish condemnation 026-181M1, 3/25/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.025

RPPMH

VAP-E24E_RPP01C06 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/16/2007 (non-admin) that is currently open	4A	Aquatic Plants (Macrophytes)	2014	L	0.644

RPPMH

VAP-E24E_RPP01D10 / Rappahannock River / The portion of the Rappahannock River within VDH shellfish condemnation 025-071A, 3/25/2015(administratively condemned)	4A	Aquatic Plants (Macrophytes)	2014	L	0.137

RPPMH

VAP-E24E_RPP01E18 / Rappahannock River / The Rappahannock River mainstem within VDH shellfish condemnation 025-071A, 3/25/2015 (non-admin)	4A	Aquatic Plants (Macrophytes)	2014	L	0.061

RPPMH

VAP-E24E_RPP03A00 / Rappahannock River / The Rappahannock River from the limit of VDH shellfish condemnation 068A, 11/14/2005 downstream to end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) unless otherwise segmented	4A	Aquatic Plants (Macrophytes)	2014	L	10.919

RPPMH

VAP-E24E_TOT01A00 / Totuskey Creek / The segment boundary is delineated in VDH condemnation 025-071B, 3/25/2015 excluding Little Totuskey Creek.	4A	Aquatic Plants (Macrophytes)	2014	L	0.302

RPPMH

VAP-E24E_TOT02A00 / Totuskey Creek / Portion of VDH shellfish condemnation 025-071A, 3/25/2015 within Totuskey Creek.	4A	Aquatic Plants (Macrophytes)	2014	L	0.647

RPPMH

VAP-E24E_TOT02B10 / Totuskey Creek / Downstream of VDH	4A	Aquatic Plants (Macrophytes)	2014	L	0.064

shellfish condemnation 025-071A, 3/25/2015.

RPPMH

VAP-E25E_DEE01A04 / Deep Creek / Described in VDH shellfish condemnation 121, 11/16/1994.	5A	Aquatic Plants (Macrophytes)	2014	L	0.049

RPPMH

VAP-E25E_DEE01B08 / Deep Creek / VDH-DSS condemnations 023-121B, -C, and -E, 12/17/2015 not included in the 11/16/1994 condemnation.	5A	Aquatic Plants (Macrophytes)	2014	L	0.092

Size increased in the 2018 cycle.

RPPMH

VAP-E25E_FAM01A98 / Farnham Creek / The segment boundaries are delineated in VDH shellfish condemnation 024-070A, 12/19/2016.	5A	Aquatic Plants (Macrophytes)	2014	L	0.360

RPPMH

VAP-E25E_FAM01B10 / Farnham Creek / Portion of VDH shellfish condemnation 070, 10/22/1996 open on 12/19/2016.	5A	Aquatic Plants (Macrophytes)	2014	L	0.067

RPPMH

VAP-E25E_GEE01A98 / Greenvale Creek / The segment boundaries are delineated in VDH shellfish condemnation 094, 11/7/1994.	5A	Aquatic Plants (Macrophytes)	2014	L	0.087

RPPMH

VAP-E25E_GEE02A06 / Greenvale Creek / Described in VDH-DSS condemnation 022-094M1, 9/23/2008.	4A	Aquatic Plants (Macrophytes)	2014	L	0.012

RPPMH

VAP-E25E_GEE02B10 / Greenvale Creek/Belmont Creek / Portion of Greenvale Creek downstream of the 9/24/2009 condemnation	4A	Aquatic Plants (Macrophytes)	2014	L	0.038

RPPMH

VAP-E25E_HRY01A06 / Harry George Creek / Designated in VDH SFC 027-202B, 9/11/2013	4A	Aquatic Plants (Macrophytes)	2014	L	0.095

RPPMH

VAP-E25E_LAN01A98 / Lancaster Creek / As delineated in VDH SFC 023-120A, 8/14/1995.	4A	Aquatic Plants (Macrophytes)	2014	L	0.270

RPPMH

VAP-E25E_LAN01B08 / Lancaster Creek / The portion of VDH SFC 023-120A, 12/19/2016 open on 8/14/1995.	4A	Aquatic Plants (Macrophytes)	2014	L	0.238

Segment expanded in the 2018 cycle.

RPPMH

VAP-E25E_LAN02A02 / Lancaster Creek / The mouth of Lancaster Creek downstream of VDH SFC 023-120A, 12/19/2016, not otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2014	L	1.282

RPPMH

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

VAP-E25E_LAN03A06 / Lancaster Creek / Described in VDH SFC 023-120M1 and -120C, 12/19/2016	4A	Aquatic Plants (Macrophytes)	2014	L	0.023
RPPMH					
VAP-E25E_LGG01A98 / Lagrange Creek / As described in VDH SFC 028-127A, 1/28/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.555
RPPMH					
VAP-E25E_LGG01B18 / Lagrange Creek / Portion of VDH SFC 127, 6/11/1996 open on 028-127, 1/28/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.035
RPPMH					
VAP-E25E_LGG02A06 / Lagrange Creek / Lagrange Creek downstream of SFC 127, 6/11/1996	4A	Aquatic Plants (Macrophytes)	2014	L	0.048
RPPMH					
VAP-E25E_MTT01A00 / Morattico Creek / Delineated in VDH SFC 023-120B, 12/19/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.138
RPPMH					
VAP-E25E_MUB01A02 / Mulberry Creek / Described in VDH shellfish condemnation 023-121A, 12/17/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.136
RPPMH					
VAP-E25E_MUB01B16 / Mulberry Creek / Portion of VDH shellfish condemnation 120B, 8/14/1995, open in 023-121,12/17/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.012
RPPMH					
VAP-E25E_MUB02A06 / Mulberry Creek / Downstream of VDH shellfish condemnation 120B, 8/14/1995.	4A	Aquatic Plants (Macrophytes)	2014	L	0.050
RPPMH					
VAP-E25E_MUB03A08 / Mulberry Creek / Described in VDH shellfish condemnation 023-021D, 12/19/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.008
RPPMH					
VAP-E25E_MUC01A04 / Mud Creek / Described in VDH SFC 027-090B, 1/27/2015	4A	Aquatic Plants (Macrophytes)	2014	L	0.204
RPPMH					
VAP-E25E_PAY01A02 / Paynes Creek / As delineated in VDH-DSS SFC 022-094B, 9/24/2009.	4A	Aquatic Plants (Macrophytes)	2014	L	0.049
RPPMH					
VAP-E25E_PRR01A02 / Parrotts Creek / The segment boundaries are delineated in VDH shellfish condemnation 090, 4/27/1989.	4A	Aquatic Plants (Macrophytes)	2014	L	0.153
RPPMH					
VAP-E25E_PRR02A08 / Parrotts Creek / Condemnation 027-090A, 1/27/2015 downstream of VDH Condemnation 090, 4/27/1989.	4A	Aquatic Plants (Macrophytes)	2014	L	0.011
Shortened in the 2018 cycle.					
RPPMH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

VAP-E25E_ROS01A00 / Robinson Creek / Described in VDH shellfish condemnation 177, 5/28/1997 Merged in the 2018 cycle. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.207
VAP-E25E_ROS02A04 / Robinson Creek / Perkins Creek / Described in VDH Shellfish Condemnation 028-177B and -C, 1/28/2016. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.039
VAP-E25E_ROS02B12 / Robinson Creek / Described in VDH Shellfish Condemnation 028-177M1, 1/28/2016. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.007
VAP-E25E_ROS02C16 / Robinson Creek / Described in VDH Shellfish Condemnation 028-177D, 1/28/2016. Expanded slightly in the 2018 cycle. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.016
VAP-E25E_RPP01A02 / Rappahannock River / The mainstem of the Rappahannock River from end of MSN (Sharps/0.7 mi DS of Mark Haven Beach) to the start of deep channel. Segment adjusted in the 2018 cycle. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	15.407
VAP-E25E_RPP01C10 / Rappahannock River: Mark Haven Beach Basin / The portion of VDH shellfish condemnation 026-181B, 1/20/2006 not administratively closed. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.010
VAP-E25E_RPP01C98 / Mark Haven Beach Basin / As delineated in VDH shellfish condemnation 026-181A, 4/3/2012. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.004
VAP-E25E_RPP02A02 / Rappahannock River / The mainstem of the Rappahannock River from the start of deep channel downstream to the mouth, excluding area in SFC 051A. Segment adjusted in the 2018 cycle. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	65.880
VAP-E25E_RPP03A06 / Rappahannock River / Described in VDH SFC 024-070B, 12/19/2016. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.008
VAP-E25E_RPP03B16 / Rappahannock River / As described in VDH shellfish condemnation 026-181M2, 3/25/2015. RPPMH	4A	Aquatic Plants (Macrophytes)	2014	L	0.003
VAP-E25E_TWN01A12 / Town Bridge Swamp / Tidal limit to mouth at Urbanna Creek	4A	Aquatic Plants (Macrophytes)	2014	L	0.002

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

RPPMH VAP-E25E_URB01A00 / Urbanna Creek / As described in VDH-DSS SFC 029-042B, 2/14/2006.	4A	Aquatic Plants (Macrophytes)	2014	L	0.215
RPPMH VAP-E25E_URB02A00 / Urbanna Creek / As delineated in VDH shellfish condemnation 029-042A, 2/14/2006.	4A	Aquatic Plants (Macrophytes)	2014	L	0.238
RPPMH VAP-E25E_WEE01A00 / Weeks Creek / The segment boundaries are delineated in VDH shellfish condemnation 202, 10/8/1996.	4A	Aquatic Plants (Macrophytes)	2014	L	0.123
RPPMH VAP-E25E_WEE02A04 / Weeks Creek / The portion of VDH shellfish condemnation 027-202A, 1/27/2015 not included in the 1989 closure. Segment shrank slightly in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2014	L	0.013
RPPMH VAP-E25E_XDV01A02 / Beach Creek / The segment boundaries are delineated in VDH shellfish condemnation 022-116A, 10/28/2014.	4A	Aquatic Plants (Macrophytes)	2014	L	0.083
RPPMH VAP-E25E_ZZZ01A14 / Unsegmented estuaries in E25 / Unsegmented portion of watershed RA65	4A	Aquatic Plants (Macrophytes)	2014	L	0.077
RPPMH VAP-E25E_ZZZ01C14 / Unsegmented estuaries in E25 / Unsegmented portion of watershed RA68.	4A	Aquatic Plants (Macrophytes)	2014	L	0.248
RPPMH VAP-E25E_ZZZ01D14 / Unsegmented estuaries in E25 / Unsegmented portion of watershed RA69.	4A	Aquatic Plants (Macrophytes)	2014	L	0.274
RPPMH VAP-E26E_BPC01A98 / Bush Park Creek / The segment boundaries are delineated in VDH shellfish condemnation 109, 4/27/1989.	4A	Aquatic Plants (Macrophytes)	2014	L	0.103
RPPMH VAP-E26E_BRD01A00 / Broad Creek / The boundaries are defined in VDH shellfish condemnation 033-038B, 11/21/2013.	4A	Aquatic Plants (Macrophytes)	2014	L	0.084
RPPMH VAP-E26E_BRD02A00 / Broad Creek / The boundaries are defined in VDH shellfish condemnation 033-038A, 11/21/2013.	4A	Aquatic Plants (Macrophytes)	2014	L	0.040
RPPMH VAP-E26E_BRD04A00 / Broad Creek / Described in VDH-DSS condemnation 033-038M1, 11/21/2013.	4A	Aquatic Plants (Macrophytes)	2014	L	0.037
RPPMH					

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VAP-E26E_CEB01A00 / Eastern Branch Carter Creek / Described in VDH shellfish condemnation 041C, 11/1/1996.	4A	Aquatic Plants (Macrophytes)	2014	L	0.084
RPPMH					
VAP-E26E_CEB01B08 / Eastern Branch Carter Creek / Portion of VDH shellfish condemnation 020-041A, 10/25/2016 not included in 041C, 11/1/1996.	4A	Aquatic Plants (Macrophytes)	2014	L	0.132
Expanded and merged in the 2018 cycle.					
RPPMH					
VAP-E26E_CRR02A08 / Corrotoman River / The portion of the Corrotoman River that is within CB segment RPPMH.	4A	Aquatic Plants (Macrophytes)	2014	L	1.039
VAP-E26E_CTR01A00 / Carter Creek / The segment boundaries are delineated in VDH shellfish condemnation 020-041F, 10/25/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.204
RPPMH					
VAP-E26E_CTR02A00 / Carter Creek / The segment boundaries are delineated in VDH shellfish condemnation 020-041B, 10/25/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.058
RPPMH					
VAP-E26E_CTR03A00 / Carter Creek / Portion of VDH-DSS SFC 020-041M1, 10/25/2016 not included in 020-041A, 11/1/1996.	4A	Aquatic Plants (Macrophytes)	2014	L	0.114
RPPMH					
VAP-E26E_CTR03B16 / Carter Creek / Carter Creek open in 020-041, 10/25/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.237
RPPMH					
VAP-E26E_CTR03C18 / Bridge Cove / Described in 020-041D, 10/25/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.040
RPPMH					
VAP-E26E_CTR03D18 / Yopps Cove / Described in VDH-DSS condemnation 020-041E, 10/25/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.022
RPPMH					
VAP-E26E_CTR04A02 / Carter Cove / Portion of VDH-DSS SFC 020-041C, 10/25/2016	4A	Aquatic Plants (Macrophytes)	2014	L	0.018
Size decreased in the 2018 cycle.					
RPPMH					
VAP-E26E_CTR04B14 / Carter Cove / Portion of VDH-DSS SFC 020-041A, 11/1/1996 included in 020-041M1, 10/25/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.038
Size increased in the 2018 cycle.					
RPPMH					
VAP-E26E_HNU01A08 / Hunting Creek / Described in VDH Condemnation 032-104A, 9/24/2013.	4A	Aquatic Plants (Macrophytes)	2010	L	0.020
RPPMH					

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Rappahannock River Basin

VAP-E26E_LOL01A02 / Locklies Creek / Delineated in VDH shellfish condemnation 031-102B. 8/6/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.073
RPPMH					
VAP-E26E_LOL01B12 / Locklies Creek / Portion of VDH shellfish condemnation 102, 10/31/1994 seasonally condemned in 031-102M1, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.028
RPPMH					
VAP-E26E_LOL02A06 / Locklies Creek / Described in VDH-DSS SFC 031-102M1, 1/24/2008.	4A	Aquatic Plants (Macrophytes)	2014	L	0.054
RPPMH					
VAP-E26E_LOL03A08 / Roane Cove of Locklies Creek / Described in VDH-DSS SFC 031-102C, 9/4/2014.	4A	Aquatic Plants (Macrophytes)	2014	L	0.034
RPPMH					
VAP-E26E_MEA01A00 / Meachim Creek / Described in VDH shellfish condemnation 030-179A, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.075
RPPMH					
VAP-E26E_MEA01B00 / Meachim Creek / Described in VDH shellfish condemnation 030-179B, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.012
Shrank in the 2018 cycle.					
RPPMH					
VAP-E26E_MEA01C06 / Meachim Creek, UT / Described in VDH SFC 030-179M1, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.034
RPPMH					
VAP-E26E_MEA02A00 / Meachim Creek / Downstream of VDH SFC 030-179, 12/9/1996 not otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2014	L	0.136
RPPMH					
VAP-E26E_MEA03A10 / Meachim Creek / Portions of VDH shellfish condemnation 179A, 12/9/1996 open on 030-179, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.054
RPPMH					
VAP-E26E_MEA03B12 / Meachim Creek / Portion of VDH shellfish condemnation 179B, 12/9/1996 open in 030-179, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.020
Expanded in the 2018 cycle					
RPPMH					
VAP-E26E_MLL01A98 / Mill Creek / VDH shellfish condemnation 031-102A, 8/16/2016	4A	Aquatic Plants (Macrophytes)	2014	L	0.111
RPPMH					
VAP-E26E_MLL01B12 / Mill Creek / Portion of VDH shellfish condemnation 103, 12/10/1991 open in 031-102, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.013
RPPMH					
VAP-E26E_MLL02A06 / Mill Creek / Downstream of VDH shellfish	4A	Aquatic Plants (Macrophytes)	2014	L	0.358

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Rappahannock River Basin

condemnation 103, 12/10/1991

RPPMH

VAP-E26E_MOS01A00 / Mosquito Creek / The boundaries are delineated in VDH shellfish condemnation 018-203M1. 12/4/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.023

RPPMH

VAP-E26E_MOS01B12 / Mosquito Creek / Portion of VDH shellfish condemnation 018-203, 1/6/2005 open in 018-203, 12/4/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.046

RPPMH

VAP-E26E_RPP02A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051A, 10/3/2005.	4A	Aquatic Plants (Macrophytes)	2014	L	0.127

RPPMH

VAP-E26E_RPP03A00 / Rappahannock River / The Rappahannock River in the area delineated in VDH shellfish condemnation 030-051D, 10/3/2005.	4A	Aquatic Plants (Macrophytes)	2014	L	0.031

RPPMH

VAP-E26E_RPP04A00 / Rappahannock River / Described in VDH Shellfish Condemnation 030-051B, 9/1/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.131

RPPMH

VAP-E26E_RPP05A00 / Rappahannock River / Delineated in VDH-DSS condemnation 030-051C, 9/1/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.029

RPPMH

VAP-E26E_RPP07A02 / Rappahannock River / As delineated in VDH-DSS SFC 018-053A, 12/4/2015	4A	Aquatic Plants (Macrophytes)	2014	L	0.139

RPPMH

VAP-E26E_STE01A98 / Sturgeon Creek / The segment boundaries are delineated in VDH shellfish condemnation 032-104B, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.066

RPPMH

VAP-E26E_STE01B12 / Sturgeon Creek / The segment boundaries are delineated in VDH shellfish condemnation 032-104M1, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.002

RPPMH

VAP-E26E_STE01C12 / Sturgeon Creek / Portion of VDH shellfish condemnation 104, 11/28/1994 open in 032-104, 8/16/2016.	4A	Aquatic Plants (Macrophytes)	2014	L	0.017

RPPMH

VAP-E26E_STE02A08 / Sturgeon Creek / Sturgeon Creek downstream of condemnation 104, 11/28/1994.	4A	Aquatic Plants (Macrophytes)	2014	L	0.192

RPPMH

VAP-E26E_WHS01B00 / Whiting Creek / As delineated in VDH shellfish condemnation 030-051A, 9/1/2015.	4A	Aquatic Plants (Macrophytes)	2014	L	0.195

RPPMH

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Rappahannock River Basin

VAP-E26E_WID01A12 / Windmill Point Creek / Described in VDH-DSS condemnation 018-053B, 11/2/2010.	4A	Aquatic Plants (Macrophytes)	2014	L	0.082
RPPMH					
VAP-E26E_WOO01A08 / Woods Creek / Tidal Woods Creek	4A	Aquatic Plants (Macrophytes)	2014	L	0.037
RPPMH					
VAP-E26E_XEV01A02 / Windmill Point Yacht Harbor / As delineated in VDH-DSS SFC 018-053C, 12/4/2015	4A	Aquatic Plants (Macrophytes)	2014	L	0.015
RPPMH					
VAP-E26E_XII01A18 / XII - Windmill Point, UT (aka White Marsh) / Described in VDH-DSS condemnation 018-053B, 12/4/2015	4A	Aquatic Plants (Macrophytes)	2014	L	0.034
RPPMH					
VAP-E26E_ZZZ01D14 / Unsegmented estuaries in E26 / Unsegmented portion of watershed RA73	4A	Aquatic Plants (Macrophytes)	2014	L	0.028
RPPMH					
VAP-E26E_ZZZ01E14 / Unsegmented estuaries in E26 / Unsegmented portion of watershed RA74	4A	Aquatic Plants (Macrophytes)	2014	L	0.629
RPPMH					

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**123.612**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* RPPOH-DO-BAY** **Rappahannock Oligohaline Estuary**

Cause Location: The oligohaline Rappahannock River and its tributaries to the segment.

City / County: Essex Co. Richmond Co. Westmoreland Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

During the 2018 cycle, the oligohaline Rappahannock estuary failed the Open Water Subuse 30-day mean summer dissolved oxygen criterion. The Open Water rest-of-year criterion was met and there was insufficient data to assess the other dissolved oxygen criteria.

The Chesapeake Bay TMDL was approved by the EPA on 12/19/2010; therefore, RPPOH is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-E22E_OCC01A08 / Occupacia Creek / The tidal portion of Occupacia Creek	4A	Oxygen, Dissolved	2018	L	0.668
RPPOH					
VAP-E22E_PEE01A14 / Peedee Creek / Tidal portion of Peedee Creek.	4A	Oxygen, Dissolved	2018	L	0.150
RPPOH					
VAP-E22E_RPP02A02 / Rappahannock River / The Rappahannock River from the tidal freshwater/oligohaline boundary downstream to river mile 56.21.	4A	Oxygen, Dissolved	2018	L	1.344
RPPOH					
VAP-E22E_RPP02B16 / Rappahannock River / The Rappahannock River from rivermile 56.21 downstream to river mile 51.04.	4A	Oxygen, Dissolved	2018	L	2.003
RPPOH					
VAP-E22E_RPP03A02 / Rappahannock River / The Rappahannock River from river mile 51.04 to river mile 49.04.	4A	Oxygen, Dissolved	2018	L	2.012
RPPOH					
VAP-E22E_RPP04A02 / Rappahannock River / The Rappahannock River from river mile 49.04 downstream to the oligohaline/mesohaline boundary at approximately river mile 48.51.	4A	Oxygen, Dissolved	2018	L	0.942
RPPOH					
VAP-E22E_ZZZ01A06 / Unsegmented estuaries in E22 / Unsegmented portion of watershed within RPPOH.	4A	Oxygen, Dissolved	2018	L	0.490

Rappahannock Oligohaline Estuary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**7.610**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Rappahannock River Basin

***Cause Group Code:* RPPTF-DO-BAY** **Rappahannock Tidal Freshwater Estuary**

Cause Location: Includes all waters in the tidal fresh portion of the Rappahannock River (RPPTF).

City / County: Caroline Co. Essex Co. Fredericksburg City King George Co. Spotsylvania Co.
Stafford Co. Westmoreland Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

During the 2018 cycle, the tidal freshwater Rappahannock estuary failed the Open Water Subuse 30-day mean summer dissolved oxygen criterion. The Open Water rest-of-year criterion was met and there was insufficient data to assess the other dissolved oxygen criteria.

The Chesapeake Bay TMDL was approved by the EPA on 12/19/2010; therefore, RPPTF is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-E20E_RPP01A02 / Rappahannock River / Segment begins at the confluence with Massaponax Creek and continues downstream until the outlet of waterbody VAN-E20E. This segment represents the upper reach of VAN-E21E_RPP05A02. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	0.188
VAN-E20E_RPP02A02 / Rappahannock River / Segment begins at the confluence with Deep Run and continues downstream until the confluence with Massaponax Creek. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	0.231
VAN-E20E_RPP03A02 / Rappahannock River / Segment begins at the fall line at Route 1 and continues downstream until the confluence with Deep Run. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	0.195
VAN-E21E_MIC01A06 / Mill Creek / Segment includes all tidal waters of Mill Creek. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	0.203
VAN-E21E_RPP01A02 / Rappahannock River / Segment begins at the confluence with Mill Creek, at rivermile 78.94, and continues downstream until immediately upstream of Devils Elbow, at rivermile 70.52. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	4.547
VAN-E21E_RPP03A02 / Rappahannock River / Segment begins at the confluence with Mount Creek and continues downstream until the confluence with Mill Creek. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	1.366
VAN-E21E_RPP04A02 / Rappahannock River / Segment begins at the confluence with Ware Creek and continues downstream until the confluence with Mount Creek. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	1.206
VAN-E21E_RPP05A02 / Rappahannock River / Segment begins at the confluence with Massaponax Creek and continues downstream until the confluence with Ware Creek. The upper reach of this segment (approx. 0.3 sq mi) extends into waterbody VAN-E20E. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	0.579
VAN-E21E_RPP48A02 / Rappahannock River-Muddy Creek / Segment includes all tidal waters in watershed RA48 not included in	4A	Oxygen, Dissolved	2014	L	0.006

Rappahannock River Basin

other delineated stream segments. Portion of CBP segment RPPTF.					
VAN-E21E_RPP49A02 / Rappahannock River-Mount Creek / Segment includes all tidal waters in watershed RA49 not included in other delineated stream segments. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2014	L	0.147
VAN-E21E_RPP51A02 / Rappahannock River-Goldenvale Creek / Segment includes all tidal waters in watershed RA51 not included in other delineated stream segments. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2014	L	0.192
VAN-E21E_RPP52A02 / Rappahannock River-Portobago Creek / Segment includes all tidal waters in watershed RA52 not included in other delineated stream segments. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2014	L	0.079
VAN-E22E_ZZZ01A08 / Unnamed Rappahannock River Embayments / Segment includes all tidal waters in watershed not included in other delineated stream segments. Portion of CBP segment RPPTF.	4A	Oxygen, Dissolved	2008	L	0.073
VAP-E22E_ELM01A10 / Elmwood Creek / Tidal limit to mouth at the Rappahannock River. RPPTF	4A	Oxygen, Dissolved	2018	L	0.047
VAP-E22E_RPP01A02 / Rappahannock River / The Rappahannock River from Devils Elbow at Toby Point and Green Bay (river mile 70.52) downstream to the tidal freshwater/oligohaline boundary at river mile 57.85. RPPTF	4A	Oxygen, Dissolved	2018	L	5.133
VAP-E22E_ZZZ01A00 / Unsegmented estuaries in E22 / Unsegmented portion of watershed within RPPTF.	4A	Oxygen, Dissolved	2018	L	0.164

Rappahannock Tidal Freshwater Estuary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**14.356**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L01R-01-BAC** **Roanoke River, South Fork and Goose Creek**

Cause Location: South Fork Roanoke River mainstem from the mouth of Elliott Creek extending downstream to the confluence of the North and South Forks of the Roanoke River. And Goose Creek from the Lick Fork mouth downstream to its confluence with the South Fork Roanoke River.

City / County: Floyd Co. Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2004 assessment initially 303(d) Listed the 12.61 mile fecal coliform (FC) bacteria impairment. Two stations on the S.F. Roanoke River, 4ARSF011.73 located on the Rt. 637 Bridge and 4ARSF002.20 above the old Green Hill industrial site near Rt. 11/460, find the Recreational Use is not supported. The 2012 assessment extends the bacteria impairment upstream 6.27 miles based on data from station 4ARSF014.02. The 2012 assessment also incorporates the Goose Creek 2012 bacteria impairment. The South Fork Roanoke River nested extension of 6.43 miles and Goose Creek nested addition of 2.30 miles brings the total impaired miles to 19.61.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2006. Assessment Units below are nested within the approved Roanoke River TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2016 total bacteria impaired length on the Roanoke River is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the South Fork Roanoke River or Goose Creek bacteria impairments but are nested within the overall Roanoke River Bacteria TMDL Watershed and allocations.

South Fork Roanoke River:
4ARSF014.02 (Persimmon Road Bridge) The 2018 Integrated Report finds 4 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances occurred in 2016: 315, 697, 318, and 301 cfu/100 ml. The 2012, 2014 and 2016 Integrated Reports (IRs) find 2 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion from 12 observations at 650 & 1500 cfu/100 ml.

4ARSF011.73 (Rt. 637 Bridge) The 2004 Integrated Report (IR) reveals 3 excursions from 12 fecal coliform (FC) observations in excess of the former instantaneous criterion of 400 cfu/100 ml. 2004 exceedances range from 600 to 3000 cfu/100 ml. 2010 and 2008 E.coli observations are insufficient to delist where no excursions of the E.coli criterion are found in 8 samples. Therefore the 2004 FC impaired status remains.

4ARSF002.20- (Private Bridge above Green Hill) There are no additional data beyond the 2004 IR. Three of 18 FC observations exceed the instantaneous criterion in 2004. 2004 IR exceedances range from 600 to 5300 cfu/100 ml. The waters remain impaired for FC. There are no E.coli data to assess.

4ARSF000.88- (Rt. 11 Bridge - below Green Hill) The 2016 and 2018 Integrated Reports (IRs) find 2 of 12 E.coli collections exceed the WQS instantaneous criterion of 235 cfu/100 ml. The exceeding values are 450 and 1350 cfu/100 ml. Prior E.coli data were insufficient to assess for each of the 2008,2010 and 2012 data windows with 1 of 9 samples exceeding at 300 cfu/100 ml. There were no additional data within the 2014 data window.

Goose Creek:
4AGOS000.71 (Along Rt. 653) The 2018 Integrated Report shows 1 E.coli sample (292 cfu/100 ml) out of 12 exceeds the 235 cfu/100 ml instantaneous criterion. The 2012, 2014 and 2016 assessments report 3 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 400, 480 and 780 cfu/100 ml. There are no additional data beyond the 2012 IR.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_GOS01A02 / Goose Creek / Goose Creek from its confluence with the South Fork Roanoke R. upstream to the mouth of Lick Fork (RU01).	4A	Escherichia coli	2012	L	2.30

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

VAW-L01R_RSF01A00 / S.F. Roanoke River / South Fork Roanoke River mainstem extends from the PWS WQS upstream ending on downstream to the South Fork's confluence with the North Fork Roanoke River (RU05).	4A	Escherichia coli	2016	L	3.27
VAW-L01R_RSF02A00 / S.F. Roanoke River / South Fork Roanoke River mainstem segment extends from Shawsville STP downstream to the WQS designated PWS upstream ending (RU05).	4A	Escherichia coli	2016	L	3.00
VAW-L01R_RSF03A00 / S.F. Roanoke River / South Fork Roanoke River from the mouth of Elliott Creek downstream to the Shawsville STP (RU05).	4A	Escherichia coli	2012	L	6.43
VAW-L01R_RSF04A02 / S.F. Roanoke River / South Fork Roanoke R. from the confluence of Elliot Creek upstream to the mouth of Bottom Creek (RU03).	4A	Escherichia coli	2012	L	4.61

Roanoke River, South Fork and Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**19.61**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L01R-01-BEN** **Smith Creek, UT (XMV)**

Cause Location: Smith Creek, UT (XMV) from its mouth on Smith Creek upstream to its headwaters.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The 2010 original assessment finds the WQS General Standard contravened with benthic community impairment continuing through the 2012 and 2014 Cycles. There are no additional data beyond the 2010 Integrated Report (IR). The Roanoke River General Standard - Benthic (Sediment) TMDL Study received U.S. EPA approval on 5/10/2006 [Fed. ID 33861] and SWCB approval on 9/07/2006. The Smith Creek unnamed tributary (UT) is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed.

4AXMV000.63 (Off Rt. 615 along Chaucer Lane)- A 2007 Probabilistic site. Two Virginia Stream Condition Index (VSCI) surveys scoring spring 46.6 and fall 62.5 for an average score of 54.6. Taxa richness scores were higher in the spring sample; however, the abundance of pollution-tolerant organisms was high as well resulting in a lower VSCI score. Stream habitat scores were affected by the lack of instream cover for macroinvertebrates and fish, lack of bank vegetation and lack of riparian vegetative buffer. The station is on a 1st order headwater stream. There are ponds upstream of the station and immediate land use is residences with mowed lawns adjacent to the stream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_XMV01A10 / Smith Creek, UT (XMV) / Smith Creek, UT (XMV) from its mouth on Smith Creek upstream to its headwaters (RU04).	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.61

Smith Creek, UT (XMV)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.61**

Sources:

Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L01R-01-TEMP** **Roanoke River, South Fork**

Cause Location: South Fork Roanoke River mainstem from the mouth of Elliott Creek extending downstream to the confluence of the South and North Forks of the Roanoke River.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

USGS Gaging Station 02053800 (S.F. Roanoke R. near Shawsville)- There are no additional data beyond the 2010 IR. 2010 assessment reveals 2 of 12 temperature measurements exceed the Class V 21°C criterion. Measurements in excess of the criterion occur on 8/07/2007 at 24.5°C and 8/29/2007 at 22°C. These data result in the return of 6.43 miles to the temperature 303(d) List that were partially de-listed with the 2008 IR. The temperature impairment is extended upstream for 4.61 miles based on 2012 Cycle data for 4ARSF014.02.

4ARSF014.02 (Persimmon Road Bridge) 1 excursion of the Class V 21°C criterion occurs within the 2018 data window at 23.3°C (7/20/2016). The 2012, 2014 and 2016 assessments find 3 temp measurements from 12 observations exceed the 21°C criterion at 23.1°C (8/13/2009); 22°C (6/10/2010) and 23.2°C (8/31/2010).

4ARSF011.73- (Rt. 637 Bridge) There are no additional data beyond the 2008 IR. Observations within the 2010 data window find no excursions of the respective criterion for temperature. The 2008 IR finds only 1 exceedance of the Class V 21°C criterion from 12 observations. 2008 data resulted in the partial de-list of temperature for 6.43 miles. The 2004 IR reported 2 of 12 temperature measurements in excess of the criterion. Each exceedance is 22°C occurring on 7/22/99 and 6/06/01. The 2004 Category 5C assessment remains. Low stream flows and drought conditions were observed during both 1999 and 2001.

4ARSF002.20- (above the old Green Hill industrial site near Rt. 11/460) There are no additional data beyond the 2004 IR. The 2004 IR records 2 of 18 temperature measurements exceed the WQS criterion. Each 2004 exceedance is 22°C occurring on 7/22/99 and 6/06/01. The 6.27 mile waters remain impaired (Category 5C) for temperature.

4ARSF000.88- (Rt. 11 Bridge - below Green Hill) 2 of 12 temperature measurements exceed the WQS Class V 21°C criterion at 21.8 °C (6/9/2014) and 21.9 °C (7/1/2014) within the 2016 and 2018 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_RSF01A00 / S.F. Roanoke River / South Fork Roanoke River mainstem extends from the PWS WQS upstream ending on downstream to the South Fork's confluence with the North Fork Roanoke River (RU05).	5C	Temperature, water	2004	L	3.27
VAW-L01R_RSF02A00 / S.F. Roanoke River / South Fork Roanoke River mainstem segment extends from Shawsville STP downstream to the WQS designated PWS upstream ending (RU05).	5C	Temperature, water	2004	L	3.00
VAW-L01R_RSF03A00 / S.F. Roanoke River / South Fork Roanoke River from the mouth of Elliott Creek downstream to the Shawsville STP (RU05).	5C	Temperature, water	2010	L	6.43
VAW-L01R_RSF04A02 / S.F. Roanoke River / South Fork Roanoke R. from the confluence of Elliot Creek upstream to the mouth of Bottom Creek (RU03).	5C	Temperature, water	2012	L	4.61

Roanoke River, South Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**17.31**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L01R-02-TEMP** **Bottom Creek**

Cause Location: Bottom Creek mainstem from its mouth on the South Fork Roanoke River on upstream to the Rt. 669 crossing.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

4ABTM000.04 (Rt. 637 Bridge)- 2 2015 temperature measurements within the 2018 IR data window do not exceed the Class VI criterion, but are insufficient to delist. Temperature measurements within the 2016, 2014 and 2012 data windows result in 3 exceeding values from 12 observations with no additional data beyond the 2012 IR. Measurements in excess of the Class VI criterion occur on 8/13/2009 at 22.9, 6/10/2010 at 23.0 and 8/31/2010 at 24.0 °C. The 2012 data window reports 5 of 20 measurements exceeding the 20°C criterion. Exceeding values range from 20.5 to 24°C. Temperature measurements within the 2010 data window find 2 of 9 measurements exceeding the WQS Class VI 20°C criterion. Exceeding values occur on 7/7/2005 at 21 and 7/25/2006 at 20.5 °C. The 2008 IR finds 3 of 10 temperature measurements exceed the Class VI criterion on 06/04/02 at 24.4 °C; 7/7/2005 at 21 and 7/25/2006 at 20.5 °C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_BTM01A06 / Bottom Creek / Bottom Creek mainstem from its mouth on the South Fork Roanoke River on upstream to the downstream WQS Tier III ending at the southern most Nature Conservancy property boundary (RU02).	5C	Temperature, water	2008	L	2.32
VAW-L01R_BTM02A06 / Bottom Creek / Bottom Creek mainstem from the southern most Nature Conservancy property boundary upstream to the Rt. 669 crossing. WQS designated Tier III waters (RU02).	5C	Temperature, water	2008	L	2.17

Bottom Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L02R-01-BAC** **Roanoke River, North Fork**

Cause Location: North Fork Roanoke River from the mouth of Dry Run on the North Fork Roanoke River downstream to an unnamed tributary in the community of Ironto.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station 4ARNF013.66 located at Rt. 603 Bridge near Ellett (incorrectly coded 4ARNF015.09 in previous cycles), originally listed for fecal coliform (FC) bacteria in 2002 is now listed for escherichia coli (E.coli). The bacteria impairment is extended upstream with the 2012 assessment by 9.16 miles.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 9/07/2006. The Roanoke Bacteria TMDL watershed encompasses the North Fork Roanoke River. This recreational impairment is nested within the overall Roanoke River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake.

4ARNF016.80 (Rt. 712 Bridge) The 2018 data window finds 9 of 24 Escherichia coli (E.coli) measurements exceeding the 235 cfu/100 ml instantaneous criterion. E.coli exceed the 235 cfu/100 ml instantaneous criterion in 6 of 24 observations within the 2016 data window. The range of excessive values is from 250 to 1000 cfu/100 ml. The 2012 and 2014 assessments find 4 of 12 E.coli samples exceed the 235 cfu/10 ml instantaneous criterion; exceeding values range from 520 to 1000 cfu/100 ml.

4ARNF013.66 (Rt. 603 Bridge) 15 of 35 and 10 of 35 escherichia coli (E.coli) exceedances are recorded within the 2018 and 2016 data windows, respectively. The range of exceedance is from 272 cfu/100 ml to greater than 2000. The 2014 data window finds 7 of 36 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml. The range of exceeding values is 250 to 1400 cfu/100 ml. 2012 data find E.coli bacteria exceeds in 9 of 36 samples with the same range of exceedance. Seventeen of 45 E.coli samples exceed the instantaneous criterion within the 2010 data window. E.coli exceedances range from 280 to 1500 cfu/100 ml. Sufficient data does not exist to determine the new WQS geometric mean. The 2008 Integrated Report (IR) finds E.coli bacteria exceeds the 235 cfu/100 ml instantaneous criterion in 14 of 33 samples with the same range of exceedance as 2010. The former WQS E.coli geomean, minimum 2 samples/calendar month, of 126 cfu/100 ml is exceeded in 3 of 6 calculations. The 2006 IR reports E.coli bacteria exceeds the 235 cfu/100 ml instantaneous criterion in 12 of 21 samples with exceedances also ranging from 280 to 1500 cfu/100 ml. The former E.coli WQS geomean exceeds in 3 of 4 calculations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_RNF03A02 / N.F. Roanoke River / North Fork Roanoke River mainstem from a right bank entry of an unnamed tributary in the community of Ironto upstream to the mouth of Wilson Cr (RU07).	4A	Escherichia coli	2006	L	6.93
VAW-L02R_RNF04A02 / N.F. Roanoke River / North Fork Roanoke River mainstem from the mouth of Wilson Creek upstream to the mouth of Dry Run (RU06).	4A	Escherichia coli	2012	L	9.16

Roanoke River, North Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.09**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L02R-01-PH** **Bradshaw Creek**

Cause Location: Bradshaw Creek from its mouth on the N.F. Roanoke River upstream to its headwaters.

City / County: Montgomery Co. Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

4ABDC002.36 (Rt. 629 Bridge)- The aquatic life use is impaired based on 2010 pH data. Four of 16 pH observations exceed the minimum pH criterion of 6.5. The range of exceeding values are 6.1 to 6.3 SU. There are no additional data beyond the 2010 Integrated Report (IR).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_BDC01A04 / Bradshaw Creek / Bradshaw Creek from the upstream end of the WQS PWS designation downstream to its mouth on the North Fork Roanoke River (RU08).	5C	pH	2010	L	0.85
VAW-L02R_BDC02A04 / Bradshaw Creek / Bradshaw Creek mainstem from near its headwaters downstream to the upstream ending of the WQS PWS designation (RU08).	5C	pH	2010	L	9.51

Bradshaw Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**10.36**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L02R-02-BAC** **Wilson Creek and Wilson Creek, UT**

Cause Location: Wilson Creek to include a northern unnamed tributary from its headwaters downstream to the Wilson Creek confluence on the North Fork Roanoke River.

Note: The northern arm extends upstream from mainstem Wilson Creek to near the Rt. 114 & Rt. 460 intersection behind a commercially developed area near New River Valley Mall.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Wilson Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/02/2006 [Fed ID 23395] and SWCB approved 6/27/2007. Wilson Creek is originally 303(d) listed for bacteria (fecal coliform) with the 2002 assessment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 6.99 mile bacteria impairment remains.

4AWLN000.40 - There are no additional data since the 2010 data window. E.coli data within the 2010 data window find 11 of 23 samples exceed the WQS 235 cfu/100 ml instantaneous criterion. There are no additional data beyond the 2008 assessment where 13 of 27 E. coli samples exceed the instantaneous criterion. The minimum exceedance is 300 cfu/100 ml with a maximum of 2,200. In 2006 12of 23 E. coli samples exceed the instantaneous criterion of 235 cfu/100 ml with the same range of exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_WLN01A00 / Wilson Creek / Wilson Creek mainstem segment extends from WLN02A00 downstream to the Wilson Creek mouth on the North Fork Roanoke River (RU07).	4A	Escherichia coli	2004	L	2.76
VAW-L02R_WLN02A00 / Wilson Creek / This northern arm extends upstream from mainstem Wilson Creek to the Rt. 114 & Rt. 460 intersection behind major developed area near New River Valley Mall (RU07).	4A	Escherichia coli	2004	L	1.73
VAW-L02R_WLN03A00 / Wilson Creek / Wilson Creek mainstem segment extends from near Rt. 460/I-81 intersection downstream to intersection of segments WLN02A with WLN01A (RU07).	4A	Escherichia coli	2004	L	2.50

Wilson Creek and Wilson Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.99**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L02R-03-BAC** **Bradshaw Creek**

Cause Location: Bradshaw Creek from its mouth on the N.F. Roanoke River upstream to its headwaters.

City / County: Montgomery Co. Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2010 assessment finds Bradshaw Creek does not support the Recreational Use. Escherichia coli (E.coli) exceed the WQS instantaneous criterion. The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 9/07/2006. Bradshaw Creek is nested within the Roanoke River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ABDC002.36 (Rt. 629 Bridge)- There are no additional data beyond the 2010 Integrated Report (IR). The 2010 assessment finds E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 2 of 12 observations. Values in excess of the criterion are 250 and greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_BDC01A04 / Bradshaw Creek / Bradshaw Creek from the upstream end of the WQS PWS designation downstream to its mouth on the North Fork Roanoke River (RU08).	4A	Escherichia coli	2010	L	0.85
VAW-L02R_BDC02A04 / Bradshaw Creek / Bradshaw Creek mainstem from near its headwaters downstream to the upstream ending of the WQS PWS designation (RU08).	4A	Escherichia coli	2010	L	9.51

Bradshaw Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.36**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L03R-01-TEMP** **Roanoke River**

Cause Location: Roanoke River mainstem from Spring Hollow Reservoir extending downstream to the Rt. 419 Bridge crossing.

City / County: Roanoke Co. Salem City

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The waters remain impaired for the Aquatic Life Use. Station 4AROA227.42 is located within the Water Quality Standards 'hh' special standard [9VAC25-260-310] establishing a maximum temperature of 31°C May 1 through October 31 for these seasonally stockable trout waters. Temperature data from 4AROA227.42 (located at the Rt. 773 Bridge in Lafayette) now meets the temperature criterion and 1.28 miles of the Roanoke are delisted with the 2012 Integrated Report (IR). Station 4AROA227.42 is no longer a Listing station for the temperature impairment.

4AROA212.17- (Rt. 11 Bridge - below Eaton, Inc.) The 2016 data window produces 1 exceedance at 22.8°C (6/8/2010) from 4 observations. One temperature excursion from 6 observations exceeds the stockable trout water criterion at 22.8°C (6/08/2010) within the 2014 data window. This same excursion occurs within the 2012 data window from a total of 8 measurements. Two of 17 temperature measurements exceed the criterion within the 2010 data window. Measurements in excess of the criterion are 21.3 on 7/15/2003 and 25.4 on 7/13/2004. These same exceedances occur within the 2008 data window where 2 of 21 temperature measurements exceed the 21°C criterion. Temperature data within the 2006 data window finds exceedances in 6 of 32 measurements ranging from 21 to 25°C. The 2004 assessment finds temperature exceeds the stockable trout water criterion in 8 of 42 measurements. Exceedances range from 22 to 25°C. Eleven of 67 temperature measurements exceed the criterion within the 2002 assessment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L03R_ROA02A00 / Roanoke River / Roanoke River mainstem from the Rt. 419 Bridge upstream to the City of Salem downtown intake on the Roanoke River (RU09).	5C	Temperature, water	2002	L	2.67
VAW-L03R_ROA03A00 / Roanoke River / Roanoke River mainstem from the Salem City WTP downtown intake upstream to the Big Bear Branch mouth on the Roanoke River (RU09).	5C	Temperature, water	2002	L	3.42
VAW-L03R_ROA04A00 / Roanoke River / Roanoke River mainstem from the Big Bear Rock Branch mouth upstream to end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns (RU09).	5C	Temperature, water	2002	L	5.57
VAW-L03R_ROA05A00 / Roanoke River / Roanoke River mainstem from the end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns upstream to the Roanoke County Spring Hollow Reservoir intake (RU09).	5C	Temperature, water	2002	L	1.43

Roanoke River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**13.09**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-01-BAC** **Roanoke River and Smith Mountain Lake**

Cause Location: The upstream limit is at the confluence of the North and South Forks of the Roanoke River downstream to 3/4 miles upstream of the Hardy Ford Bridge.

City / County: Bedford Co. Franklin Co. Roanoke City Roanoke Co. Salem City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original bacteria impaired listing. The 2010 total bacteria impaired length is 29.56 miles and 349.99 acres in Smith Mountain Lake. Geometric mean calculations from previous assessments are not valid in 2010 in light of the 4 sample per month requirement of the new WQS criterion.

Improvement is noted in downstream stations 4AROA202.20, 4AROA199.20, 4AROA196.05 and 4AROA192.94 within the 2016 data window. E.coli maxima are greatly reduced as compared to previous assessments. 2016 Flow Adjusted Trend Analysis finds an improving trend for fecal coliforms at 4AROA202.20; whereas the 2012 Flow Adjusted Trend Analysis reports a declining trend for E.coli at 4AROA202.20.

Stations 4AROA192.94 and 4AROA192.55 each have exceedance rates less than 10.5%. These waters in Smith Mountain Lake from ~ 3/4 miles upstream of the Hardy Road Bridge downstream to the confluence of Falling Creek were partially delisted with the 2014 assessment. A total of 184.70 acres. Station 4AROA202.20 also has an exceedance rate less than 10.5% but is not proposed for delisting in 2014 or 2016 due to stations 4AROA199.20 and 4AROA196.05 continuing to exceed the instantaneous criterion with rates greater than 10.5 %. Also upstream tributaries continue to have exceedance rates greater than 10.5%. Continued reductions/improvement could result in a delisting of this portion of the Roanoke River in future assessments.

Station 4AROA227.42 (Rt. 773 Bridge in Lafayette) is included in the 1999 Federal Consent Decree as an Attachment B station for fecal coliform bacteria. The station was not listed in 2002 as exceedances of the former WQS 1000 cfu/100 ml instantaneous criterion were at 5 percent. The waters were not de-listed in recognition of the forth coming change of the fecal coliform WQS instantaneous criterion from 1000 to 400 cfu/100 ml. The 2004 Integrated Report (IR) records an 11.8 percent exceedance rate and initial 303(d) Listing for fecal coliform bacteria. Eight of 49 fecal coliform samples exceeded in 2006. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters] in 2008. The 2008 assessment reports 1 of 21 escherichia coli (E.coli) samples in excess of the 235 cfu/100 ml instantaneous criterion and was partially delisted with the 2008 IR for 2.21 miles (revised 2014 NHD). 2010 and 2012 assessments find continued Full Support from 4AROA227.42. The 2014 assessment reports 2 of 36 E.coli excursions indicating continued full support of the Recreational Use. However the 2016 data window reveals 6 of 36 E.coli samples in excess of the 235 cfu/100 ml WQS criterion. Two exceeding values each occur in 2013 and 2014 in addition to 2 excessive values in 2009. These excursions combine to extend the E.coli impairment 2.21 miles from the Spring Hollow intake upstream to the confluence of the North and South Forks of the Roanoke River. Eight of 36 E.coli observations exceed the WQS instantaneous criterion within the 2018 data window. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml.

4AROA224.54- (Rt. 639 Bridge at Riverside) There are no additional E.coli data beyond the 2008 Integrated Report (IR) where E.coli exceeds the criterion in 2 of 11 observations. Maximum excursions are 400 cfu/100 ml and 780. The results are the same for both the 2008 and 2010 assessments. The 2006 IR finds E.coli exceeds the instantaneous criterion in 2 of 8 observations. The maximum exceedance is 780 cfu/100 ml.

4AROA220.94- (Rt. 639 Bridge just south of Wabun) 2012, 2010 and 2008 results are the same with no additional data. E.coli samples exceed the instantaneous criterion in 2 of 12 observations ranging from 250 to 850 cfu/100 ml. In 2006 E.coli exceeds the criterion in 2 of 8 observations. The maximum exceedance is 780 cfu/100 ml.

4AROA215.13 - No additional E.coli data beyond the 2008 IR. One of 12 escherichia coli (E.coli) observations exceeds the 235 cfu/100 ml instantaneous criterion at 920 cfu/100 ml. The 2006 data window finds the same exceedance from 9 samples.

4AROA212.17- (Rt. 11 Bridge - below Eaton, Inc.) There are no additional E.coli data beyond the 2010 IR where 4 of 23 E.coli samples exceed the instantaneous criterion. Exceedances range from 290 cfu/100 ml to 790. Four of 23 E.coli samples also exceed the 235 cfu/100 ml WQS instantaneous criterion within 2008 data window. E.coli excursions are the same as 2010.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

4AROA205.73- (Franklin Road Bridge, Roanoke, VA) There are no additional data beyond the 2008 data window. The 2008 assessment reports 8 of 32 E.coli samples exceed the instantaneous criterion and 3 of 5 geometric mean calculations exceed the former (2 samples/calendar month) WQS 126 cfu/100 ml criterion. The 2008 range of exceedance is from 270 to 570 cfu/100 ml. 2006 results find 7 of 20 E.coli samples exceed the instantaneous criterion with the same range of exceedance. E.coli geomeans exceed the former WQS (2 samples/month) 126 cfu/100 ml criterion in 3 of 6 calculations.

4AROA202.20- (13th Street Bridge - above STP) The 2018 assessment finds 5 of 34 observations exceed the E. Coli (escherichia coli) 235 cfu/100 ml instantaneous criterion. Exceeding values range from 400-1918 cfu/100 ml. The 2016 assessment reports 2 of 16 E.coli observations exceeding the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 400 to 1,400 cfu/100 ml. Three of 34 E.coli observations exceed the instantaneous criterion ranging from 300 to 1,400 cfu/10 ml within the 2014 data window. These waters continue to be Listed as downstream stations 4AROA199.20 and 4AROA196.05 continue to exceed the instantaneous criterion at greater than 10.5%. The 2012 assessment finds E.coli exceeds the instantaneous criterion in 4 of 36 observations. Exceedance range: 280 to 1400 cfu/100 ml. The 2012 flow adjusted Trend analysis reports a declining trend for E.coli. 2010 data reveal 9 of 45 E.coli samples in excess of the instantaneous criterion. Values in excess range from 280 to greater than 2000 cfu/100 ml. No geometric means are calculated due to insufficient data. Eight of 33 E.coli samples exceed the instantaneous criterion in 2008 and 2 of 6 geometric mean calculations exceed the former WQS (2 samples/month) 126 cfu/100 ml criterion. The 2008 range of exceedance is the same as 2010. 2006 E.coli exceeds the instantaneous criterion of in 6 of 21 observations. Exceedance range: 330 to greater than 2000 cfu/100 ml. Two of 6 geometric mean calculations exceed the former WQS criterion as in 2008.

4AROA199.20- (Blue Ridge Parkway Bridge - Niagara) The 2018 and 2016 data windows find 10 of 32 and 8 of 35 exceeding values, respectively. Excessive values range from 250 cfu/100 ml to 9208. Five of 23 escherichia coli (E.coli) exceedances occur within the 2014 data window ranging from 250 to 775 cfu/100 ml. The 2012 assessment finds E.coli exceed in 5 of 20 observations. The exceedance range is 250 to greater than 2000 cfu/100 ml. Both the 2010 and 2008 assessments find 9 of 21 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml. Exceedances range from 280 cfu/100 ml to greater than 2000. 2006 results found 6 of 12 samples exceeding while the range is from 280 to 610 cfu/100 ml.

4AROA196.05- (McVeigh Ford) The 2016 assessment finds 10 of 42 escherichia coli (E.coli) observations exceed the WQS instantaneous criterion ranging from 250 to 1,616 cfu/100 ml. The 2014 IR reports E.coli exceed the 235 cfu/100 ml instantaneous criterion in 5 of 40 observations. Exceedances range from 250 to 750 cfu/100 ml. E.coli bacteria exceed the instantaneous criterion in 9 of 41 observations within the 2012 data window. 2012 exceedances range from 250 to 1,000 cfu/100 ml. E.coli data within the 2010 data window find 10 of 38 samples exceeding the instantaneous criterion. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. E.coli samples for 2008 find 10 of 32 in excess of the instantaneous criterion ranging from 250 to greater than 2,000 cfu/100 ml. 2006 samples find 5 of 18 E.coli samples exceed the instantaneous criterion ranging from 400 to greater than 2,000 cfu/100 ml.

4AROA192.94- (Upstream of Hardy Ford) 4 of 43 E.coli exceedances occur within the 2016 data window. Excessive values range from 300 cfu/100 ml to greater than 2,000. Only 1 escherichia coli (E.coli) exceedance of the 235 cfu/100 ml instantaneous criterion is found from 42 samples within the 2014 data window at 1,600 cfu/100 ml. E.coli samples exceed the instantaneous criterion in 2 of 42 samples within the 2012 data window. Exceedances are 350 and 1,600 cfu/100 ml. 2010 data reveal a range of E.coli samples in excess of the instantaneous criterion from 280 to greater than 2000 cfu/10 ml in 8 of 51 observations. 2008 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in 8 of 44 observations with the excursion range the same as 2010. The 2006 IR finds 7 of 30 samples in excess of the instantaneous criterion and the same range of exceedance also.

4AROA192.55 (Hardy Bridge) The 2016 assessment finds the same excessive value as the 2014 IR at 325 cfu/10 ml from 24 observations. There are no additional data beyond the 2014 IR. One of 36 E.coli samples exceeds the 235 cfu/100 ml instantaneous criterion at 325 cfu/100 ml in 2014. 2012 results are 0 of 36 samples in excess of the criterion. E.coli exceeds in 2 of 32 samples in 2010. Excessive values are 620 and greater than 2000 cfu/100 ml. The 2008 assessment reports 2 of 20 E.coli samples in excess of the instantaneous criterion and 2006 2 of 8 exceedances. Exceedances for 2008 and 2006 are the same as 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L03R_ROA01A00 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth upstream to the Rt. 419 Bridge (RU09).	4A	Escherichia coli	2006	L	1.20

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Roanoke and Yadkin River Basins

VAW-L03R_ROA02A00 / Roanoke River / Roanoke River mainstem from the Rt. 419 Bridge upstream to the City of Salem downtown intake on the Roanoke River (RU09).	4A	Escherichia coli	2006	L	2.67
VAW-L03R_ROA03A00 / Roanoke River / Roanoke River mainstem from the Salem City WTP downtown intake upstream to the Big Bear Branch mouth on the Roanoke River (RU09).	4A	Escherichia coli	2006	L	3.42
VAW-L03R_ROA04A00 / Roanoke River / Roanoke River mainstem from the Big Bear Rock Branch mouth upstream to end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns (RU09).	4A	Escherichia coli	2006	L	5.57
VAW-L03R_ROA05A00 / Roanoke River / Roanoke River mainstem from the end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns upstream to the Roanoke County Spring Hollow Reservoir intake (RU09).	4A	Escherichia coli	2006	L	1.43
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	4A	Escherichia coli	2006	L	3.16
VAW-L04R_ROA02A00 / Roanoke River Niagara / These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i) (RU14).	4A	Escherichia coli	2006	L	0.76
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	Escherichia coli	2006	L	0.87
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	Escherichia coli	2006	L	0.20
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	Escherichia coli	2006	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	Escherichia coli	2006	L	4.34
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	4A	Escherichia coli	2006	L	3.32
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	4A	Escherichia coli	2006	L	2.22
VAW-L07L_ROA05A14 / Smith Mtn. Lake (Roanoke River) / Roanoke River from the Back Creek confluence downstream to ~ 3/4 miles upstream of the Hardy Road Bridge.	4A	Escherichia coli	2006	L	165.29

Roanoke River and Smith Mountain Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		**165.29**	**29.56**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
Sanitary Sewer Overflows (Collection System Failures)	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-01-BEN** **Roanoke River**

Cause Location: Roanoke River mainstem from the Murray Run confluence downstream to the backwaters of the Niagara impoundment.
Note: Impounded waters of Niagara Dam are not included with this impairment.

City / County: Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Roanoke River General Standard - Benthic (Sediment) Total Maximum Daily Load (TMDL) is U.S. EPA approved 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. Formerly coded VAW-L04R-01.

The 2010 Integrated Report (IR) extended the benthic impairment upstream 3.87 miles from the mouth of Mason Creek upstream to the City of Salem downtown intake on the Roanoke River. These mainstem waters were delisted with the 2014 IR as well as an additional 5.54 miles downstream to the Murray Run confluence on the Roanoke River. A total of 9.41 miles were delisted with the 2014 IR. The delisting is based on stations 4AROA212.17- (Rt. 11 Bridge - below Eaton, Inc.), 4AROA206.27- (Wasena Park) and a probabilistic site 4AROA210.56 (Behind Veterans Administration Hospital (Salem). Category 4A waters equal 5.81 miles. The impairment does not include the impounded waters of Niagara Dam.

The benthic impairment is extended downstream with the 2008 Integrated Report (IR) for 3.16 miles from Niagara Dam downstream to the mouth of Back Creek (station 4AROA198.08). This portion of the impairment is Category 5A as the TMDL Study did not address these waters. A new Cause Group Code of L04R-03-BEN and Fact Sheet are assigned to this portion with the 2012 IR as a result.

4AROA202.20- (13th Street Bridge - above STP) Bio 'IM' from 6 VSCI surveys (2012, 2014, 2015) with an average score of 59.5. Previous assessments observed that the benthic community declined overall from Fall 2003 to the Fall 2005 survey and that it improved during Spring and Fall 2004 before declining in the Fall of 2005. Data collected during the 2014 assessment period show that 3 out of 4 samples were above the impairment threshold with an average VSCI score of 60.2. Additional data collected in 2014 show an improvement in the Spring score and a decline below the impairment threshold in the Fall. The Spring 2015 sample declined compared to the 2014 Spring score and the Fall 2015 score improved well above the impaired threshold. While the final 6-yr average is approaching the non-impaired threshold the Spring score is well below the impaired threshold. The variability of the benthic macroinvertebrate community between Spring and Fall seasons and the consistently low Spring scores indicates stress to the community and an assessment as Impaired. Bio 'IM' A total of 6 VSCI surveys (2009-2010; 2012 & 2014) conducted within the 2016 data window produce an average score of 59.7 resulting in an impaired condition. Both spring and fall sample collections in 2009 (fall 67.6) and 2010 (spring 60.5) indicate water quality is non-impaired. Following the 2009 and 2010 samples the VSCI scores declined. One sample was below the impairment threshold (spring 2012 at 51.2) and 1 above (fall 2012 at 63.9). The 2016 assessment finds all spring scores were lower than fall scores. The 6 year average is slightly below the impairment threshold with both 2014 scores (57.0 & 59.9) below the impairment threshold of 60. The final assessment rating for 2016 produces an impaired status as a result of a continued slight decline in VSCI scores.

Previous assessments observed the benthic community declined overall from Fall 2003 to the Fall 2005 survey and improved during spring and fall 2004 before declining in the fall of 2005. Data collected during the 2014 assessment period show that 3 out of 4 samples were above the impairment threshold with an average VSCI score of 60.2. Judgement was reserved ("J") in 2014.

Historically sedimentation has decreased the amount of substrate available for macroinvertebrate colonization. A TMDL study was completed to determine the stressors to the benthic community and the reductions in pollutants necessary to restore the community. Sediment was determined to be the stressor. The TMDL Implementation Plan process began in June 2013 with a goal of identifying the steps necessary to reduce the stressor and restore water quality.

Bio 'J' The 2014 assessment records 4 VSCI surveys (2009, 2010 and 2012) with an average score of 60.8. Both spring and fall samples collected in 2009 and 2010 indicate water quality is non-impaired. The fall 2009 survey records the highest score at 67.6. Following the 2009 and 2010 samples the VSCI scores declined. One sample is below the impairment threshold of 60 at 51.5 and 1 sample above at 63.9. Both Spring samples were lower than the fall samples. The final 2 year average is below the impairment threshold while the 6 year average is above the threshold. As a result the final 2014 assessment rating was to reserve judgment and conduct additional surveys. These additional data will aid in determining if the 6 year average VSCI score is an indicator of typical water quality or an indicator of the abnormal conditions during 2011 and 2012.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

2012 data find from 3 VSCI surveys (2005 & 2009-2010) an average score of 54.28. The final 6-year average (n=3) VSCI score is driven by a fall 2005 score of 34.69. For 7 seasons samples were not collected at this station. The 8th and 9th seasons following the 34.69 score the VSCI scores were non-impaired. An active hurricane season also occurred in 2004. There are no additional data from the 2010 data window where 4 VSCI surveys (2003-2005) record impairment with an average VSCI score of 49.9. 2008 assessment reports 5 VSCI surveys (2001-2005) with an average score of 51.4 also finding impairment. Historically sedimentation has decreased the amount of substrate available for macro invertebrate colonization. The benthic community declined from fall 2001 to fall 2003 and improved during spring and fall 2004. The fall 2004 survey resulted in a non-impaired score of 65.08. This was the only Roanoke River station sampled in fall 2004 and it was used as the benthic macro invertebrate sample location for a nearby probabilistic monitoring site (4AROA202.32).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.87
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.20
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	4.34

Roanoke River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.81**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial Point Source Discharge
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Municipal (Urbanized High Density Area)
- Municipal Point Source Discharges
- Post-development Erosion and Sedimentation
- Residential Districts
- Sediment Resuspension (Clean Sediment)
- Sediment Resuspension (Contaminated Sediment)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-01-HG** **Roanoke River**

Cause Location: Roanoke River from the confluence of Mason Creek downstream to the confluence of Tinker Creek.

City / County: Roanoke City Roanoke Co. Salem City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) and Virginia Department of Health (VDH) level of concern of 0.5 ppm are found in fish tissue causing impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. Please visit http://www.deq.virginia.gov for more information about mercury contamination and http://www.vdh.virginia.gov/environmental-epidemiology/public-health-toxicology/fish-consumption-advisories/ for VDH Advisories or Bans.

4AROA206.80 (Roanoke R. @Wasena Park near Rt. 11 Bridge)- Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.3 ppm is found in 2 species from 2006 collections; smallmouth bass (1 fish 37.0 cm) at 0.37 ppm and (4 fish composite 21.8-27.5 cm) at 0.537 ppm and rock bass (6 fish composite 17.4-19.4 cm) at 0.446 ppm. There are no additional data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	5A	Mercury in Fish Tissue	2010	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	5A	Mercury in Fish Tissue	2010	L	4.34
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	5A	Mercury in Fish Tissue	2010	L	3.32
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	5A	Mercury in Fish Tissue	2010	L	2.22

Roanoke River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**10.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-02-BAC** **Mud Lick Creek**

Cause Location: Mud Lick Creek mainstem from its confluence on the Roanoke River upstream to its headwaters.

City / County: Roanoke City Roanoke Co. Salem City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Mud Lick Creek 2006 initially 303(d) Listed bacterial impairment extends for 7.61 miles.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2014 Roanoke River total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Mud Lick Creek bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMDL000.34- (Downstream of Brambleton Ave. behind Shell) There are no additional escherichia coli (E.coli) data beyond the 2010 IR. E.coli exceeds the WQS instantaneous criterion of 235 cfu/100 ml in 4 of 12 observations in both the 2010 and 2008 assessments. Exceeding values range from 550 cfu/100 ml to greater than 2000. The 2006 E.coli initial 303(d) Listing reports 4 of 9 exceedances with the same range of exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MDL01A06 / Mud Lick Creek / Mud Lick Creek from its confluence on the Roanoke River upstream to its headwaters (RU14).	4A	Escherichia coli	2006	L	7.61

Mud Lick Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.61**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-02-BEN** **Mud Lick Creek**

Cause Location: Mud Lick Creek mainstem from its confluence on the Roanoke River upstream to its headwaters.

City / County: Roanoke City Roanoke Co. Salem City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Virginia Stream Condition Index (VSCI) surveys find the Mud Lick Creek benthic community is impaired for 7.61 miles as a result of the 2008 assessment. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approved on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. Mudlick Creek is a nested benthic impairment within the Roanoke River Benthic (Sediment) TMDL watershed.

4AMDL003.34- (Downstream of Brambleton Ave. behind Shell) Bio 'IM' 2 VSCI surveys spring 2006 scoring 22.2 and fall 2005 scoring 35.1 for an average score of 28.7. There are no additional data beyond the 2008 assessment. Habitat data show stream impacts related to sedimentation, extensive bank erosion, and riparian zone disturbance. Low scores were observed for most of the 8 individual metrics in the VSCI indicating a benthic community that is tolerant of pollution. Urban land cover with high levels of impervious surface causes an altered hydrology and resulting bank erosion. Sedimentation impacts may also be increased as land in the watershed is quickly being developed.

4AMDL002.93- (Near Foot Bridge Lower Station) There are no additional data beyond the 2012 IR. Two remaining surveys within the 2016 data window (2008-2009) have an average score of 24.3. The 2014 reports 4 VSCI surveys (2007 & 2009) with an average score of 20.10. The 2012 assessment reports 7 VSCI surveys (2005 - 2009) with and average score of 24.3. Five (2005-2007) VSCI surveys score 25.5 within the 2010 data window. 2007 probabilistic sediment sampling finds no PEC Sediment exceedances; metals only. 2008 assessment reports 3 VSCI surveys (2005 - 2006) with and average score of 29.9. Roanoke County implemented a stream restoration project along the Garst Mill Park Greenway in 2008. Habitat data indicates stream impacts related to sedimentation, extensive bank erosion, and riparian zone disturbance. Most of the individual metrics in the VSCI show a degraded benthic community that is tolerant of pollution. Since the stream bank enhancement project was completed in 2008, scores for bank stability and bank vegetation have improved.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MDL01A06 / Mud Lick Creek / Mud Lick Creek from its confluence on the Roanoke River upstream to its headwaters (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	7.61

Mud Lick Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.61**

Sources:

- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization
- Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-03-BEN** **Roanoke River**

Cause Location: Roanoke River mainstem from Niagara Dam downstream to the mouth of Back Creek.

City / County: Bedford Co. Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic impairment is extended downstream with the 2008 Integrated Report (IR) for 3.16 miles from Niagara Dam downstream to the mouth of Back Creek. The 2008 and 2010 Integrated Reports assigned a Cause Group Code of L04R-01-BEN incorporating the entire 14.45 mile benthic impairment. This 3.14 mile portion is Category 5A as the TMDL Study did not address these waters. Thus a new Cause Group Code of L04R-03-BEN is assigned with the 2012 Integrated Report. The impairment does not include the impounded waters of Niagara Dam.

4AROA198.08- (Explore Park near the Shenandoah Pavilion) Bio 'IM' The 2018 data window contains 6 VSCI surveys (spring & fall, 2014-2016) with an overall average score of 53.1. This station was sampled at the request of local Virginia SOS citizen monitors and the Western Virginia Water Authority (WVWA). SOS has a station in the reach along Explore Park and WVWA has a wastewater treatment plant (WWTP) upstream in the city of Roanoke. Previous surveys yielded benthic communities dominated by net-spinning caddisfly larvae (Hydropsychidae) and the 4th was dominated by midges (Chironomidae). These organisms typically dominate streams that have high amounts of organic matter. All surveys had lower taxa richness and diversity as well as low numbers of pollution-sensitive taxa such as mayflies and stoneflies and caddisflies Instream habitat, riparian zone vegetation, and bank stability were all optimal providing conditions favorable for a healthy benthic community. However, filamentous algae and periphyton growth was thick on stream substrates indicating that nutrients may be excessive in this reach of the Roanoke River.

The 2016 data window finds impairment from 4 spring and fall VSCI surveys (2010 & 2014) with an average score of 46.4. Previous surveys yielded benthic communities dominated by net-spinning caddisfly larvae (Hydropsychidae) and the 4th was dominated by midges (Chironomidae). These organisms typically dominate streams that have high amounts of organic matter. All surveys had low taxa richness and diversity as well as low numbers of pollution-sensitive taxa such as mayflies and stoneflies.
Instream habitat, riparian zone vegetation, and bank stability were all optimal providing conditions favorable for a healthy benthic community. However, filamentous algae and periphyton growth was thick on stream substrates indicating that nutrients may be excessive in this reach of the Roanoke River.
There were no additional within the 2014 data window. The 2012 assessment reports 4 VSCI surveys (fall 2005 & fall 2009 & 2010 spring & fall) with an average score of 51.5. 2010 and 2008 data windows contain 2 VSCI surveys 2005 and 2006 both fall scores are 56.3 and 55.0.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	5A	Benthic-Macroinvertebrate Bioassessments	2008	H, 2yr	3.16

Roanoke River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.16**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Industrial Point Source Discharge
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Municipal (Urbanized High Density Area)
- Municipal Point Source Discharges
- Post-development Erosion and Sedimentation
- Residential Districts
- Sediment Resuspension (Clean Sediment)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-04-BAC** **Ore Branch**

Cause Location: Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (Garden City and Roanoke Quads).

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Ore Branch Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/02/2006 [Fed ID 24539] and SWCB approved 6/27/2007. The impairment was initially Listed in 1996 for fecal coliform bacteria.

4AORE000.19- (Sherwood Avenue - Roanoke City) There are no additional escherichia coli (E.coli) data within the 2014, 2016, or 2018 data windows. The 2012 data window finds 6 of the remaining 12 samples exceed the instantaneous criterion. Both 2010 and 2008 data reveal E.coli bacteria exceed the 235 cfu/100 ml instantaneous criterion in 22 of 33 observations. The range of exceedance is from 320 cfu/100 ml to 7,600. The 2006 Integrated Report (IR) finds E.coli exceeds the instantaneous criterion in 16 of 21 samples. Exceedances are the same range as in 2010 and 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ORE01A00 / Ore Branch / Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (RU14).	4A	Escherichia coli	2006	L	2.55

Ore Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.55**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-04-BEN** **Ore Branch**

Cause Location: Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (Garden City and Roanoke Quads).

City / County: Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Roanoke River General Standard - Benthic (Sediment) TMDL Study is US EPA approved 5/10/2006 (FED ID: 33861) and State Water Control Board (SWCB) approved 9/07/2006. Ore Branch is nested within the Roanoke River General Standard-Benthic (Sediment) TMDL watershed.

4AORE000.01 (Mouth of Ore Branch)- A 2011 Probabilistic site. Bio 'IM' 2 VSCI surveys scoring spring 22.5 and fall 24.1 with an average score of 23.3. The benthic community is severely impacted. Both samples were dominated by midges (Chironomidae) which can tolerate sediment deposition, nutrient enrichment and/or other impacts. DEQ uses a target of 200 (minimum) organisms per sample in its benthic lab procedures. The entire sample was processed resulting in only 142 (spring) and 78 (fall) organisms collected. An average benthic sample will contain thousands of organisms.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ORE01A00 / Ore Branch / Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.55

Ore Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.55**

Sources:

- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Streambank Modifications/destabilization
- Urban Runoff/Storm Sewers
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-05-BAC** **Mason Creek**

Cause Location: Mason Creek mainstem from the Mason Cove Community, river mile 7.61, extending downstream to the mouth of Mason Creek on the Roanoke River (Salem Quad).

City / County: Roanoke Co. Salem City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Mason Creek Recreational Use remains impaired for 7.72 miles from the original 2002 303(d) Listing based on 1997 special study (SS 975101) data and fecal coliform exceedances.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Mason Creek bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMSN000.67- (Boulevard) The 2018 data window finds E.coli exceeds 235 cfu/100 ml instantaneous criterion in 4 of 12 samples. Exceedances range from 341 to 1935 cfu/. There are no additional escherichia coli (E.coli) data beyond the 2010 IR where 7 of 32 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml in both the 2010 and 2008 assessments. Exceedances range from 250 to 1000 cfu/100 ml. 2006 Integrated Report (IR) shows 5 of 20 E.coli samples exceed the instantaneous criterion with the same range of exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MSN01A00 / Mason Creek / Mason Creek mainstem from its confluence with the Roanoke River upstream to near the Mason Cove Community (RU10).	4A	Escherichia coli	2006	L	7.72

Mason Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.72**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-05-BEN** **Mason Creek**

Cause Location: Mason Creek mainstem from the Mason Cove Community, river mile 7.61, extending downstream to the mouth of Mason Creek on the Roanoke River (Salem Quad).

City / County: Roanoke Co. Salem City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Mason Creek benthic community exhibits impaired conditions for the 7.72 mile 2008 303(d) Listed waters. The Roanoke River General Standard - Benthic (Sediment) TMDL Study received U.S. EPA approval on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. Mason Creek is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed.

4AMSN003.05- (Off Kessler Mill Rd.) Bio 'IM' There are no additional data beyond the 2008 IR. Three Virginia Stream Condition Index (VSCI) surveys (2004 - 2005) assessed with an average score of 55.4. The average VSCI score indicates the benthic community is impaired. Most of the habitat scores are in the optimal and sub-optimal range indicating that potential water quality problems are related to water chemistry rather than habitat limitations.

4AMSN000.53- (Arnold Burton Technical School Campus) Bio 'IM' 2 VSCI surveys (2013) scoring spring 45.5 and fall 43.4. The average score is 44.4. The benthic community is dominated by pollution tolerant organisms, particularly Chironomidae (midges) in the spring and Hydropsychidae (net-spinning caddisfly) in the fall. The watershed is in an urban setting with industrial, commercial and residential land uses. Most of the habitat scores are in the optimal and sub-optimal range indicating that potential water quality problems are related to water chemistry rather than habitat limitations. The 2008 IR reports from 3 VSCI surveys (2004 - 2005) an average score of 37.6.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MSN01A00 / Mason Creek / Mason Creek mainstem from its confluence with the Roanoke River upstream to near the Mason Cove Community (RU10).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	7.72

Mason Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.72**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Residential Districts	Urban Runoff/Storm Sewers
Wet Weather Discharges (Non-Point Source)			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-06-BAC** **Peters Creek**

Cause Location: Peters Creek mainstem from its headwaters (Salem Quad) extending downstream to the Peters Creek confluence on the Roanoke River (Roanoke Quad).

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2002 303(d) Listed 7.20 mile Peters Creek Recreational impairment remains.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke River bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles on the Roanoke and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Peters Creek bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4APEE001.04- (Shenandoah Avenue Bridge) There are no additional data beyond the 2012 assessment which reported escherichia coli (E.coli) exceedances of the 235 cfu/100 ml instantaneous criterion in 2 of 14 samples at 280 and 420 cfu/10 ml. There are no additional data beyond the 2012 data window. One of 2 remaining observations exceeds at 280 cfu/100 ml within both the 2014 and 2016 data windows. Data within both the 2010 and 2008 data windows find E.coli exceeds the instantaneous criterion in 11 of 32 observations ranging from 250 cfu/100 ml to greater than 2000. The 2006 Integrated Report (IR) finds the same range of exceedance from 10 of 20 samples. The original 2002 bacteria 303(d) Listing is based on a Special Study (SS 975101) conducted in 1997 where fecal coliform data resulted in geometric mean exceedances of the former WQS criterion and frequency of samples derived from the special study data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_PEE01A02 / Peters Creek / Peters Creek mainstem from its confluence with the Roanoke River upstream to the Melrose Avenue Bridge (Rt. 11/460) (RU14).	4A	Escherichia coli	2006	L	2.58
VAW-L04R_PEE02A02 / Peters Creek / Peters Creek mainstem from the Melrose Avenue Bridge (Rt. 11/460) upstream to its headwaters (RU14).	4A	Escherichia coli	2006	L	4.62

Peters Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.20**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-06-BEN** **Barnhardt Creek**

Cause Location: Barnhardt Creek from its confluence on the Roanoke River upstream to its headwaters.

City / County: Roanoke City Roanoke Co. Salem City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approval on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. Barnhart Creek is nested within the Roanoke River General Standard- Benthic (Sediment) TMDL watershed.

The 2012 Integrated Report (IR) finds the Aquatic Life Use is impaired. There are no additional data within the 2014 or 2016 data windows.

4ABHT001.90 (Downstream of Rt. 419, Roanoke City) Bio 'IM' 3 VSCI surveys (2009-2010) with an average score of 36.8 indicating a benthic community dominated by pollution-tolerant taxa. Although several habitat scores were sub-optimal the habitat in this reach should support more mayfly and stonefly taxa which were extremely low during the surveys. Suburban land cover with a major road (Rt. 419) upstream of this station may cause altered hydrology and resulting bank erosion, sediment deposition, and runoff from roads. Riparian buffers are impacted on both sides by the sports fields at the school and residential backyards.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_BHT01A10 / Barnhardt Creek / Barnhardt Creek from its confluence on the Roanoke River upstream to its headwaters (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	5.31

Barnhardt Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.31**

Sources:

- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Streambank Modifications/destabilization
- Urban Runoff/Storm Sewers
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-07-BAC** **Murray Run**

Cause Location: Murray Run mainstem from its headwaters to its mouth on the Roanoke River.

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Murray Run 3.57 mile 2004 303(d) Listed Recreational impairment remains.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke River bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Murray Run bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMUR001.63- There are no escherichia coli (E.coli) data to assess since the 2004 data window. The 2004 Integrated Report (IR) reports FC exceeds the former 400 cfu/100 ml instantaneous criterion in 2 of 6 observations. Exceeding values are 600 and 8,000+ cfu/100 ml. Observations within the 2008 data window find 1 of 3 FC samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MUR01A00 / Murray Run / Murray Run mainstem from its headwaters to its mouth on the Roanoke River (RU14).	4A	Fecal Coliform	2004	L	3.57

Murray Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.57**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-07-BEN** **Murray Run**

Cause Location: Murray Run mainstem from its headwaters to its mouth on the Roanoke River.

City / County: Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approval on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. Murray Run is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed.

The Aquatic Life Use is found impaired with the 2012 assessment.

4AMUR001.82- Bio 'IM' There are no additional data within the 2014, 2016, or 2018 data windows. The 2012 Integrated Report (IR) reports 3 VSCI surveys (2009-2010) with an average score of 19.5 indicating a benthic community dominated by pollution-tolerant taxa most notably Chironomidae (midge larvae). Although several habitat scores were sub-optimal the habitat in this reach should support more mayfly and stonefly taxa which were extremely low or absent during the surveys. Urban land cover with high levels of impervious surface upstream causes altered hydrology and resulting bank erosion, sediment deposition, and runoff of toxic substances from roads. Riparian buffers are good on one side of the stream while the opposite side of the stream is bordered by a mowed field.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MUR01A00 / Murray Run / Murray Run mainstem from its headwaters to its mouth on the Roanoke River (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	3.57

Murray Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.57**

Sources:

- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Streambank Modifications/destabilization
- Urban Runoff/Storm Sewers
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-08-BEN** **Gish Branch**

Cause Location: Gish Branch mainstem from its mouth on Mason Creek upstream to its headwaters.

City / County: Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Gish Branch benthic community exhibits impaired conditions for the 2.40 mile 2014 303(d) Listed waters. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approval on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. Gish Branch is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed. There are no additional data beyond the 2014 Integrated Report (IR).

4AGSH001.28 (Off Rt. 311 downstream of I-81)- Bio 'IM' 2 2012 VSCI surveys scoring an average of 47.9. The results of benthic sampling indicate a community dominated by pollution-tolerant taxa in the both spring and fall. There were more midges (Chironomidae) and stoneflies (Nemouridae) in the spring sample whereas beetles accounted for a high percentage (33.1%) of the fall sample. Beetles in the fall are from the families Psephenidae (water pennies) and Elmidae (riffle beetles) helped increase the %Scraper score. Both seasons had relatively low taxa richness and low numbers of mayflies.
The instream habitat was affected by sediment deposition. The sediment load results in a low embeddedness score meaning that the interstitial spaces between rocks is clogged by fine material thus limiting available habitat for sensitive macroinvertebrates. The banks appeared eroded possibly due to flashy flows from storm water runoff from highways in the upper reaches of the watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_GSH01A14 / Gish Branch / Gish Branch mainstem from its mouth on Mason Creek upstream to its headwaters (RU10).	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.40

Gish Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.40**

Sources:

- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Residential Districts
- Urban Runoff/Storm Sewers
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-09-BEN** **Peters Creek**

Cause Location: Peters Creek mainstem from its headwaters (Salem Quad) extending downstream to the Peters Creek confluence on the Roanoke River (Roanoke Quad).

City / County: Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Peters Creek benthic community exhibits impaired conditions for the 7.20 mile 2016 initially 303(d) Listed waters. The Roanoke River General Standard - Benthic (Sediment) TMDL Study received U.S. EPA approval on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. Peters Creek is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed (2016 IR).

4APEE001.16 (Strass Park, on Westside Boulevard)- Bio- 'IM' 2 2013 VSCI surveys scoring spring 26.3 and fall 27.5 with an average score of 26.9. The benthic community is dominated by pollution tolerant organisms, particularly Chironomidae (midges) in both spring and fall. This station is located in a suburban and commercial watershed which receives high levels of storm water runoff. During both sampling events algae is very thick on stream substrate indicating nutrient enrichment. Habitat scores were impacted by excessive sedimentation, eroded stream banks and sparse riparian buffers.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_PEE01A02 / Peters Creek / Peters Creek mainstem from its confluence with the Roanoke River upstream to the Melrose Avenue Bridge (Rt. 11/460) (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.58
VAW-L04R_PEE02A02 / Peters Creek / Peters Creek mainstem from the Melrose Avenue Bridge (Rt. 11/460) upstream to its headwaters (RU14).	4A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.62

Peters Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.20**

Sources:

- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Residential Districts
- Urban Runoff/Storm Sewers
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-10-BAC** **Wolf Creek**

Cause Location: Wolf Creek from its mouth on the Roanoke River upstream to its headwaters (RU14).

City / County: Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Wolf Creek is first listed for not meeting the Recreational Use during the 2018 IR window. The impairment is 4.5 miles.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke River bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Wolf Creek bacteria impairment but Wolf Creek is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AWOR000.34 - Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 5 of 12 samples. Exceedances range from 275 to 1421 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_WOR01A10 / Wolf Creek / Wolf Creek from its mouth on the Roanoke River upstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU14).	4A	Escherichia coli	2018	L	2.61
VAW-L04R_WOR02A08 / Wolf Creek / Wolf Creek from the upstream PWS end upstream to its headwaters (RU14).	4A	Escherichia coli	2018	L	1.89

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.50**

Sources:

- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L04R-10-BEN** **Wolf Creek**

Cause Location: Wolf Creek from its mouth on the Roanoke River upstream to its headwaters (RU14).

City / County: Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This initial 2018 303(d) listing is based on Virginia Stream Condition Index (VSCI) scores during the 2018 IR window. The Aquatic Life Use impairment is 4.5 miles in length.

4AWOR000.34 (Niagara Rd. Crossing) - The 2018 IR window finds Impairment for benthic macroinvertebrate community based on 4 VSCI scores (2015-2016) averaging 49.4 (seasonal averages are: 35.8 Spring; 63.0 Fall). Station was originally established for TMDL development. The 2015 and 2016 Fall samples scored above the impairment threshold (VSCI 60). Spring scores scored well below the impairment threshold. The spring samples had lower numbers of total taxa and pollution sensitive plecoptera and trichoptera than the fall samples. Fall samples contained less chironomidae. The stream is impacted by fine sediments, lack of instream habitat and eroded stream banks.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_WOR01A10 / Wolf Creek / Wolf Creek from its mouth on the Roanoke River upstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU14).	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.61
VAW-L04R_WOR02A08 / Wolf Creek / Wolf Creek from the upstream PWS end upstream to its headwaters (RU14).	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	1.89

Wolf Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.50**

Sources:

Clean Sediments	Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Non-Point Source
Residential Districts	Streambank Modifications/destabilization		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-01-BAC** **Tinker Creek**

Cause Location: Tinker Creek mainstem from its headwaters downstream to the Tinker Creek confluence with the Roanoke River.

City / County: Botetourt Co. Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Originally 303(d) Listed in 1998 for fecal coliform (FC) bacteria the Tinker Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/05/2004 [Fed IDs: 7787 (FC), 21671 and 21672] and SWCB approved 12/02/2004. The 19.58 mile bacteria impairment remains.

4ATKR015.88 (Off Rt. 779 at USGS Gage) There are no additional data beyond the 2014 IR where 10 of 24 escherichia coli (E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The exceedance range is from 275 to greater than 2000 cfu/100 ml. Five of 12 remaining samples within the 2016 data window exceed with the same range as the 2014 IR. The 2012 assessment finds 6 of 15 E.coli observations exceed the instantaneous criterion ranging from 320 cfu/100 ml to greater than 2000. E.coli exceed the instantaneous criterion in 22 of 37 samples within the 2010 data window. Exceeding values range from 270 to 2300 cfu/100 ml. 2008 collections find E.coli in excess of the instantaneous criterion in 18 of 30 samples with the same range of exceedance as 2010. The 2006 Integrated Report (IR) exceedance range is the same from 17 of 25 samples.

4ATKR009.30 (Rt. 11 Bridge near Hollins) The 2018 assessment window finds 5 of 12 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion. Exceedances range from 435 - 743 cfu/100 ml. There are no additional data beyond the 2008 assessment. One of 3 remaining E.coli observations exceeds the instantaneous criterion of 235 cfu/100 ml at 250 within the 2012 data window. 2010 data find E. coli exceeds the 235 cfu/100 ml instantaneous criterion in 9 of 15 samples with the same range of exceedance as in 2008. 2008 samples reveal 10 excursions of the instantaneous criterion from 18 samples. Exceedances range from 420 to 1100 cfu/100 ml. 2006 IR reports 9 of 15 E. coli excursions of the instantaneous criterion and the same range of exceedance as 2008.

4ATKR000.69 (Rt. 24 Bridge, Vinton) 21 of 36 escherichia coli (E.coli) samples exceed the instantaneous criterion (235 cfu/100 ml) during the 2018 IR window. Exceedances range from 250 - 5794 cfu/100 ml. The 2016 IR reports 13 of 35 E.coli samples are in excess of the instantaneous criterion. Excessive values range from 250 to 800 cfu/100 ml. E.coli exceed the instantaneous criterion of 235 cfu/100 ml in 13 of 35 observations ranging from 320 cfu/100 ml to 800 in 2014. The 2012 data window finds E.coli exceed the instantaneous criterion in 16 of 35 observations ranging from 280 cfu/100 ml to 1200. 2010 E.coli samples exceed the instantaneous criterion in 31 of 49 observations. The range of exceeding values is from 250 cfu/100 ml to greater than 2000. The 2008 assessment finds E.coli exceedances occur in 29 of 44 observations with the same range of exceedance as 2010. The 2006 (IR) reports E.coli exceeding the instantaneous criterion in 20 of 30 observations. Exceeding values range from 300 cfu/100 ml to greater than 2000.

4ATKR000.08 (Upstream of Roanoke R. confluence) - E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 9 of 12 samples within the 2018 IR data window. The exceedances range from 309 - 5794 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_TKR01A00 / Tinker Creek / Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the mouth of Carvin Creek (RU13).	4A	Escherichia coli	2006	L	5.37
VAW-L05R_TKR01B06 / Tinker Creek / Tinker Creek mainstem from the Carvin Creek mouth upstream to the confluence of Buffalo Creek (RU11).	4A	Escherichia coli	2006	L	6.50
VAW-L05R_TKR02A00 / Tinker Creek / Tinker Creek mainstem from the mouth of Buffalo Creek upstream to the Roanoke City diversion tunnel located just upstream of the USGS stream gaging station (RU11).	4A	Escherichia coli	2006	L	4.46
VAW-L05R_TKR03A00 / Tinker Creek / Tinker Creek mainstem from the Roanoke City diversion tunnel to Carvin Cove on upstream to	4A	Escherichia coli	2006	L	3.25

its headwaters (RU11).

Tinker Creek **Recreation**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Escherichia coli - Total Impaired Size by Water Type:			**19.58**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-01-BEN** **Tinker Creek**

Cause Location: Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the confluence of Buffalo Creek (RU11).

City / County: Botetourt Co. Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic community is impaired for 5.37 miles based on a 2008 Virginia Stream Condition Index survey (VSCI). The 2018 IR data window extends the benthic impairment 6.5 mile upstream for a total of 11.87 miles impaired for benthic macroinvertebrate communities.

4ATKR009.30 (Rt. 11 bridge near Hollins) 2018 IR finds Bio 'IM' from 4 VSCI scores averaging 58.4. Habitat surveys indicated a stream section with substrates that were impacted by sediment, eroded banks and sparse riparian vegetative buffers. Spring 2015 and 2016 VSCI scores indicated an impaired condition. Fall 2015 and 2016 VSCI scores indicated a non-impaired condition.

4ATKR000.69 (Rt. 24 Bridge - Vinton) 2018 assessment window finds 4 VSCI surveys (2015-2016) with an average score of 48.6. Habitat surveys indicated a stream section with substrates that were impacted by sediment, eroded banks and sparse riparian vegetative buffers. This section of Tinker Creek is impacted by a highly developed watershed. The VADEQ TMDL Stressor Identification tool determines that any RBPII Total Habitat Scores <100 have a high risk to Aquatic Life. The average Total Habitat Score for this station for the 4 biomonitoring samples was 92.75. Prior cycles included 1 2008 VSCI survey scoring 50.9 with no additional surveys within the 2012, 2014 or 2016 data windows. The score indicates a stressed community with low taxonomic diversity and low abundance of pollution-sensitive organisms. A visual assessment indicates that more than 70% of the stream substrate was covered with a thick mat of algae which may limit habitat available for macroinvertebrates that require clean substrates.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_TKR01A00 / Tinker Creek / Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the mouth of Carvin Creek (RU13).	5A	Benthic-Macroinvertebrate Bioassessments	2010	H, 2yr	5.37
VAW-L05R_TKR01B06 / Tinker Creek / Tinker Creek mainstem from the Carvin Creek mouth upstream to the confluence of Buffalo Creek (RU11).	5A	Benthic-Macroinvertebrate Bioassessments	2018	H, 2yr	6.50

Tinker Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.87**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Non-Point Source	Residential Districts
Sediment Resuspension (Clean Sediment)	Source Unknown	Urban Runoff/Storm Sewers	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-01-TEMP** **Tinker Creek**

Cause Location: Tinker Creek mainstem from the confluence of Buffalo Creek downstream to its confluence with the Roanoke River.

City / County: Botetourt Co. Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The waters remain impaired for the Aquatic Life Use.

4ATKR009.30- (Rt. 11 Bridge - near Hollins) The 2018 assessment window finds 2 of 16 temperature measurements in exceedance of the Class V 21°C criterion: 22.2°C (7/19/16) and 21.5°C (6/16/15). Prior to that there were no additional temperature data beyond the 2008 IR. No exceedances are found in the remaining 3 measurements within the 2012 data window. 2010 data find 1 temperature measurement exceeding the 21°C criterion from 15 measurements. 2008 temperature data exceeds the stockable trout water criterion in 3 of 23 measurements at 23°C (6/04/2002); 25 °C (8/08/2001) and 21.2°C (7/06/2004). Temperature exceeds the criterion in 3 of 20 measurements in 2006 with the same exceeding measurements as in 2008. Temperature exceeds the 21°C criterion in 2 of 8 measurements within the 2004 data window. Temperature exceedances are 23°C (6/04/2002) and 25 °C (8/08/2001).

4ATKR000.69- (Rt. 24 Bridge in Vinton) A 1999 Consent Decree Attachment A station. WQS Class V temperature excursions are 6 of 40 and 4 of 36 within the 2018 and 2016 data windows, respectively. Excursions range from 21.4 to 24.6°C. Five of 37 temperature observations exceed the Stockable Trout Water criterion of 21°C in 2014. Values in excess of the criterion range from 21.2 to 24.6°C in the 2018 window. The 2012 assessment reports 5 of 38 measurements exceed the Class V temperature criterion (21°C). Exceedances range from 21.3 to 22.1°C. Seven of 41 measurements exceed the Class V criterion with the 2010 data window. Exceedances range from 21.3 to 22.2°C. Ten of 48 measurements exceed the 21°C criterion within the 2006 & 2008 data windows. Exceedances range from 21.1°C to 23.4°C for both assessments. The 2004 assessment reports 3 of 56 measurements exceed the 21°C Class V criterion although Fully Supporting from assessed data. Exceedances occur on 7/22/1999 (23°C), 6/13/2000 (22°C) and 8/08/2001 (23°C). The 2002 data window shows 7 of 59 temperature measurements in excess of the criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_TKR01A00 / Tinker Creek / Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the mouth of Carvin Creek (RU13).	5C	Temperature, water	2002	L	5.37
VAW-L05R_TKR01B06 / Tinker Creek / Tinker Creek mainstem from the Carvin Creek mouth upstream to the confluence of Buffalo Creek (RU11).	5C	Temperature, water	2002	L	6.50

Tinker Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**11.87**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-02-BAC** **Carvin Creek**

Cause Location: Carvin Creek mainstem from just upstream of I-81 at the mouth of an unnamed tributary extending downstream to the mouth of Carvin Creek on Tinker Creek (Roanoke Quad).

City / County: Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Carvin Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/05/2004 [Fed ID 24541] and SWCB approved on 12/02/2004 (formerly VAW-L05R-02). These waters are previously 303(d) Listed in 2002 based on 1997 Special Study data. The 5.45 mile impairment remains with the 2016 and 2018 Integrated Reports (IR).

4ACRV005.10- (Hollins U. campus back parking lot) E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 5 of 12 samples (exceedance range 259-563 cfu/) during the 2018 IR window.

4ACRV001.88- (Brookside Park off Rt. 623 Hollins) There are no additional data beyond the 2012 assessment where 6 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 250 to 950 cfu/100 ml.

4ACRV000.28- (Plantation Road -Rt. 115) There are no additional data within the 2012, 2014 or 2016 data windows. The 2010 assessment reports 5 of 10 escherichia coli (E.coli) samples exceed the instantaneous criterion of 235 cfu/100 ml. The range of exceedance is from 260 to 1500 cfu/100 ml. E.coli exceed the instantaneous criterion in 6 of 12 samples in 2008 ranging from 240 to 1500 cfu/100 ml. The 2006 Integrated Report (IR) finds E.coli exceeds the criterion in 5 of 10 samples ranging from 260 to 1500 cfu/100 ml.

Original 2002 Listing stations below had exceedances of the former fecal coliform instantaneous criterion of 400 cfu/100 ml.
4ACRV005.58- (Plantation Road -Rt. 115)
4ACRV001.88- (Brookside Park off Rt. 623 Hollins)
4ACRV000.28- (Plantation Road -Rt. 115)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_CRV01A00 / Carvin Creek / Carvin Creek mainstem from its confluence with Tinker Creek upstream to the mouth of Deer Branch (RU12).	4A	Escherichia coli	2004	L	1.83
VAW-L05R_CRV02A00 / Carvin Creek / Carvin Creek mainstem from the mouth of Deer Branch upstream to an unnamed tributary upstream of I-81 (RU12).	4A	Escherichia coli	2006	L	3.62

Carvin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.45**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-02-BEN** **Deer Branch**

Cause Location: Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118).

City / County: Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2014 assessment reports the Deer Branch Aquatic Life Use (General Standard - Benthic) is impaired for 1.38 miles.

4ADEE000.06 (Brookside Park, Roanoke City)- The 2018 IR window includes 6 VSCI scores (2012, 2015-2016) averaging 47.2 resulting in a continued impairment for Deer Branch. This station was originally sampled to validate citizen SOS monitoring assessments but in 2016 was sampled as a targeted-stressed station for Probabilistic data collection. The average VSCI score was 47.2 indicating a benthic community that was dominated by pollution-tolerant taxa. The 2014 IR finds Bio 'IM' with 2 2012 surveys score spring 45.1 and fall 61.8 for an average score of 53.4 indicating a benthic community dominated by pollution-tolerant taxa in the spring. Midges (Chironomidae) dominated the spring sample; whereas, the fall sample had a high abundance of filter-feeding caddisflies (Hydropsychidae and Philopotamidae). Suburban/commercial land cover along with major roads upstream of this station may cause periodic flooding in this stream that results in bank erosion, sediment deposition, and runoff. Riparian buffers are impacted on both banks.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_DEE01A08 / Deer Branch / Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118) (RU12).	5A	Benthic-Macroinvertebrate Bioassessments	2014	H, 2yr	1.38

Deer Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.38**

Sources:

- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Residential Districts
- Urban Runoff/Storm Sewers
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-03-BAC** **Glade Creek**

Cause Location: Glade Creek mainstem from its headwaters (Stewartsville Quad) downstream to its confluence with Tinker Creek at river mile 0.83. (Roanoke Quad).

City / County: Botetourt Co. Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The fecal coliform bacteria impairment originally 303(d) Listed in 1998 for 5.97 miles and extended in 2002 (6.98 miles) now totals 12.95 miles. The Glade Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/05/2004 [Fed ID 24799] and SWCB approved 12/02/2004. Formerly VAW-L05R-03.

4AGLA008.10- There are no additional data beyond the 2008 IR. 2010 data find 3 of 10 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion. 2008 data reveal 3 of 12 E.coli samples exceed the WQS instantaneous criterion. Exceedances range from 250 to 550 cfu/100 ml. Three of 10 E.coli samples exceed the WQS instantaneous criterion in 2006 with the same range of exceedance as in 2008.

4AGLA004.39- There are no additional data beyond the 2008 IR. Three non-exceeding escherichia coli (E.coli) samples remain within the 2012 data window and none within the 2014 or 2016 data windows. E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 8 of 16 samples in 2010. Values in excess of the criterion range from 260 to 820 cfu/100 ml. 2008 results find E.coli exceeds the instantaneous criterion in 10 of 18 samples. The range of exceedance is from 240 to 820 cfu/100 ml. The 2006 Integrated Report (IR) finds E.coli exceeds the instantaneous criterion in 10 of 15 samples with the same range of exceedance as in 2008.

4AGLA000.20- There are no additional data beyond the 2010 IR. Four of 12 escherichia coli (E.coli) remaining observations exceed the 235 cfu/10 ml instantaneous criterion in 2014. Values in excess of the criterion range from 250 to 400 cfu/100 ml. The 2012 IR finds 9 exceeding values from 24 remaining samples with a range of 250 to 750 cfu/100 ml in excess of the criterion. E.coli exceeds the WQS instantaneous criterion in 18 of 46 samples with exceeding values ranging from 250 to greater than 2000 cfu/100 ml in 2010. The 2008 IR finds 15 of 28 E.coli exceedances of the instantaneous criterion. Exceedance range is the same as 2010. Ten of 25 E.coli instantaneous criterion exceedances are found at this station in 2006. Exceedances range from 320 to greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_GLA01A00 / Glade Creek / Glade Creek mainstem from the Glade Creek mouth on Tinker Creek upstream to the Berkley Rd. crossing (RU13).	4A	Escherichia coli	2006	L	1.59
VAW-L05R_GLA02A00 / Glade Creek / Glade Creek mainstem from the Berkley Rd. Crossing on upstream to the confluence of Cook Creek (RU13).	4A	Escherichia coli	2006	L	3.15
VAW-L05R_GLA03A00 / Glade Creek / Glade Creek mainstem from the Cook Creek mouth upstream to the confluence of Coyner Spring Branch (RU13).	4A	Escherichia coli	2006	L	1.23
VAW-L05R_GLA04A00 / Glade Creek / Glade Creek mainstem from the mouth of Coyner Spring Branch upstream to its headwaters (RU13).	4A	Escherichia coli	2006	L	6.98

Glade Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.95**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-04-BAC** **Lick Run**

Cause Location: The upper limit is near Shaffers Crossing rail yard and headwaters from along I-581 on downstream to the mouth of Lick Run on Tinker Creek at river mile 1.41. The 1996, 1998 and 2002 impaired waters have expanded by 5.01 miles with the 2004 Listing (Roanoke Quad).

City / County: Roanoke City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Originally 303(d) Listed in 2002 for fecal coliform (FC) bacteria. The Tinker Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/05/2004 [Fed ID 24540] and SWCB approved 12/02/2004. The bacteria impairment remains for these 9.64 mile waters.

4ALCK002.17- (Washington Park) There are no additional data beyond the 2008 IR. One of 3 remaining escherichia coli (E.coli) samples exceed the instantaneous criterion at 250 cfu/100 ml in 2012. Seven of 15 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2010 data window. Excessive values range from 250 to greater than 2000 cfu/100 ml. The 2008 data window reports E.coli samples exceed the WQS instantaneous criterion in 9 of 18 samples. Exceeding values range from 250 to greater than 2000 cfu/100 ml. The 2006 Integrated Report (IR) reveals 8 of 15 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion with the same range of exceedance.

4ALCK000.38 (Norfolk Southern parking lot bridge) The 2002 original listing station found exceedances of the former FC instantaneous and geomean criteria in a Special Study conducted in 1997. E.coli excursions of the 235 cfu/100 ml instantaneous criterion within the 2010 data window are 21 of 46 E.coli samples with exceedances ranging from 280 to 3000 cfu/100 ml. There are no additional data beyond the 2010 IR. Five E.coli observations exceed from the remaining 12 samples in 2014 with values ranging from 350 to greater than 2000 cfu/100 ml. The 2012 assessment finds 10 of 24 remaining samples in excess of the instantaneous criterion. The range of exceeding values is 350 to greater than 2000 cfu/100 ml. The 2008 IR finds 19 of 38 E.coli samples in excess of the instantaneous criterion with exceedances ranging from 280 to 3000 cfu/100 ml. 2006 E.coli excursions of the instantaneous criterion are found in 13 of 25 samples with the same exceedance range as in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_LCK01A00 / Lick Run / Lick Run mainstem from near Shaffer's Crossing downstream to Lick Run mouth on Tinker Creek.	4A	Escherichia coli	2004	L	9.64

Lick Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.64**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-05-BAC** **Laymantown Creek**

Cause Location: Laymantown Creek mainstem from just upstream of the Rt. 657 Bridge at a small pond downstream to the mouth of Laymantown Creek on Glade Creek (Stewartsville Quad).

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2.11 mile 2002 303(d) Listed Laymantown Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/05/2004 [Fed ID: 24544] and SWCB approved 12/02/2004.

4ALAY000.37- (Rt. 460 Bridge - near Blue Ridge) There are no additional data beyond the 2008 IR where escherichia coli (E.coli) samples exceed the 235 cfu/100 ml WQS instantaneous criterion in 2 of 9 samples. Exceeding values are 300 and 800 cfu/100 ml. The original 2002 fecal coliform (FC) listing is based on a Special Study conducted in 1997 where the former FC instantaneous criterion were exceeded. There are no additional data within the 2016, 2014 or 2012 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_LAY01A00 / Laymantown Creek / Laymantown Creek mainstem from an outlet of a small pond downstream to the Laymantown Creek mouth on Glade Creek (RU13).	4A	Escherichia coli	2006	L	2.11

Laymantown Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.11**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L05R-06-BAC** **Deer Branch**

Cause Location: Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118) (RU12).

City / County: Roanoke Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 1.08 mile Deer Branch is initially 303(d) listed with the 2018 Integrated Report and Nested within the Tinker Cr. Bacteria TMDL US EPA approved 8/05/2004 Fed ID 24541. SWCB approved 12/2/2004.

4ADEE000.05 (Brookside Park, Roanoke City) - The 2018 IR finds Escherichia Coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion in 5 of 13 samples during 2015 and 2016. These excursions range from 253 to 884 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_DEE01A08 / Deer Branch / Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118) (RU12).	4A	Escherichia coli	2018	L	1.38

Deer Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.38**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L06R-01-BEN** **Back Creek**

Cause Location: Back Creek mainstem waters from ~0.1 miles downstream of the Mt. Haran Church on downstream of the Blue Ridge Parkway crossing and downstream of the Back Creek Church.

City / County: Roanoke Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4ABAA023.07 (Along Rt. 221 Roanoke County) The 2014 initial 303(d) Listing finds the benthic community impaired from a total of 6 Virginia Stream Condition Index (VSCI) surveys conducted in 2005, 2008, 2009 and 2012. The average score is 57.8 resulting in this Listing.

Initially a fall 2005 sediment discharge from a construction site prompted sampling of this site. The 2005 fall score of 61.3 and 2006 scores spring of 50.9 and fall 60.9 caused assessment decisions to be reserved due to the improvement of scores in fall 2006 and fall 2008 (70.3). Subsequent 2009 fall survey scored 52.8 and 2012 surveys scored spring 52.5 and fall 2012 at 64.9. The abundance of macroinvertebrates that feed by scraping algae and periphyton (%Scrapers) has always been low indicating a lack of clean substrate or often scoured substrates. The 2008, 2009, and 2012 habitat surveys find sand and fine sediment impact the stream substrate. This would indicate continued sources of fines beyond the initial 2005 release. The 2018 data window finds full support of the Aquatic Life Use standard from 6 VSCI surveys averaging 62.1 (2012, 2015-2016). Due to the discrepancy between spring and fall scores, this segment will be evaluated for delisting during the 2020 data window in order to facilitate another year of data collection.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L06R_BAA04A00 / Back Creek / Back Creek mainstem waters from the confluence of an unnamed tributary (XVE) on downstream of the Blue Ridge Parkway crossing and Back Creek Church (RU15).	5A	Benthic-Macroinvertebrate Bioassessments	2014	H, 2yr	5.11
VAW-L06R_BAA04B14 / Back Creek / Back Creek mainstem waters from the mouth of Little Back Creek on downstream to the confluence of an unnamed tributary to Back Creek (XVE) (RU15).	5A	Benthic-Macroinvertebrate Bioassessments	2014	H, 2yr	1.25
VAW-L06R_BAA05A08 / Back Creek / Back Creek from ~0.1 miles downstream of the Mt. Haran Church on downstream to the mouth of Little Back Creek (RU15).	5A	Benthic-Macroinvertebrate Bioassessments	2014	H, 2yr	0.56

Back Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.92**

Sources:

- Municipal (Urbanized High Density Area)
- Non-Point Source
- Residential Districts
- Site Clearance (Land Development or Redevelopment)
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L07L-01-PH** **Beaverdam Reservoir**

Cause Location: Beaverdam Reservoir, Bedford County

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Beaverdam Creek Reservoir located in Bedford County is owned by the Western Virginia Water Authority. The reservoir is fenced and public access is not permitted. There are no known sources other than from the natural landscape.

4AXKD0003.34 (100 ft. from Dam) There are no additional data within the 2014 data window. The reservoir 2012 data window reports 5 of 36 pH measurements in excess of the Class IV pH acidity criterion of 6.0. Four values in excess of the criterion are at 5.7 and 1 at 5.8 during 1 sampling event on 4/22/2010 from a total of 13 sampling events in 2005 and 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07L_XKD01A02 / Beaverdam Reservoir (XKD) / Beaverdam Reservoir from its impounding structure upstream to its backwaters.	5C	pH	2012	L	66.93

Beaverdam Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**66.93**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L07R-01-BAC** **Beaverdam Creek**

Cause Location: Beaverdam Creek mainstem waters from the WQS designated public water supply (PWS) section, eg. 5 miles above the 795 ft. pool elevation of Smith Mtn. Lake on downstream to the inundation of Beaverdam Creek's waters at Smith Mountain Lake at River Mile 2.78 (Stewartsville, Irving, Goodview and Hardy Quads).

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Beaverdam Creek Bacteria TMDL Load Duration is U.S. EPA approved 7/07/2006 [Fed ID 17733] and SWCB approved 6/27/2007. The 1999 Federal Consent Decree includes 4ABDA003.63 as an Attachment B station for fecal coliform bacteria-303(d) Listed 2002. The 4.98 bacteria impairment remains.

4ABDA003.63- (Off Rt. 757) There are no additional data beyond the 2014 IR where 13 of 35 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. The range of excessive values is from 250 to 1275 cfu/100 ml. E.coli data remaining within the 2016 data window are 8 of 23 observations and the same range of exceedance. The 2012 assessment reports E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 15 of 36 samples. Exceeding observations range from 250 cfu/100 ml to greater than 2000. E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 25 of 45 samples within the 2010 data window. Exceeding observations range from 300 to greater than 2000 cfu/100 ml. 2008 E.coli data exceeds the instantaneous criterion in 20 of 33 samples and the same range of exceedance as 2010. The 2006 Integrated Report (IR) reveals exceedances of the instantaneous criterion in 14 of 21 samples. Exceeding observations range from 300 to 1800 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07R_BDA01A00 / Beaverdam Creek / Beaverdam Creek mainstem waters from the WQS designated public water supply (PWS) section 6i, eg. 5 miles above the 795 ft. pool elevation of Smith Mtn. Lake on downstream to the inundation of Beaverdam Creek's waters at Smith Mtn. Lake (RU17).	4A	Escherichia coli	2006	L	4.98

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.98**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L07R-01-BEN** **Beaverdam Creek**

Cause Location: Beaverdam Creek mainstem waters from the 795 ft. pool elevation of Smith Mtn. Lake on upstream to its headwaters (Stewartsville, Irving, Goodview and Hardy Quads).

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2010 Virginia Stream Condition Index (VSCI) surveys find the Aquatic Life Use is impaired for 10.33 miles. There are no additional data beyond the 2010 Integrated Report (IR).

4ABDA006.72 (Rt. 24 Crossing)- 2 2008 Virginia Stream Condition Index (VSCI) surveys with an average score of 45.0 find the benthic community impaired. This watershed is influenced by agricultural land use with open pastures including some with no riparian vegetation. Habitat scores show this stream reach is impacted by sediment deposition and a poor riparian buffer.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07R_BDA01A00 / Beaverdam Creek / Beaverdam Creek mainstem waters from the WQS designated public water supply (PWS) section 6i, eg. 5 miles above the 795 ft. pool elevation of Smith Mtn. Lake on downstream to the inundation of Beaverdam Creek's waters at Smith Mtn. Lake (RU17).	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	4.98
VAW-L07R_BDA02A00 / Beaverdam Creek / Beaverdam Creek mainstem from its headwaters downstream to the WQS designated public water supply (PWS) ending section 6i, eg. 5 miles above the Smith Mtn. Lake 795 ft. pool elevation (RU17).	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	5.35

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.33**

Sources:

Agriculture	Loss of Riparian Habitat	Residential Districts	Rural (Residential Areas)
Wet Weather Discharges (Non-Point Source)			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L07R-02-BEN** **Merriman Run, UT (XUO)**

Cause Location: Merriman Run, UT (XUO) mainstem from the backwaters of Smith Mtn. Lake upstream to its headwaters.

City / County: Bedford Co. Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AXUO000.49 (Free flowing to Smith Mtn. Lake backwaters)- Previous assessments DEQ reserved judgment for this initial 2004 probabilistic site (VAEQ99-456) from 4 Virginia Stream Condition Index (VSCI) surveys (2004 - 2005). The station is located on a small second order stream upstream of Smith Mountain Lake backwaters in a watershed influenced by agricultural land use. More information was desired before a conclusive assessment could be made on this station's benthic community. The average Virginia Stream Condition Index (VSCI) score was 54.2 from 6 surveys (2010 IR) conducted in the spring and fall seasons of both 2004, 2005 and 2008.

There are no additional data beyond the 2010 IR and no new data within the 2016 or 2018 data windows. Two 2008 VSCI surveys remain within the 2014 data window averaging 47.9. Four VSCI Surveys (2005-2008) within the 2012 data window score an average of 46.6. The 2010 Listing is based on 6 VSCI surveys (2004 - 2008) with an average score of 54.2. This station is located just upstream of a cove on Smith Mountain Lake. The impounded waters do not appear to impact this stream reach. Sediment deposition scores were low for all samples. Water flow, velocity, and bank erosion scores worsened during 2004-2005. Relative Bed Stability habitat analyses from 2004 and 2005 determined that approximately 40-50% of the stream substrate consisted of sand and fine sediments. The land cover for this watershed is 44 % agriculture consisting mostly of pasture. During the 2005 samples, it appeared that there had been a change in flow and velocity so that fine sediments deposition had increased in the sampled reach. Contributing factors possibly include low rainfall and subsequent low flow levels. Also, a recently (2004-2005) constructed pond may contribute to reduced flows during specific periods and or seasons.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07R_XUO01A06 / Merriman Run, UT (XUO) / Merriman Run, UT (XUO) mainstem from the backwaters of Smith Mtn. Lake upstream to its headwaters; public water supply (PWS) section 6i, eg. within 5 miles of 795 ft. Smith Mtn. Lake pool elevation (RU19).	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	0.88

Merriman Run, UT (XUO)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.88**

Sources:

Agriculture	Loss of Riparian Habitat	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-01-BAC** **Green Creek**

Cause Location: Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork of the Blackwater River begins (Callaway Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Green Creek 4.09 mile bacteria impairment is a 2004 303(d) Listing due to fecal coliform (FC) exceedances (formerly VAW-L08R-01). The Bacteria Total Maximum Daily Load (TMDL) for the South Fork Blackwater River is U.S. EPA approved 02/02/2001 [Fed IDs: 1886/7791/21330/24549] and SWCB approved 6/17/2004. The SWCB approved the Bacteria Implementation Plan on 6/17/2004.

The Upper Blackwater River Bacteria Implementation Plan (IP) received SWCB approval on 6/17/2004. Green Creek is tributary to the South Fork and is included in the TMDL Watershed and allocations. The TMDL identified Wildlife as a major source based on Bacteria Source Tracking (BST). The Bacteria IP encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL and Implementation Plans can be viewed at http://www.deq.virginia.gov.

4AGCR000.01- (Rt. 739 Bridge at Algoma) There are no additional data beyond the 2012 data window. Six of 33 escherichia coli (E.coli) samples are in excess of the 235 cfu/100 ml instantaneous criterion ranging from 250 to 480 cfu/100 ml for 2012. Data remaining within the 2016 data window are 1 of 12 and 2014 3 of 24 measurements. The 2010 assessment finds 5 of 21 E.coli samples in excess of the instantaneous criterion ranging from 280 to 480 cfu/100 ml. 2008 results are 3 of 9 E.coli samples in excess of the instantaneous criterion ranging from 280 to 300 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_GCR01A00 / Green Creek / Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork Blackwater River begins (RU21).	4A	Escherichia coli	2008	L	4.09

Green Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.09**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-01-TEMP** **Green Creek**

Cause Location: Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork of the Blackwater River begins.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The 4.09 mile temperature impairment returns with the 2012 assessment. The 2010 IR de-listed the temperature impairment.

4AGCR000.01- (Rt. 739 Bridge at Algoma) The 2018 IR finds no exceedances of the temperature Class VI 20°C criterion from 2 samples taken in 2015. Impairment remains due to the small 2018 IR sample size (n=2). Prior to 2018, there were no additional data beyond the 2012 IR. The 2012 assessment finds 4 of 33 temperature measurements exceed the Class VI 20°C criterion for an exceedance rate of 12%. The exceeding values occur in the summer months with an exceedance range from 21.6°C to 22.6°C. Data remaining within the 2016 data window are 2 of 12 measurements exceed and within the 2014 data window 2 of 24. The waters were initially Listed in 2002 with 2 of 17 temperature measurements exceeding the Class VI 20°C criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_GCR01A00 / Green Creek / Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork Blackwater River begins (RU21).	5C	Temperature, water	2012	L	4.09

Green Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.09**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-02-BAC** **Blackwater River, South Fork**

Cause Location: South Fork Blackwater waters from the Rt. 739 Bridge in Algoma, Va. (Callaway Quad) on downstream just west of the Rt. 641 Bridge where the North and South Forks join forming the Blackwater River.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The South Fork Blackwater River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 2/02/2001 [Fed. IDs: 1886/7791/21330/24549] and SWCB approved 6/17/2004. The Bacteria Implementation Plan (IP) is SWCB approved 6/17/2004. The waters are originally 303(d) Listed in 1996 for fecal coliform bacteria (FC) for 6.21 miles.

The Upper Blackwater River Bacteria Implementation Plan is complete as of 8/23/2001 with SWCB approval on 6/17/2004. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study and Implementation Plans can be viewed at http://www.deq.virginia.gov.

The South Fork Blackwater River 1996 303(d) Listed impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform bacteria sample collections. Abundant fecal coliform bacteria counts failed to support the recreational use by exceedances of both the former fecal coliform (FC) geometric mean (200 cfu/100 ml & 2 samples 30 day) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) now replaces fecal coliform as the bacteria indicator in the Blackwater River drainage as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 6.21 mile bacteria impairment remains.

4ABSF001.15- (Rt. 641 Bridge east of Callaway) The 2018 IR window finds 27 of 36 Escherichia coli (E.coli) samples in exceedance of the 235 cfu/100 ml instantaneous criterion. The range of exceedances spans 262 to 6867 cfu/100 ml. 2016 excessive E.coli values range from 250 to 2489 cfu/100 ml in 28 of 36 samples. Twenty-nine of 36 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2012 and 2014 data windows. Values in excess of the criterion for both cycles range from 250 to greater than 2000 cfu/100 ml. 2010 E.coli results find 25 of 33 samples exceeding the instantaneous criterion where excessive values range from 280 cfu/100 ml to greater than 2000. 2008 E.coli samples exceed the instantaneous criterion in 19 of 27 samples. Excursions range from 420 to greater than 2000 cfu/100 ml. Twenty of 26 samples exceed the instantaneous criterion in 2006 ranging from 250 to greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BSF01A00 / S.F. Blackwater River / South Fork Blackwater River mainstem from the Callaway Community downstream to the South Fork's confluence with the North Fork Blackwater River (RU21).	4A	Escherichia coli	2004	L	2.26
VAW-L08R_BSF02A00 / S.F. Blackwater River / South Fork Blackwater River mainstem from Algoma, Green Creek mouth, downstream to the Callaway community (RU21).	4A	Escherichia coli	2004	L	3.94

Blackwater River, South Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.20**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-02-TEMP** **Blackwater River, South Fork**

Cause Location: South Fork Blackwater River mainstem from Algoma, Green Creek mouth, downstream to the South Fork's confluence with the North Fork Blackwater River (RU21).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The Temperature impairment on the South Fork Blackwater River returns with the 2016 Integrated Report (IR). The temperature impairment was last de-listed in 2014 after the impairment returned with the 2012 IR. The temperature impairment has previously been de-listed in 2004 and 2010.

The Aquatic Life Use is impaired due to excursions of the WQS Class V temperature criterion of 21°C.

4ABSF001.15 (Rt. 641 Bridge east of Callaway) The 2018 and 2016 data windows each find 4 of 36 temperature measurements in excess of the WQS Class V Stockable Trout Water criterion of 21°C. Values in excess of the criterion mostly occur in the summer months on 6/22/2010 at 23.3°C; 8/9/2010 at 22.9°C; 7/7/2011 at 23.7°C; 6/10/2014 at 21.1°C; and 7/14/2015 at 22.6°C. One early fall excursion occurred on 9/9/2015 at 21.3°C. Three of 36 temperature measurements exceed the Class V criterion of 21°C in 2014; an exceedance rate of 8.3%. The waters were delisted with the 2014 Integrated Report (IR) where temperature measurements in excess of the Class V criterion are 23.3°C (6/22/2010), 22.9°C (8/9/2010) and 23.7°C (7/7/2011). Five of 36 temperature measurements exceed the Class V criterion of 21 °C in 2012. Exceedances occur in the summer months of June and August and range from 22.4 to 24.1°C. The South Fork Blackwater River was delisted in 2004 for temperature but returned with the 2008 assessment. 2008 data report 3 excessive measurements from a total of 26.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BSF01A00 / S.F. Blackwater River / South Fork Blackwater River mainstem from the Callaway Community downstream to the South Fork's confluence with the North Fork Blackwater River (RU21).	5C	Temperature, water	2016	L	2.26
VAW-L08R_BSF02A00 / S.F. Blackwater River / South Fork Blackwater River mainstem from Algoma, Green Creek mouth, downstream to the Callaway community (RU21).	5C	Temperature, water	2016	L	3.94

Blackwater River, South Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**6.20**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-03-BAC** **Blackwater River, North Fork**

Cause Location: North Fork Blackwater River headwaters (~12.25 mi. upstream) on the Bent Mt. Quad on downstream to its confluence with the South Fork Blackwater River forming the Blackwater River (Callaway Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The North Fork of the Blackwater River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 3/09/2001 [Fed. IDs: 7790 & 20479] and SWCB approved on 6/17/2004. The Upper Blackwater River Bacteria Implementation Plan (IP) is complete (8/23/2001) receiving SWCB approval on 6/17/2004. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study allocations and Implementation Plans can be viewed at http://www.deq.virginia.gov.

The 12.44 mile North Fork Blackwater River bacteria impairment initially 303(d) Listed in 1996 is based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. Abundant fecal coliform bacteria counts failed to support the Recreational Use by exceedances of both the former fecal coliform (FC) geometric mean (200 cfu/100 ml & 2 samples/month) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform as the bacteria indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ABNR004.56- (Rt. 742 Bridge near Dillions Mill) There are no additional escherichia coli (E.coli) data beyond the 2010 IR where E.coli exceed the 235 cfu/100 ml instantaneous criterion in 4 of 15 observations. Values in excess of the criterion range from 250 cfu/100 ml to greater than 800 cfu/100 ml. In both 2008 and 2006 2 of 6 E.coli observations exceed the instantaneous criterion. Values in excess of the criterion are both greater than 800 cfu/100 ml.

4ABNR000.40- (Rt. 740 Bridge S.W. of Retreat) Escherichia coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion were found in 16 of 34 samples during the 2018 Integrated Reporting window. The range of excursions was 246 to greater than 2000 cfu/100 ml. The 2016 E.coli range of exceeding values are from 250 to greater than 2000 in 16 of 34 observations. E.coli exceed the 235 cfu/100 ml instantaneous criterion in 17 of 34 samples in 2014 and 23 of 36 samples in 2012. Maxima range from 250 cfu/100 ml to greater than 2000 for both data windows. E.coli exceed the instantaneous criterion in 21 of 36 samples within the 2010 data window. Exceeding values have the same range as 2012,2014 and 2016. 2008 data find E.coli exceeds the instantaneous criterion in 20 of 33 samples also ranging from 250 cfu/100 ml to greater than 2000. The 2006 Integrated Report (IR) finds E.coli exceeds in 19 of 32 samples. Values in excess of the criterion range from 575 cfu/100 ml to greater than 1800.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BNR01A00 / N.F. Blackwater River / North Fork Blackwater River mainstem from the Dillions Mill community downstream to the North Fork's confluence with the South Fork on the Blackwater River (RU20).	4A	Escherichia coli	2004	L	3.21
VAW-L08R_BNR02A00 / N.F. Blackwater River / North Fork Blackwater River mainstem headwaters downstream to the Dillions Mill Community (RU20).	4A	Escherichia coli	2006	L	9.23

Blackwater River, North Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.44**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-03-BEN** **Blackwater River, North Fork**

Cause Location: North Fork Blackwater River mainstem from the Dillions Mill community downstream to the North Fork's confluence with the South Fork on the Blackwater River.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

North Fork Blackwater River General Standard Benthic Total Maximum Daily Load (TMDL) is U.S. EPA approved 4/26/2004 [Fed ID 24548 Phosphorus & 24550 Sediment] and SWCB approved 8/31/2004. Originally 303(d) listed in 1996 the 3.21 mile benthic impairment remains.

4ABNR001.53 (Rt. 738 Bridge) The 2018 IR window finds Bio 'IM' from 2 2011 Virginia Stream Condition Index (VSCI) scores: Spring 42.3 and Fall 60.0 (average VSCI = 51.2). Four 2010-2011 Virginia Stream Condition Index (VSCI) surveys report an average score of 55.40 for 2014 and 2016. The average score within the 2012 data window is 50.48. The instream habitat (substrate) at this site has been impacted by fine sediment. The riparian zone vegetation is in the marginal to poor categories.

Previous to the 2012 Integrated Report (IR) there were no additional data beyond the 2008 IR where 2 VSCI surveys (2001 - 2002 all Spring) score an average of 52.8. This site was first surveyed on 7/26/00 as part of benthic TMDL special study in the Blackwater River Watershed. It was sampled in spring 2001 and 2002 along with the other impact sites in the North Fork of the Blackwater River. The benthic community was dominated by several pollution tolerant organisms including midge fly larvae (Chironomidae) which are tolerant of sediment and low dissolved oxygen. The 1999-2001 drought impacted the ecoregion reference stations at Green Creek and Pigg River resulting in a decrease in the benthic community scores. However, the historically impaired stations in the North Fork and the Blackwater did not appear to decrease with the reference site. Instead, some metrics (%Chironomidae, %Ephemeroptera) improved. It appears that less runoff from adjacent fields and pastures may have helped improve the benthic community scores during the drought.

4ABNR000.40- (Rt. 740 Bridge) Bio 'IM' 5 (2009-2011) VSCI surveys with an average score of 47.1 remain within the 2016 data window. Six (2007-2012) VSCI surveys scored an average of 49.5 within the 2014 data window. Six (2006-2010) VSCI surveys conducted within the 2012 data window produced an average score of 53.69. The 2010 IR reports an average VSCI score of 53.69 as well. Each cycle resulting in an impaired condition. Instream habitat (substrate) has been impacted by fine sediment. Riparian zone vegetation has been removed and stream banks eroded due to unrestricted cattle access to the stream. This region was affected by several drought years in earlier assessments. Less runoff of non-point source pollution during the low rainfall periods potentially resulted in an improvement in the benthic community. Additionally, recent installation of agricultural best management practices in the watershed may have improved water quality. The 2007 fall samples were replicate samples. The average score of the replicate samples was 61.53. This indicates an improvement from the Fall of 2006 survey. The 2008 IR reported 4 VSCI surveys (2001/2002-Spring & 2006). The average VSCI score was 47.4.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BNR01A00 / N.F. Blackwater River / North Fork Blackwater River mainstem from the Dillions Mill community downstream to the North Fork's confluence with the South Fork on the Blackwater River (RU20).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	3.21

Blackwater River, North Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.21**

Sources:

- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-04-BAC** **Blackwater River (Upper)**

Cause Location: Blackwater River from the confluence of the North and South Forks of the Blackwater River (Callaway Quad) on downstream to the Rt. 122 bridge crossing.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Bacteria Total Maximum Daily Load (TMDL) Studies and allocations are complete for the Upper, Middle and Lower Blackwater River drainages. These studies incorporate tributary streams that lie within the boundaries of watershed VAW-L08R and a portion of L10R. This Fact sheet addresses the Upper and Middle Blackwater River drainages.

Bacteria TMDL approvals from the U.S. EPA were obtained on 03/09/2001 for the Upper Blackwater River [Fed. ID 1887/9634], the Middle Blackwater on 12/04/2001 [Fed. IDs: 1887/1889/9633] and the Lower Blackwater River on 04/27/2001 [Fed. ID 1888]. Each of the aforementioned TMDLs were approved by the SWCB on 6/17/2004. Each TMDL found Wildlife is a major source of bacterial contamination via TMDL Bacteria Source Tracking (BST). The studies were formerly coded:
Upper Blackwater River - VAW-L08R-01-Green Creek and VAW-L08R-04-Blackwater.
Middle Blackwater - VAW-L08R-04 - Blackwater, VAW-L08R-05 - Little Creek, VAW-L08R-06 - Teels Creek).
Lower Blackwater River - VAW-L08R-04 - Blackwater

The Upper Blackwater River Bacteria Implementation Plan (IP) covering Upper and Middle Blackwater River TMDLs is complete (8/23/2001) and SWCB approved on 6/17/2004. The Lower Blackwater River Bacteria IP is complete and SWCB approved 9/27/2006. The Upper Blackwater River Bacteria IP encompasses the Upper Blackwater River drainage (L08R) to include the North and South Forks, Little and Teels Creeks. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills Creeks (L11R). The entirety of the approved studies with allocations and Implementation Plans can be viewed at http://www.deq.virginia.gov.

Blackwater River:
The Blackwater River impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant fecal coliform bacteria counts failed to support the recreational use by exceedances of both the former fecal coliform geometric mean (200 cfu/100 ml & 2 samples 30 day) and former (2002) instantaneous criterion of 1000 cfu/100 ml. This Fact Sheet addresses 28.27 miles of the Blackwater River mainstem bacteria impaired miles that total 39.48 (See L10R-01-BAC Fact Sheet for the remainder). Escherichia coli (E.coli) has replaced fecal coliform as the indicator bacteria as per [9 VAC 25-260-170. Bacteria; other waters].

Upper Blackwater River (15.71 miles):
4ABWR061.20- (Rt. 641 Bridge) The 2018 data window finds 21 of 36 samples exceed the 235 cfu/100 ml E.coli instantaneous criterion with a range of 400 to greater than 2,000 cfu/100 ml. Twenty-two of 35 E.coli samples exceed the WQS instantaneous criterion within the 2016 data window. Excessive values range from 350 to greater than 2000 cfu/100 ml. 2014 results yield 24 excursions of the escherichia coli (E.coli) 235 instantaneous criterion of 235 cfu/100 ml from 36 samples. Eighteen of 2012 E.coli data results produce 26 exceeding observations from a total 35 samples. Values in excess of the instantaneous criterion for both the 2012 and 2014 data windows range from 300 to greater than 2000 cfu/100 ml. E.coli exceed the instantaneous criterion in 23 of 35 samples with excursions ranging from 290 cfu/100 ml to greater than 2000 in 2010. 2008 results find E.coli exceed the instantaneous criterion in 20 of 31 samples with the same range of exceedance as 2010. E.coli exceed in 13 of 18 samples in 2006. The maximum exceedance is greater than 800 and the lowest 310 cfu/100 ml.

4ABWR054.81- (Rt. 734 Bridge) The 2018 and 2016 data windows both find 19 of 36 E.coli samples in excess of the instantaneous criterion. Excessive values range from 250 to 1,375 cfu/100 ml. 2014 results find 18 of 36 samples in excess of the 235 cfu/100 ml instantaneous criterion. Fourteen escherichia coli (E. coli) samples exceed the instantaneous criterion from a total of 24 samples in 2012. The 2010 and 2008 Integrated Reports (IR) find 6 E. coli samples exceed the 235 cfu/100 ml instantaneous criterion from a total of 9 samples. Exceeding values within each data window for 2008, 2010, 2012 and 2014 range from 250 to greater than 2,000 cfu/100 ml. Fourteen E. coli samples exceed the instantaneous criterion from a total of 20 collections within the 2006 data window. The exceeding values range from 250 to greater than 800 cfu/100 ml.

Middle Blackwater River (12.56 miles):
4ABWR045.80- (Rt. 812 Bridge) 16 of 35 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window. The 2018 IR exceedance range is from 288 to 3,255 cfu/100 ml. 2016 E.coli excessive values range from 250 to

greater than 2000 cfu/100 ml in 16 of 35 samples. Nineteen of 35 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. The 2012 assessment finds E.coli exceed in 21 of 35 samples. Excursions range from 250 cfu/100 ml to greater than 2000 in each data window for 2008, 2010, 2012 and 2014. Data within the 2010 data window find E.coli exceed the instantaneous criterion in 20 of 36 samples. E.coli exceed in 15 of 33 samples in 2008. The 2006 IR records exceedances in 15 of 32 samples ranging from 260 cfu/100 ml to greater than 1000.

4ABWR032.32- (Rt. 122 Bridge at the stream gaging station) There are no additional data beyond the 2006 IR. This station will no longer be sampled due to safety concerns. 2006 IR reports E.coli exceed the 235 cfu/100 ml instantaneous criterion in 6 of 21 samples ranging from 490 to greater than 800 cfu/100 ml. E.coli samples within the 2008 data window find 1 of 10 in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BWR01B06 / Blackwater River / Blackwater River mainstem from downstream of the Rt. 921 Bridge ~ 1.3 miles at the confluence of an unnamed tributary downstream to the Rt. 122 Bridge (RU22).	4A	Escherichia coli	2004	L	2.96
VAW-L08R_BWR02A00 / Blackwater River / Blackwater River mainstem from the Town of Rocky Mount's water intake on the Blackwater River on downstream of the Rt. 921 Bridge approximately 1.3 miles at the confluence of an unnamed tributary (RU22).	4A	Escherichia coli	2004	L	4.59
VAW-L08R_BWR03A00 / Blackwater River / Blackwater River mainstem from the WQS designated public water supply (PWS) section 6f ending approximately 2 miles upstream of Little Creek's mouth on the Blackwater downstream to the Town of Rocky Mount's water intake on the Blackwater River (RU22).	4A	Escherichia coli	2004	L	5.00
VAW-L08R_BWR04A00 / Blackwater River / Blackwater River mainstem from the mouth of Maple Branch (37°01'14" / 79°58'42") downstream to the WQS PWS section 6f ending approximately 2 miles upstream of Little Creek's mouth on the Blackwater River (37°02'25" / 79°54'51") (RU22).	4A	Escherichia coli	2004	L	10.10
VAW-L08R_BWR05A00 / Blackwater River / Blackwater River mainstem from the confluence of the North and South Forks of the Blackwater downstream to the mouth of Maple Branch (37°01'14" / 79°58'42") (RU22).	4A	Escherichia coli	2004	L	5.61

Blackwater River (Upper)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**28.26**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-04-BEN** **Blackwater River**

Cause Location: Blackwater River from the confluence of the North and South Forks of the Blackwater downstream to the mouth of Maple Branch (37°01'14" / 79°58'42").

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Upper Blackwater River General Standard Benthic Total Maximum Daily Load (TMDL) is U.S. EPA approved on 4/26/2004 [Phosphorus Fed ID 7789 & Sediment Fed ID 23397] and SWCB approved on 8/31/2004 (formerly VAW-L08R-04).

The original 1996 General Standard benthic impairment was based on Green Creek (Blue Ridge) as a reference site. The reference site for the Blackwater River mainstem stations is now in the Pigg River drainage (transitional Blue Ridge to Piedmont). The Pigg River reference site is believed to more closely reflect conditions in the Blackwater River mainstem.

The original 1996 303(d) Listed benthic impaired waters extended from the confluence of the North and South Forks of the Blackwater River on downstream of the Rt. 921 Bridge approximately 1.3 miles at the confluence of an unnamed tributary (25.24 miles). The impaired waters were shortened with the 2004 Integrated Report partial delisting based on improved conditions at downstream stations 4ABWR049.73 and 4ABWR045.80 through the former Rapid Bioassessment Protocol II (RBP II Method) benthic surveys. The US Environmental Protection Agency approved the partial delisting on January 27, 2004. The General Standard (Benthic) impairment is now spans 5.61 miles- Category 4A.

Station 4ABWR061.20 (Rt. 641 Bridge) Bio 'IM' - The 2016 and 2018 IRs report average Virginia Stream Condition Index (VSCI) scores of 53.5 and 48.5, respectively. The average VSCI score within the 2014 data window is 55.0 (2007-2011). The 2012 assessment finds 6 VSCI surveys (2006 spring & fall; 2007 fall and 2009 spring - 2010 spring & fall) with an average score of 57.14. Benthic community data within the 2010 data window reports 3 (2006 spring/fall and 2007 fall) VSCI surveys with an average score of 57.2. The 2008 assessment yields 3 (2002 spring & 2006 spring/fall) VSCI surveys with an average score of 54.0. Water quality in this reach is affected by NPS pollution from dairy farms from primarily the North Fork of the Blackwater River. Habitat degradation in the form of sediment deposition and riparian vegetation removal occurs at this sight as a result of agricultural practices. This area was affected by several drought years within the 2004 thru 2008 assessment periods. Less runoff of nonpoint source pollution during low rainfall periods potentially resulted in an improvement in the benthic community. Recent installation of agricultural best management practices in the watershed may contribute to improved water quality.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BWR05A00 / Blackwater River / Blackwater River mainstem from the confluence of the North and South Forks of the Blackwater downstream to the mouth of Maple Branch (37°01'14" / 79°58'42") (RU22).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	5.61

Blackwater River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.61**

Sources:

- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-05-BAC** **Little Creek and Little Creek, UT (XKF)**

Cause Location: Little Creek and an unnamed tributary (XKF) from just west of Helm off Rt. 693 extending downstream to the Little Creek mouth on the Blackwater River (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little Creek bacteria impairment is a 1998 (2002) 303(d) Listing for fecal coliform bacteria (formerly VAW-L08R-05). An unnamed tributary (XKF) contributes to the impairment for a total of 8.60 bacteria impaired miles. The Middle Blackwater River Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 12/04/2001 [Fed. IDs: 1887(1889)/9633] and SWCB approved 6/17/2004. The Upper Blackwater River Bacteria Implementation Plan is complete (8/23/2001) and SWCB approved on 6/17/2004. Little Creek (formerly VAW-L08R-05) is tributary to the Blackwater River and is included in the approved Middle Blackwater River Bacteria TMDL. The TMDL identified Wildlife as a major source based on Bacteria Source Tracking (BST). The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL with allocations and the Implementation Plan can be viewed at http://www.deq.virginia.gov.

The Blackwater River bacteria impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant fecal coliform bacteria counts failed to support the recreational use by exceedances of both the former fecal coliform geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Little Creek (7.85 miles):
4ALLE005.22 (Rt. 697 Bridge) 20of 36 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window. The range of 2018 IR excursions is 288 to greater than 2000 cfu/. 2016 data results in E.coli exceedances of the 235 cfu/10 ml instantaneous criterion in 22 of 36 samples. These excursions range from 250 cfu/10 ml to greater than 2000. The same range of exceedance occurs within the 2014 data window from 21 of 36 observations. The 2012 data window finds E.coli observations yield 25 of 36 samples in excess of the instantaneous criterion. Exceedances range from 250 to greater than 2000 cfu/100 ml. Twenty-two E.coli samples exceed the instantaneous criterion from a total of 33 collections within the 2010 data window. The exceeding values range from 350 to greater than 2000 cfu/100 ml. 2008 results reveal 20 E.coli samples exceed the instantaneous criterion from a total of 27 collections. The exceeding values range from 290 to greater than 2000 cfu/100 ml. In 2006 21 E.coli samples exceed the instantaneous criterion from a total of 26 samples. The exceeding values range from 280 to 1000 cfu/100 ml.

Little Creek, UT (XKF 1.04 miles):
4AXKF000.20- (Off Rt. 735) There are no additional data beyond the 2008 Integrated Report (IR). Five of 5 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion; all are greater than 2000 cfu/100 ml. 2006 results find 2 of 2 E.coli samples exceed the instantaneous criterion; both at greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_LLE01A00 / Little Creek / Little Creek mainstem PWS section 6f from an unnamed tributary's mouth on Little Creek off Rt. 775 downstream to the Little Creek confluence with the Blackwater River (RU22).	4A	Escherichia coli	2004	L	1.89
VAW-L08R_LLE02A00 / Little Creek / Little Creek mainstem from the mouth of Teels Creek downstream to the PWS section 6f upstream end (RU22).	4A	Escherichia coli	2004	L	0.85
VAW-L08R_LLE03A00 / Little Creek / Little Creek mainstem headwaters west of the Helm community off Rt. 693 downstream to the mouth of Teels Creek (RU22).	4A	Escherichia coli	2004	L	5.11
VAW-L08R_XKF01A06 / Little Creek, UT (XKF) / Little Creek, UT	4A	Escherichia coli	2006	L	1.04

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

(XKF) mainstem from its mouth on Little Creek upstream to its headwaters (RU22).

Little Creek and Little Creek, UT (XKF)		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation				
	Escherichia coli - Total Impaired Size by Water Type:			**8.89**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-05-BEN** **Little Creek**

Cause Location: Little Creek mainstem extending from the confluence of an unnamed tributary (XKF) from just west of Helm off Rt. 693 on downstream to the Little Creek mouth on the Blackwater River (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is not supported for 7.85 miles due to contravention of the General Standard for aquatic life (formerly VAW-L08R-05). The waters are categorized 5A for the General Standard (Benthic) impairment. The benthic impairment is not addressed by the EPA approved Upper Blackwater River Benthic TMDL Study. The General Standard (Benthic) impairment is a 2002 initial 303(d) Listing.

4ALLE005.22- (Rt. 697 Bridge) There are no additional data beyond the 2014 Integrated Report (IR) where 4 (2010-2011) Virginia Stream Condition Index (VSCI) scores yield an average score of 45.2. Two VSCI surveys (2010) produce an average score of 48.98 within the 2012 data window. Previous assessments (2008 and 2010) found impairment from 2 spring VSCI surveys (2001 & 2002) producing an average score of 32.2. The assemblages collected at this site indicate excessive organic matter, excessive nutrients, and embedded substrates. Habitat surveys also indicate impacts from sediment deposition removal of riparian buffers. Ambient chemical data indicates NPS impacts from bacteria and nutrients. A TMDL study indicating sediment and phosphorus as the stressors in the Upper Blackwater and North Fork Blackwater Rivers was approved by the EPA in 2004. Currently, the Soil and Water Conservation District is implementing agricultural best management practices in the watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_LLE01A00 / Little Creek / Little Creek mainstem PWS section 6f from an unnamed tributary's mouth on Little Creek off Rt. 775 downstream to the Little Creek confluence with the Blackwater River (RU22).	5A	Benthic-Macroinvertebrate Bioassessments	2002	M	1.89
VAW-L08R_LLE02A00 / Little Creek / Little Creek mainstem from the mouth of Teels Creek downstream to the PWS section 6f upstream end (RU22).	5A	Benthic-Macroinvertebrate Bioassessments	2002	M	0.85
VAW-L08R_LLE03A00 / Little Creek / Little Creek mainstem headwaters west of the Helm community off Rt. 693 downstream to the mouth of Teels Creek (RU22).	5A	Benthic-Macroinvertebrate Bioassessments	2002	M	5.11

Little Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.85**

Sources:

- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-06-BAC** **Teels Creek**

Cause Location: Teel Creek mainstem perennial headwaters downstream to its confluence with Little Creek (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Middle Blackwater River Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 12/04/2001 [Fed. IDs: 1887/1889/9633] and SWCB approval on 6/17/2004. The SWCB approved the Bacteria Implementation Plan on 6/17/2004. The Teels Creek bacteria impairment is a 4.59 mile 1998 (2002) 303(d) Listing for fecal coliform (FC) bacteria (formerly VAW-L08R-06). The Upper Blackwater River Bacteria Implementation Plan is complete (8/23/2001) and SWCB approved on 6/17/2004. Teels Creek is tributary to Little Creek and then onto the Blackwater River and is included in this approved Middle Blackwater River bacteria TMDL Watershed. The TMDL identified Wildlife as a major source based on Bacteria Source Tracking (BST). The Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL with allocations and Implementation Plans can be viewed at http://www.deq.virginia.gov.

The Blackwater River bacteria impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform bacteria sample collections. The 1996 303(d) Listed Blackwater River waters found abundant fecal coliform bacteria counts failed to support the Recreational Use by exceedances of both the former fecal coliform geometric mean (200 cfu/100 ml & 2 samples/calendar month) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) now replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ATEL001.02- (Rt. 697 Bridge) 17 of 36 and 15of 36 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion during the 2018 and 2016 data windows, respectively. The 2018 exceedance range is 250 to 1553 cfu/100 ml. The 2016 IR range of exceeding values was from 250 to 1525 cfu/100 ml. This same range of exceedance is found within the 2014 data window from 15 of 35 samples. 2012 E. coli data find 17 of 35 samples exceed the instantaneous criterion ranging from 250 cfu/100 ml to 1400. E. coli exceed the 235 cfu/100 ml instantaneous criterion in 5 of 21 samples in 2010 ranging from 280 cfu/100 ml to 1400. The 2008 Integrated Report (IR) finds E. coli exceeds the instantaneous criterion in 17 of 27 samples with a range from 250 cfu/100 ml to 1400. In 2006 E. coli exceedances are 19 of 26 samples. The maximum exceedance is greater than 800 and the lowest 250 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_TEL01A00 / Teels Creek / Teels Creek mainstem perennial headwaters downstream to its confluence with Little Creek (RU22).	4A	Escherichia coli	2004	L	4.76

Teels Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.76**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-06-BEN** **Teels Creek**

Cause Location: Teel Creek mainstem perennial headwaters downstream to its confluence with Little Creek (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is not supported for 4.76 miles due to contravention of the General Standard for aquatic life (formerly VAW-L08R-06). The waters are categorized 5A for the 2002 initially 303(d) Listed General Standard (Benthic) impairment. The General Standard (benthic) impairment is not addressed in the EPA approved Upper Blackwater River Benthic TMDL Study.

4ATEL001.02- (Rt. 697 Bridge) Bio 'IM' - There are no additional data beyond the 2014 Integrated Report (IR) where 4 (2010-2011) Virginia Stream Condition Index (VSCI) surveys yield an average score of 58.3. The 2012 assessment reports 2 2010 VSCI surveys with an average score of 57.33. The instream habitat (substrate) at this site has been impacted by fine sediment. The riparian zone vegetation is reduced and stream banks are eroded as a result. Currently, the Soil and Water Conservation District is implementing agricultural best management practices in the watershed for the Implementation Plan of the 2004 Bacteria TMDL. The 2008 and 2010 assessments report a single 2002 VSCI survey scoring 60.2. Although the VSCI score in 2002 was above the 60.0 threshold score for non-impairment, previous surveys indicated impairment. The community in spring 2002 had approximately 50% pollution tolerant organisms. The assemblages collected at this site indicated excessive organic matter, and embedded substrates. Habitat surveys also indicate impacts from sediment deposition, eroded banks and removal of riparian buffers.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_TEL01A00 / Teels Creek / Teels Creek mainstem perennial headwaters downstream to its confluence with Little Creek (RU22).	5A	Benthic-Macroinvertebrate Bioassessments	2002	M	4.76

Teels Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.76**

Sources:

- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-07-BAC** **Buck Run**

Cause Location: Buck Run from its confluence on Little Creek upstream to its headwaters.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2014 initial Listing of these waters are a result of a 58% failure rate to meet the 235 cfu/10 ml Water Quality Standard instantaneous criterion. These waters are nested within the Middle Blackwater River Bacteria TMDL Study U.S. EPA approved on 12/04/2001. Fed. ID 1887/1889/9633. SWCB approved 6/17/2004. Bacteria Implementation Plan SWCB approved 6/17/2004.

4ABCE001.32 (Above Rt. 731 Bridge) 7 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/10 ml instantaneous criterion in 2014. Exceedances range from 250 to 1100 cfu/100 ml. There are no additional data within the 2016 or 2018 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BCE01A08 / Buck Run / Buck Run from its confluence with Little Creek upstream to its headwaters (RU22).	4A	Escherichia coli	2014	L	3.77

Buck Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.77**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L08R-07-BEN** **Buck Run**

Cause Location: Buck Run from its confluence on Little Creek upstream to its headwaters.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic community is impaired for 3.77 miles for this 2008 303(d) Listing.

4ABCE001.32 (Above Rt. 731 Bridge) Bio 'IM' There are no additional data beyond the 2014 Integrated Report (IR) where 4 (2010-2011) Virginia Stream Condition Index (VSCI) surveys yield an average score of 35.2. The instream habitat (substrate) at this site has been impacted by fine sediment. The immediate riparian zone vegetation has been reduced and stream banks are eroded due to reduced vegetation. Runoff from this type of landuse affects water quality by adding sediment, nutrients, and bacteria to the stream.

4ABCE000.87- (Downstream of Rt. 731; end of Twin Hollow Lane) Bio 'IM' There are no additional data beyond the 2010 IR. Four 2006-2007 VSCI surveys with an average score of 35.0. Two remaining 2007 VSCI surveys score 29.8 on average within the 2014 data window. Located in a small second order stream in a watershed influenced by agricultural land use (dairy farms, corn fields). The watershed upstream of this station is dominated by agricultural land cover (67%). The instream habitat was affected by sediment deposition and thick periphyton growth on rocky substrates. Bank vegetation and riparian zones are impacted by the land use. Water chemistry results indicate elevated nutrients relative to other Probabilistic stations in the region.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BCE01A08 / Buck Run / Buck Run from its confluence with Little Creek upstream to its headwaters (RU22).	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	3.77

Buck Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.77**

Sources:

- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L09R-01-BAC** **Maggodee Creek**

Cause Location: The upstream limit is Maggodee Creek mainstem waters from the North and South Forks confluence downstream to the mouth of Maggodee Creek on the Blackwater River.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Maggodee Creek Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 4/27/2001 [Fed. IDs: 1562/9475] and SWCB approval on 6/17/2004 (formerly VAW-L09R-01) for the former 20.58 mile impairment. A total of 16.15 miles remained impaired after the delisting of VAW-L09R_MEE05A00 in 2008 for the Recreational Use. The 2008 Integrated Report (IR) results from station 4AMEE021.13 (Rt. 613 Bridge Below Conflu./w Fork) found no excursions of the E.coli 235 cfu/100 ml instantaneous criterion from 12 samples. This portion (4.43 miles) was delisted (U.S. EPA approved 12/18/2008) with the 2008 IR. This portion returns with the 2012 assessment as described below for 4.43 miles returning the impaired mileage to 20.58 miles.

The TMDL Study incorporates tributary streams that lie within the boundaries of watershed VAW-L09R. The Lower Blackwater River Bacteria Implementation Plan (IP) received SWCB approval on 9/27/2006. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study with allocations can be viewed at http://www.deq.virginia.gov.

The bacteria impairment is a 1996 303(d) Listing based on a 319 funded special study (SS 925102) and ambient sample collections. Abundant fecal coliform (FC) bacteria counts failed to support the Recreational Use by exceedances of both the former fecal coliform geometric mean (200 n/100 ml) & 2 samples/month) and the former (2002) instantaneous criterion of 1000 n/100 ml. Escherichia coli (E.coli) now replaces fecal coliform bacteria as the indicator per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AMEE021.13 (Rt. 613 Bridge Below Conflu./w Fork) This station was delisted in 2008 but relisted with the 2012 assessment. There are no additional data beyond the 2014 IR. 2014 data report 6 of 35 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion. Exceedances range from 275 cfu/100 ml to greater than 2000. The remaining data within the 2016 IR are 5 exceedances from 23 samples and the same range of exceedance as in 2014. 2012 data yield 4 of 26 E.coli samples exceeding the instantaneous criterion with a range from 300 cfu/100 ml to greater than 2000. The 2010 assessment reported only 1 of 24 E.coli samples exceeding the instantaneous criterion at 450 cfu/100 ml and the 2008 assessment no exceeding values from 12 samples resulting in full support of the Recreational Use and delisting this portion (VAW-L09R_MEE05A00).

4AMEE016.75- (Rt. 684 Winding Way Road Bridge) This station established in 2014 is a Probabilistic Ambient site. Calendar year 2014 finds 6 E.coli collections do not exceed the WQS instantaneous criterion. 4AMEE016.75 replaces 4AMEE017.24 the original 2014 probabilistic site. There is no additional data beyond the 2014 window.

4AMEE009.86- (Rt. 635 Bridge) There is no additional data beyond the 2014 assessment. Nine of 24 remaining observations are within the 2016 data window exceeding the instantaneous criterion and 3 of 12 within the 2018 data window. The range of exceedance is the same as 2014. 2014 data yield 14 of 36 E.coli observations in excess of the 235 cfu/100 ml instantaneous criterion. The range of exceeding values is from 250 cfu/100 ml to greater than 2000. Thirteen of 27 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion in 2012. Exceedances range from 250 cfu/10 ml to greater than 2000. 2010 E. coli samples exceed the instantaneous criterion in 10 of 24 observations ranging from 250 to greater than 800 cfu/100 ml. E.coli exceeds the instantaneous criterion in 7 of 18 samples ranging from 250 to greater than 800 cfu/100 ml in 2008.

4AMEE007.85- (Rt. 687 Bridge above Mollie Br.) There are no additional data beyond the 2006 IR where E.coli exceed the WQS instantaneous criterion in 8 of 17 observations. The range of exceedance is from 240 to greater than 800 cfu/100 ml. Observations within the 2008 data window are 2 of 6 excursions of the instantaneous criterion.

4AMEE004.90- (Rt. 697 Bridge) 21 E.coli exceedances occur during the 2018 data window out of 36 total samples. The exceedance range is 250 to 5475 cfu/100 ml. The 2016 data window produces 18 E.coli excursions of the 235 cfu/100 ml instantaneous criterion from 35 samples. The range of exceeding values is 250 to greater than 2000 cfu/100 ml. Fifteen of 35 E.coli samples exceed the instantaneous criterion in 2014 with the same range of exceedance as 2016. The 2012 assessment finds E.coli exceeds the instantaneous criterion in 16 of 35 samples. Values in excess of the criterion range from 280 cfu/10 ml to greater than 2000. E.coli exceed the instantaneous criterion in 16 of 33 observations within the 2010 data window. The range of exceedance is from 240 cfu/100 ml to greater than 2000. 2008 data reveal E.coli exceedances in 16 of 27

observations. The range of exceedance is from 240 cfu/100 ml to greater than 800. Sixteen of 26 observations exceed in 2006 with an exceedance range of 310 cfu/100 ml to greater than 800.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE01A00 / Maggodee Creek / Maggodee Creek mainstem from Piedmont Mill Dam downstream to the mouth of Maggodee Creek on the Blackwater River (RU23).	4A	Escherichia coli	2004	L	7.47
VAW-L09R_MEE02A00 / Maggodee Creek / Maggodee Creek mainstem from just above Piedmont Mill downstream to Mill Dam (RU23).	4A	Escherichia coli	2004	L	1.67
VAW-L09R_MEE03A00 / Maggodee Creek / Maggodee Creek mainstem waters downstream of Boones Mill STP to just above Piedmont Mill (RU23).	4A	Escherichia coli	2004	L	6.02
VAW-L09R_MEE04A00 / Maggodee Creek / Maggodee Creek mainstem waters from the Boones Mill Town area downstream to Boones Mill STP (RU23) .	4A	Escherichia coli	2006	L	0.99
VAW-L09R_MEE05A00 / Maggodee Creek / Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill (RU23).	4A	Escherichia coli	2012	L	4.43

Maggodee Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.58**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L09R-01-BEN** **Maggodee Creek**

Cause Location: Maggodee Creek mainstem from Piedmont Mill Dam downstream to the mouth of Maggodee Creek on the Blackwater River.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non-support of the Aquatic Life Use is originally based (2002- formerly VAW-L09R-01) on Rapid Bioassessment Protocol II surveys (RBP II) conducted at 4AMEE002.38. The station is assessed using the Virginia Stream Condition Index (VSCI). The 7.47 mile 2002 303(d) Listed General Standard (Benthic) impairment remains.

4AMEE002.38- Bio 'IM' There are no additional data beyond the 2014 Integrated Report (IR). The 2014 data window yields 4 (2010-2011) VSCI surveys with an average score of 57.4. Two 2010 VSCI surveys with an average score of 52.1 for the 2012 assessment. The instream habitat (substrate) at this site has been impacted by fine sediment. The immediate riparian zone vegetation has been reduced and stream banks are eroded due to reduced vegetation. Runoff from this type of landuse affects water quality by adding sediment, nutrients, and bacteria to the stream.

4AMEE000.70- (Below Rt. 122 Bridge) Bio 'IM' There are no additional data beyond the 2008 IR. One 2002 Virginia Stream Condition Index (VSCI) survey scoring 47.2. Sediment deposition from agricultural runoff appears to have a large impact on the benthic community. Habitat scores for embeddedness and sediment deposition were the lowest of the 10 habitat parameters. Both parameters fell in the marginal category. In 2006 3 RBP II surveys, outside the 2008 data window, produce an average score of 44.9 at this site. Two surveys in the spring result in scores of 30.43 (2000) and 52.17 (2002). The fall 2000 survey score is 52.17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE01A00 / Maggodee Creek / Maggodee Creek mainstem from Piedmont Mill Dam downstream to the mouth of Maggodee Creek on the Blackwater River (RU23).	5A	Benthic-Macroinvertebrate Bioassessments	2002	M	7.47

Maggodee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.47**

Sources:

- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L09R-01-TEMP** **Maggodee Creek**

Cause Location: Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The Aquatic Life Use is not supported for 4.43 miles due to temperature exceedances for this stockable trout water (21°C).

4AMEE021.13- (Rt. 613 Bridge Below Conflu./w Fork) There are no additional data beyond the 2014 IR where 7 of 36 temperature measurements exceed the stockable trout water criterion of 21°C within the 2014 data window. Temperature exceedances range from 21.2 to 25.2°C and occur in the summer months. Five of 23 measurements exceed within the 2016 data window. The 2012 assessment reports 6 of 27 temperature measurements exceed the stockable trout water criterion ranging from 21.4 to 25.2°C. Four of 24 temperature measurements exceed the criterion in 2010. Temperature exceedances occur at 21.1°C on 8/5/2004; 21.4°C on 6/30/2005; 25.2°C on 8/01/2007; and 23.4°C on 6/11/2008. The 2008 assessment reports 1 temperature exceedance at 21.1°C on 8/5/2004 and a second at 21.4°C on 6/30/2005 from 12 measurements. These excursions are in excess of the 21°C stockable trout water criterion causing the initial Listing of these waters in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE05A00 / Maggodee Creek / Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill (RU23).	5C	Temperature, water	2008	L	4.43

Maggodee Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.43**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L09R-02-BAC** **Mollie Branch**

Cause Location: The impairment begins in the headwaters of Mollie Branch and extends to its mouth on Maggodee Creek (Boones Mill and Redwood Quads).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Maggodee Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 4/27/2001 [Fed. ID 1562/9475] and SWCB approved on 6/17/2004 (formerly VAW-L09R-02). Originally 303(d) Listed in 1998 (2002) for FC. The study incorporates tributary streams that lie within the boundaries of watershed VAW-L09R. The Lower Blackwater River Bacteria Implementation Plan (IP) is complete with SWCB approval on 9/27/2006. The Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study can be viewed at http://www.deq.virginia.gov.

The Mollie Branch bacteria impairment is recorded as a 2.74 mile 1998 303(d) Listing for fecal coliform (FC) bacteria based on a 319 funded special study (SS 925102) and ambient sample collections. Actual listing occurred with the 2002 Assessment Cycle. Abundant fecal coliform bacteria counts failed to support the recreational use by exceedances of both the former fecal coliform geometric mean (200 n/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AMHA000.01 (Off Rt. 687 at confluence/w Maggodee) There are no additional data beyond the 2004/2006 data windows where E.coli exceedances of the 235 cfu/100 ml instantaneous criterion are found in 10 of 16 samples. The range of excursions is 370 cfu/100 ml to greater than 2000. E.coli observations within the 2008 data window find 3 of 6 E.coli excursions of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MHA01A00 / Mollie Branch / Mollie Branch mainstem from an unnamed tributary upstream of Piedmont Mill downstream to Mollie Branch mouth on Maggodee Creek (RU23).	4A	Escherichia coli	2004	L	0.91
VAW-L09R_MHA02A00 / Mollie Branch / Mollie Branch mainstem perennial headwaters downstream to an unnamed tributary above Piedmont Mill (RU23).	4A	Escherichia coli	2006	L	1.83

Mollie Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.74**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L09R-02-BEN** **Maggodee Creek**

Cause Location: Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to the Boones Mill STP outfall (RU23).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2016 initial 5.42 mile General Standard - Benthic impairment of the Aquatic Life Use is the result of macroinvertebrate surveys resulting in an impaired status.

4AMEE017.24 (Upstream of Rt. 220 near Boones Mill) Bio 'IM' There are no additional data beyond the 2016 data window where 2 2014 Virginia Stream Condition Index (VSCI) surveys scoring spring 46.8 and fall 57.9 indicating impairment. The average VSCI score was 52.4 indicating a benthic community lacking in diversity and dominated by pollution-tolerant organisms. Some instream habitat scores were good; however, those related to sediment deposition were low. Bank erosion and riparian zone width scores were also low. This section of Maggodee Creek appears to be impacted by runoff from Rt. 220 and Rt. 613 upstream of the sampling site as well as agricultural land in the headwaters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE04A00 / Maggodee Creek / Maggodee Creek mainstem waters from the Boones Mill Town area downstream to Boones Mill STP (RU23) .	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	0.99
VAW-L09R_MEE05A00 / Maggodee Creek / Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill (RU23).	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.43

Maggodee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.42**

Sources:

Agriculture	Clean Sediments	Livestock (Grazing or Feeding Operations)	Non-Point Source
Sediment Resuspension (Clean Sediment)	Urban Runoff/Storm Sewers		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L10L-01-HG** **Blackwater River**

Cause Location: Blackwater River mainstem waters from the Maggodee Creek confluence downstream ending at 37°03'03" / 79°43'49" located ~1.7 miles upstream of the 4H Camp in Smith Mountain Lake.

City / County: Franklin Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) and Virginia Department of Health (VDH) level of concern of 0.5 ppm are found in fish tissue causing impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ABWR019.75 (Rt. 834 Bridge - Brooks Mill Bridge)- 2006 fish tissue collections find from a total of 12 fish, a flathead catfish and a largemouth bass whose tissue values are in excess of the WQS based tissue value (TV) of 0.3 ppm for mercury; flathead catfish (1 fish 96.0 cm) at 0.477 ppm and largemouth base (1 fish 46.5 cm) at 0.514.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10L_BWR03A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from ~1.6 miles downstream of the Brooks Mill Bridge on downstream to the 4H Camp (RU24).	5A	Mercury in Fish Tissue	2010	L	351.97
VAW-L10L_BWR03B14 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its back waters downstream to ~1.6 miles downstream of the Brooks Mill Bridge (RU24).	5A	Mercury in Fish Tissue	2010	L	114.22
VAW-L10L_PCP01A10 / Smith Mtn. Lake (Poplar Camp Creek) / Poplar Camp Creek from its confluence with the Blackwater River upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	58.59
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	5A	Mercury in Fish Tissue	2010	L	0.39
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	5A	Mercury in Fish Tissue	2010	L	5.20
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	5A	Mercury in Fish Tissue	2010	L	2.62

Blackwater River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**524.78**	**8.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L10L-05-BAC** **Smith Mountain Lake - Crazy Horse Camp Ground**

Cause Location: Crazy Horse Camp Ground Beach and Marina area.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Crazy Horse Camp Ground and Marina is located on an unnamed tributary to the Blackwater River. The VDH issued a beach closure at the facility for one week each in June and July 2000 noting a recurrence of bacterial contamination is likely. The facility is located off Route 601 at 37°04'04"/79°38'54" on the Moneta SW Quad. This is a 2004 Listing (formerly VAW-L12LR-05 & L12L-05-BAC). There are no additional data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10L_XUV01A10 / Smith Mtn. Lake - Crazy Horse Camp Ground and Marinia / Off Route 601, Franklin County, on backwaters of an unnamed tributary (XUV) to Blackwater River in Smith Mountain Lake 37°04'04" / 79°38'54".	5A	Escherichia coli	2004	L	30.27

Smith Mountain Lake - Crazy Horse Camp Ground **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**30.27**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L10R-01-BAC** **Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)**

Cause Location: Blackwater River from the Rt. 122 Bridge Crossing on downstream into Smith Mountain Lake (Redwood Quad). Downstream ending at ~1.6 miles downstream of the Brooks Mill Bridge. And Foul Ground Creek from its headwaters (37°01'45" / 79°47'28") downstream to its inundation on the Blackwater River in Smith Mountain Lake (37°03'03" / 79°45'26").

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Bacteria Total Maximum Daily Load (TMDL) Studies are complete for the Upper, Middle and Lower Blackwater River drainages. These studies incorporate tributary streams that lie within the boundaries of VAW-L08R, L09R, L10R and L11R. This Fact sheet addresses the Lower Blackwater River drainage.

TMDL approvals from the U.S. EPA were obtained on 03/09/2001 for the Upper Blackwater River [Fed. ID 1887/9634], the Middle on 12/04/2001 [Fed. ID 1887(1889)/9633] and the Lower on 04/27/2001 [Fed. ID 1888]. Each of the aforementioned TMDLs were approved by the SWCB on 6/17/2004. Each TMDL found Wildlife is a major source of bacterial contamination via Bacteria Source Tracking (BST).

The Upper Blackwater River Bacteria Implementation Plan (IP) covering Upper and Middle Blackwater River TMDL Studies is complete (8/23/2001) and SWCB approved on 6/17/2004. The Lower Blackwater River Bacteria IP is complete with SWCB approval on 9/27/2006. The Upper Blackwater River Bacteria IP encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L12L), Maggodee (L09R) and Gills Creeks (L11R). The entirety of the approved TMDLs with allocations and Implementation Plans can be viewed at http://www.deq.virginia.gov.

352.23 acres in Smith Mountain Lake are delisted with the 2014 Integrated Report (IR). Escherichia coli (E.coli)) excursions of the 235 cfu/100 ml instantaneous criterion are 2 of 38 observations at station 4ABWR017.42 (Smith Mtn. Lake- Franklin Co.). A 5.3% exceedance rate. 114.22 acres remain impaired for the Recreational Use.

Blackwater River:
The Blackwater River Impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant fecal coliform (FC) bacteria counts failed to support the recreational use by exceedances of both the former geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. The Blackwater River mainstem bacteria impaired miles total 39.48 (See L08R-04-BAC Fact Sheet). Escherichia coli (E.coli) has replaced fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Lower Blackwater River (11.21 miles):
4ABWR032.32- (Rt. 122 Bridge at the stream gaging station) There are no additional data beyond the 2006 Integrated Report (IR). This station will no longer be sampled due to safety concerns. The 2006 IR reports E.coli exceed the 235 cfu/100 ml instantaneous criterion in 6 of 21 samples ranging from 490 to greater than 800 cfu/100 ml. E.coli samples within the 2008 data window find 1 of 10 in excess of the instantaneous criterion.

4ABWR019.75- (Rt. 834 Bridge or Brooks Mill Bridge) E.coli exceeds the instantaneous criterion of 235 cfu/100 ml in 11 of 36 samples within the 2016 data window and 12 of 36 samples within the 2018 data window. Exceeding values range from 320 cfu/100 ml to 2,613.
2014 data find 9 of 36 E.coli samples in excess of the 235 cfu/100 ml instantaneous criterion. Exceedances range from 280 cfu/100 ml to 2000. The 2012 data window finds E.coli exceeds the instantaneous criterion in 7 of 36 samples. Exceeding values range from 280 cfu/100 ml to greater than 2000. The 2010 assessment finds E.coli exceeds the instantaneous criterion of 235 cfu/100 ml in 6 of 33 samples with the same range of exceedance as 2012. 2008 E.coli exceeds the instantaneous criterion in 4 of 21 samples. The exceeding range is from 420 cfu/100 ml to greater than 2000. 2006 results are exceedances of the instantaneous criterion in 2 of 9 samples. The exceeding values are 420 and 620 cfu/100 ml.

Foul Ground Creek (4.04 miles):
A 2004 addition to the original bacteria impairment is a 4.04 mile section on Foul Ground Creek. [Fed. ID 1888]. The

impairment begins at the Foul Ground Creek headwaters (37°01'45"/79°47'28") and extends downstream to its inundation on the Blackwater River in Smith Mountain Lake (37°03'03"/79°45'26").

4AFGC002.52- (Rt. 834 Bridge) There are no additional data beyond the 2004 IR where 5 of 11 FC samples exceed the former 400 cfu/100 ml instantaneous criterion. Exceeding values range from 500 cfu/100 ml to greater than 8000. FC results produce no exceedances from 2 samples within the 2008 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BWR01A00 / Blackwater River / Blackwater River mainstem from the Rt. 122 Bridge downstream to the mouth of Maggodee Creek (RU22).	4A	Escherichia coli	2004	L	3.02
VAW-L10L_BWR03B14 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its back waters downstream to ~1.6 miles downstream of the Brooks Mill Bridge (RU24).	4A	Escherichia coli	2006	L	114.22
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	4A	Escherichia coli	2006	L	0.39
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	4A	Escherichia coli	2006	L	5.20
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	4A	Escherichia coli	2006	L	2.62

Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		**114.22**	**11.23**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10R_FGC01A00 / Foul Ground Creek / Foul Ground Creek mainstem from its inundation at Smith Mountain Lake on the Blackwater River upstream to its headwaters. The segment is within the WQS designated public water supply (PWS) section 6i (RU24).	4A	Fecal Coliform	2004	L	4.19

Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.19**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L10R-01-BEN** **Blackwater River**

Cause Location: Blackwater River mainstem from the mouth of Maggodee Creek downstream to the backwaters of Smith Mountain Lake (L10R) at the 795 ft pool elevation.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

An upstream portion of the Blackwater River General Standard - Benthic impairment is delisted based on Virginia Stream Condition Index (VSCI) survey data from station 4ABWR029.51 for 5.99 miles. The waters downstream of Maggodee Creek (8.19 miles) remain impaired until sufficient benthic survey data can confirm support or non-support of the Aquatic Life Use in this downstream reach. Habitat impacts include excessive sediment deposition. Water quality in this reach is affected by NPS pollution.

4ABWR029.51- (Downstream of Rt. 122 Bridge) Both the 2010 and 2008 assessments find benthic impairment from 2 2004 Virginia Stream Condition Index (VSCI) surveys scoring 60.7 spring and 50.1 fall. The average VSCI score is 55.4. Subsequent surveys in 2011 and 2012 find 3 non-impaired and 1 impaired score but averaging 69.4. The station is located upstream of Maggodee Creek with no additional benthic survey data downstream of Maggodee Creek. A partial delisting (5.99 miles) is a result of these additional surveys. 2011 scores are: spring 69.4; fall 73.6. And 2012 scores are: spring 58.6; fall 74.8.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	0.39
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	5.20
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	2.62

Blackwater River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.21**

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L11R-01-BAC** **Gills Creek**

Cause Location: Gills Creek mainstem from west of the Rt. 684 Bridge in Franklin County (Garden City Quad) on downstream into the inundated Gills Creek backwaters of Smith Mountain Lake near the end of Rt. 665. (Moneta S.W. Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Gills Creek Bacteria Total Maximum Daily Load (TMDL) Study received U.S. EPA approval on 5/31/2002 [Fed ID: 9472/18765] and SWCB approval on 6/17/2004 (formerly VAW-L11R-01). The TMDL Study incorporates tributary streams that lie within the boundaries of watershed VAW-L11R. The Lower Blackwater River Bacteria Implementation Plan (IP) is approved by the SWCB on 9/27/2006. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study with allocations can be viewed at http://www.deq.virginia.gov.

The bacteria impairment is a 1996 303(d) Listing based on a 319 funded special study (SS 925102) and ambient sample collections. Abundant fecal coliform (FC) bacteria counts failed to support the recreational use by exceedances of both the former geometric mean (200 cfu/100 ml) and the former (2002) instantaneous criterion (1000 cfu/100 ml). The Recreational Use impairment remains for 20.46 miles and 197.42 acres in the backwaters of Smith Mountain Lake.

4AGIL023.22- (Rt. 657 Bridge) There are no additional data beyond the 2012 Integrated Report (IR) where 11 of 23 escherichia coli (E.coli) samples exceed the WQS 235 cfu/100 ml instantaneous criterion with exceedances ranging from 280 to greater than 2000 cfu/100 ml. Four of 11 E.coli observations exceed the instantaneous criterion in 2010. The exceeding values range from 580 cfu/100 ml to 1400. The 2006 Integrated Report (IR) reports 3 of 20 FC observations exceed the former 400 cfu/100 ml instantaneous criterion. The exceeding values range from 500 cfu/100 ml to greater than 8000. The 2004 IR records 6 of 27 fecal coliform bacteria sample counts exceed the former instantaneous criterion.

4AGIL008.30- (Rt. 834 Bridge near Booker T. Washington National Park) There are no additional data beyond the 2012 (IR). The 2012 assessment finds escherichia coli (E.coli) exceed the WQS instantaneous criterion of 235 cfu/100 ml in 12 of 24 samples. Exceedances range from 300 cfu/100 ml to greater than 2000. 2010 data reveal E.coli bacteria exceed the WQS instantaneous criterion in 3 of 15 samples. Exceedances range from 350 cfu/100 ml to 1400. The 2006 IR reports 8 of 18 E.coli samples exceed the instantaneous criterion. Exceeding values range from 250 cfu/100 ml to greater than 800. E.coli results within the 2008 data window find 1 of 6 samples in excess of the instantaneous criterion as there are no additional beyond the 2006 assessment.

4AGIL004.46 (Rt. 688 Bridge)- 15of 30 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window. The 2016 IR finds 18 of 36 E.coli samples in excess of the 235 cfu/100 ml instantaneous criterion. Excessive values range from 250 cfu/100 ml to 24,196. Sixteen of 36 E.coli observations exceed the instantaneous criterion within the 2014 data window. Excessive values range from 250 to greater than 2000 cfu/100 ml. Eleven of 24 E.coli observations exceed the instantaneous criterion in 2012. Excessive values range from 250 to greater than 2000 cfu/100 ml. 2010 assessment data find 3 of 12 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 500 to 1400 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L11L_GIL02A10 / Smith Mtn. Lake (Gills Creek) / Gills Creek from the end of Route 665 upstream to its backwaters (RU25).	4A	Escherichia coli	2004	L	197.42
VAW-L11R_GIL01A00 / Gills Creek / Gills Creek mainstem from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Smith Mountain Lake, eg. waters within 5 miles of the 795 ft. pool elevation of Smith Mtn. Lake (RU25).	4A	Escherichia coli	2004	L	4.85
VAW-L11R_GIL02A02 / Gills Creek / Gills Creek mainstem from an unnamed tributary just north of the Rt. 122 crossing downstream to the WQS designated public water supply (PWS) section 6i. These waters are not within 5 miles upstream of the 795 ft. pool elevation of Smith	4A	Escherichia coli	2004	L	4.39

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Mtn. Lake (RU25).

VAW-L11R_GIL03A02 / Gills Creek / Gills Creek mainstem perennial headwaters downstream to an unnamed tributary just north of the Rt. 122 crossing of Gills Creek. These waters are not within 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU25).	A	Escherichia coli	2010	L	11.22

Gills Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation				
	Escherichia coli - Total Impaired Size by Water Type:		**197.42**	**20.46**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L11R-02-BAC** **North Fork Gills Creek**

Cause Location: North Fork Gills Creek and tributaries from its mouth on Gills Creek upstream to its headwaters (RU25).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Gills Creek Bacteria Total Maximum Daily Load (TMDL) Study received U.S. EPA approval on 5/31/2002 [Fed ID: 9472/18765] and SWCB approval on 6/17/2004 (formerly VAW-L11R-01). The TMDL Study incorporates tributary streams that lie within the boundaries of watershed VAW-L11R. The Lower Blackwater River Bacteria Implementation Plan (IP) is approved by the SWCB on 9/27/2006. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study with allocations can be viewed at http://www.deq.virginia.gov.

4AGNF002.84 (Bellwood Ln. Bridge) - 2018 IR finds 9 of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 299 to 1956 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L11R_GNF01A02 / North Fork Gills Creek & Tributaries / North Fork Gills Creek and tributaries from its mouth on Gills Creek upstream to its headwaters (RU25).	4A	Escherichia coli	2018	L	16.50

North Fork Gills Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.50**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L12L-01-HG** **Smith Mountain Lake**

Cause Location: Smith Mtn. Lake from the backwaters of the Roanoke River (elevation 795 ft) downstream to a point 37°04'39" / 79°37'15"; downstream of the State Park.

City / County: Bedford Co. Franklin Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new Water Quality Standards (WQS) effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/info/mercury.html for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4AROA175.63 (Hales Ford Bridge)- Mercury (Hg) fish tissue exceedances of the DEQ WQS based 0.3 ppm TV are found in 2 species from 2006 collections; largemouth bass from 4 individual fish (49.2 cm) at 0.691, (47.3 cm) at 0.484, (44.5 cm) at 0.376 and (40.9 cm) at 0.305 ppm; and flathead catfish (83.4 cm) at 0.406 ppm.

2002 Data from station 4AROA196.05 (McVeigh Ford)- records 1 species, an individual flathead catfish (91.3 cm) at 0.34 ppm.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07L_BDA01A10 / Smith Mtn. Lake (Beaverdam Creek) / Beaverdam Creek from its mouth on the Roanoke River upstream to its backwaters (RU17).	5A	Mercury in Fish Tissue	2010	L	151.70
VAW-L07L_BKY01A10 / Smith Mtn. Lake (Beckys Creek) / Beckys Creek from its confluence with the Roanoke River upstream to its backwaters (RU19).	5A	Mercury in Fish Tissue	2010	L	246.94
VAW-L07L_BTT01A10 / Smith Mtn. Lake (Bettys Creek) / Bettys Creek from its confluence with the Roanoke River upstream to its backwaters (RU19).	5A	Mercury in Fish Tissue	2010	L	213.19
VAW-L07L_FIN02A10 / Smith Mtn. Lake (Falling Creek) / Falling Creek from its confluence with the Roanoke River upstream to its backwaters (795 Ft. pool elevation) (RU16).	5A	Mercury in Fish Tissue	2010	L	18.36
VAW-L07L_HFW01A10 / Smith Mtn. Lake (Hales Creek) / Hales Creek from its mouth on the Roanoke River upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	117.90
VAW-L07L_IND01A10 / Smith Mtn. Lake (Indian Creek) / Indian Creek from its mouth on the Roanoke River upstream to the 795 Ft. pool elevation of Smith Mountain Lake.	5A	Mercury in Fish Tissue	2010	L	161.67
VAW-L07L_JUM01A10 / Smith Mtn. Lake (Jumping Run) / Jumping Run from its confluence with the Roanoke River upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	29.10
VAW-L07L_LVL01A10 / Smith Mtn. Lake (Lynville Creek) / Lynville Creek from its confluence on the Roanoke River upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	76.75
VAW-L07L_ROA02A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from 37°04'39" / 79°37'15" below the State Park upstream to approximately 1 mile downstream of the Hales Ford Bridge.	5A	Mercury in Fish Tissue	2010	L	######
VAW-L07L_ROA03A10 / Smith Mtn. Lake (Roanoke River) /	5A	Mercury in Fish Tissue	2010	L	######

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Roanoke River from approximately 1 mile downstream of the Hales Ford Bridge upstream to the mouth of Falling Creek.

VAW-L07L_ROA04A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from ~ 3/4 miles upstream of the Hardy Road Bridge downstream to the confluence of Falling Creek.	5A	Mercury in Fish Tissue	2010	L	184.71
VAW-L07L_ROA05A14 / Smith Mtn. Lake (Roanoke River) / Roanoke River from the Back Creek confluence downstream to ~ 3/4 miles upstream of the Hardy Road Bridge.	5A	Mercury in Fish Tissue	2010	L	165.29
VAW-L07L_SWC01A10 / Smith Mtn. Lake (Stony Creek) / Stony Creek from its mouth on the Roanoke River upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	48.61
VAW-L07L_XNK01A10 / Smith Mtn. Lake (Roanoke R., UT XNK) / An unnamed tributary to the Roanoke River from its mouth upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	79.98
VAW-L07L_XNL01A10 / Smith Mtn. Lake (Roanoke R., UT XNL) / An unnamed tributary to the Roanoke River from its mouth upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	109.32
VAW-L07L_XNM01A10 / Smith Mtn. Lake (Roanoke R., UT XNM) / An unnamed tributary (XNM) to the Roanoke River from its mouth upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	38.40
VAW-L07L_XNN01A10 / Smith Mtn. Lake (Roanoke R., UT XNN) / An Unnamed tributary (XNN) to the Roanoke River from its mouth upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	87.77
VAW-L07L_XOC01A10 / Smith Mtn. Lake (Roanoke R., UT XOC) / An unnamed tributary (XOC) to the Roanoke River from its mouth upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	119.55

Smith Mountain Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**6,480.10**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L12L-01-PCB** **Roanoke River, Tinker Creek and Peters Creek.**

Cause Location: Roanoke River from the confluence of the North and South Forks downstream to Niagara Dam. The impairment includes Peters Creek from the Rt. 460 Bridge downstream to its confluence on the Roanoke River; and Tinker Creek from the mouth of Deer Branch downstream to the Tinker Creek confluence on the Roanoke River.

City / County: Montgomery Co. Roanoke City Roanoke Co. Salem City

Use(s): Fish Consumption Public Water Supply Wildlife

Cause(s) / VA Category: PCB in Fish Tissue / 4A PCB in Water Column / 4A

The waters of the Roanoke River (28.61 miles), Peters Creek (2.52 miles) and Tinker Creek (5.37 miles) are under a Virginia Department of Health (VDH) Fish Consumption Advisory for Polychlorinated Biphenols (PCB) issued 7/27/05. An additional 3.16 miles on the Roanoke from Niagara Dam to Smith Mtn. Lake are under advisory and described in Fact Sheet L12L-02-PCB. The VDH Advisory is based on fish tissue found to originally contain greater than 50 parts per billion (ppb) of PCBs. The DEQ Water Quality Standard (WQS) based tissue value (TV) criterion is 20 ppb in fish tissue. The previous advisory (issued 10/20/03) recommended that no more than 2 8 oz. meals per month of flathead catfish (less than 32 inches in size), striped bass, gizzard shad, redhorse sucker, largemouth bass and carp should be consumed. Per the previous advisory, flathead catfish (greater than 32 inches in size) should not be eaten. The advisory has been updated to also recommend that no more than 2 8 oz. meals per month of channel catfish should be consumed.

The Roanoke (Staunton) River PCB TMDL Study is U.S. Environmental Protection Agency (EPA) approved on 4/9/2010 and State Water Control Board (SWCB) approved 12/9/2010. A 3.16 mile portion of the Roanoke River is not included in the PCB TMDL Study. The following Federal Identification Numbers by watershed are approved:
L03R Roanoke River: 38624, 38625, 38627, 38629, 38543, 38630
L04R Roanoke River: 24537, 38552, 38632, 38633, 38634, 38635, 38636
Peters Creek: 38468
L05R Tinker Creek: 38467

Fish tissue collections from locations on the Roanoke mainstem, Blackwater River, Mason Creek, Mudlick Creek, Paint Bank Branch, Peters Creek, Tinker Creek and the North and South Forks of the Roanoke River are reviewed by the VDH in making an advisory determination. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov/epidemiology/DEE/PublicHealthToxicology/Advisories/index.htm.

Thirty day deployment of Semi-Permeable Membrane Devices (SPMD) or virtual fish in 2008 find exceedances of the WQS PCB water column criterion of 0.00064 micrograms per liter (µg/L) or 640 picograms per liter (pg/L). Exceedances are recorded for the Fish Consumption Use via WQS 'Other Waters' (12.09 miles) as well as the Wildlife Use (12.09 miles) and the 'Public Water Supply Use' (PWS 1.64 miles) for the human health criterion at the stations listed below. The 640 pg/L criterion applies to these Uses. The 'PCB in Water Column' impairment on the mainstem of the Roanoke River extends from the confluence of Mason Creek downstream to the mouth of Back Creek (15.23 miles). Fact Sheet L12L-02-PCB describes and the additional 3.14 miles for each of these uses. The 'PCB in Water Column' impairment overlays a total 15.23 mile portion of the overall VDH Fish Consumption Advisory area above Smith Mountain Lake.
4AROA207.08- (Near Memorial Bridge downstream of Peters Creek)- 2008 SPMD 'OE'. Exceeds PCB WQS 'Other Waters' 640 pg/L criterion from 1 of 2 deployments at 642.

4AROA204.76 (Downstream of Ore Br., near VA Scrap Iron Co. above American Visco)- 2 2008 SPMD deployments find exceedance of the WQS 'Other Waters' 640 pg/L criterion at 987 and 3,014 pg/L.

4AROA202.20 (13th Street Bridge - above STP)- 2 2008 SPMD deployments find exceedance of the WQS 'Other Waters' 640 pg/L criterion at 1,376 and 3,044 pg/L.

4AROA199.20 (Blue Ridge Parkway Bridge - Niagara)- 2 2008 SPMD deployments find exceedance of the WQS 'Other Waters' and 'PWS' 640 pg/L criterion at 1,213 and 1,588 pg/L.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L03R_ROA01A00 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth upstream to the Rt. 419 Bridge (RU09).	4A	PCB in Fish Tissue	2002	L	1.20

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

VAW-L03R_ROA02A00 / Roanoke River / Roanoke River mainstem from the Rt. 419 Bridge upstream to the City of Salem downtown intake on the Roanoke River (RU09).	4A	PCB in Fish Tissue	2002	L	2.67
VAW-L03R_ROA03A00 / Roanoke River / Roanoke River mainstem from the Salem City WTP downtown intake upstream to the Big Bear Branch mouth on the Roanoke River (RU09).	4A	PCB in Fish Tissue	2002	L	3.42
VAW-L03R_ROA04A00 / Roanoke River / Roanoke River mainstem from the Big Bear Rock Branch mouth upstream to end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns (RU09).	4A	PCB in Fish Tissue	2002	L	5.57
VAW-L03R_ROA05A00 / Roanoke River / Roanoke River mainstem from the end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns upstream to the Roanoke County Spring Hollow Reservoir intake (RU09).	4A	PCB in Fish Tissue	2002	L	1.43
VAW-L03R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Roanoke County Spring Hollow Reservoir intake upstream to the Montgomery/Roanoke County Line (RU09).	4A	PCB in Fish Tissue	2002	L	0.95
VAW-L03R_ROA07A12 / Roanoke River / Roanoke River mainstem from the Montgomery/Roanoke County Line upstream to the confluence of the North & South Forks of the Roanoke River (RU09).	4A	PCB in Fish Tissue	2002	L	1.26
VAW-L04R_PEE01A02 / Peters Creek / Peters Creek mainstem from its confluence with the Roanoke River upstream to the Melrose Avenue Bridge (Rt. 11/460) (RU14).	4A	PCB in Fish Tissue	2004	L	2.58
VAW-L04R_ROA02A00 / Roanoke River Niagara / These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i) (RU14).	4A	PCB in Fish Tissue	2002	L	0.76
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	PCB in Fish Tissue	2002	L	0.87
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	PCB in Fish Tissue	2002	L	0.20
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	PCB in Fish Tissue	2002	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	PCB in Fish Tissue	2002	L	4.34
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	4A	PCB in Fish Tissue	2002	L	3.32
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	4A	PCB in Fish Tissue	2002	L	2.22
VAW-L05R_TKR01A00 / Tinker Creek / Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the mouth	4A	PCB in Fish Tissue	2006	L	5.37

of Carvin Creek (RU13).

Roanoke River, Tinker Creek and Peters Creek.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			**36.56**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA02A00 / Roanoke River Niagara / These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i) (RU14).	4A	PCB in Water Column	2010	L	0.76
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	PCB in Water Column	2010	L	0.87
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	PCB in Water Column	2010	L	0.20
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	PCB in Water Column	2010	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	PCB in Water Column	2010	L	4.34
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	4A	PCB in Water Column	2010	L	3.32
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	4A	PCB in Water Column	2010	L	2.22

Roanoke River, Tinker Creek and Peters Creek.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:			**12.11**

Sources:

Landfills	Source Unknown	Urban Runoff/Storm Sewers	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L12L-02-PCB** **Roanoke River, Blackwater River and Smith Mountain Lake.**

Cause Location: Roanoke River from Niagara Dam downstream to Smith Mtn. Dam and the Blackwater River from the Rt. 122 crossing downstream to its confluence with the Roanoke River in Smith Mtn. Lake.

City / County: Bedford Co. Franklin Co. Pittsylvania Co. Roanoke Co.

Use(s): Fish Consumption Public Water Supply Wildlife

Cause(s) / VA Category: PCB in Fish Tissue / 4A PCB in Water Column / 4A

The waters of the Roanoke River (3.16 miles), Blackwater River (11.29 miles) and Smith Mountain Lake (19,820.09 acres) are under a Virginia Department of Health (VDH) Fish Consumption Advisory for Polychlorinated Biphenols (PCB) issued 7/27/05. The VDH Advisory is based on fish tissue found to originally contain greater than 50 parts per billion (ppb) of PCBs. The DEQ Water Quality Standard (WQS) based tissue value (TV) criterion is 20 ppb in fish tissue. The previous advisory (issued 10/20/03) recommended that no more than 2 8 oz. meals per month of flathead catfish (less than 32 inches in size), striped bass, gizzard shad, redhorse sucker, largemouth bass and carp should be consumed. Per the previous advisory, flathead catfish (greater than 32 inches in size) should not be eaten. The advisory has been updated to also recommend that no more than 2 8 oz. meals per month of channel catfish should be consumed.

The Roanoke (Staunton) River PCB TMDL Study is U.S. Environmental Protection Agency (EPA) approved on 4/9/2010 and State Water Control Board (SWCB) approved 12/9/2010. The Roanoke River (3.14 miles), Blackwater River (11.29 miles) and the waters of Smith Mountain Lake (19,820.09 acres) are nested within the Roanoke (Staunton) River TMDL. EPA approved the nesting on 7/9/2012 for PCB in Fish Tissue and PCB in Water Column. The Roanoke River portion (VAW-L04R_ROA01A00) is assigned Federal ID 24537 and the remaining waters are assigned Federal ID 38618.

Fish tissue collections from locations on the Roanoke mainstem, Blackwater River are reviewed by the VDH in making an advisory determination. A complete listing of collection sites and associated fish tissue data are available at http://www.deq.virginia.gov/fishtissue/fishtissue.html. A more detailed presentation of the data can also be found using an interactive mapping application at http://www.deq.virginia.gov/wqa/. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov/epidemiology/DEE/PublicHealthToxicology/Advisories/index.htm.

Thirty day deployment of Semi-Permeable Membrane Devices (SPMD) or virtual fish in 2008 find exceedances of the WQS PCB water column criterion of 0.00064 micrograms per liter (µg/L) or 640 picograms per liter (pg/L). Exceedances are recorded for both the Fish Consumption Use via WQS 'Other Waters' (3.16 miles in the Roanoke) as well as the Wildlife Use (3.16 miles) and for the 'Public Water Supply Use' (PWS 3.16 miles) human health criterion at the station listed below. The 640 pg/L criterion applies to both Uses. The 'PCB in Water Column' impairment on the mainstem of the Roanoke River extends from the confluence of Mason Creek downstream to the mouth of Back Creek (15.23 miles). The 'PCB in Water Column' impairment overlays a total of 15.23 miles of the overall VDH Fish Consumption Advisory area above Smith Mountain Lake on the Roanoke River.

4AROA199.20 (Blue Ridge Parkway Bridge - Niagara)- There are no additional data. Two 2008 SPMD deployments find exceedance of the WQS 'Other Waters' and 'PWS' 640 pg/L criterion at 1,213 and 1,588 pg/L.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	4A	PCB in Fish Tissue	2002	L	3.16
VAW-L07L_BDA01A10 / Smith Mtn. Lake (Beaverdam Creek) / Beaverdam Creek from its mouth on the Roanoke River upstream to its backwaters (RU17).	4A	PCB in Fish Tissue	2006	L	151.70
VAW-L07L_BKY01A10 / Smith Mtn. Lake (Beckys Creek) / Beckys Creek from its confluence with the Roanoke River upstream to its backwaters (RU19).	4A	PCB in Fish Tissue	2006	L	246.94
VAW-L07L_BTT01A10 / Smith Mtn. Lake (Bettys Creek) / Bettys Creek from its confluence with the Roanoke River upstream to its	4A	PCB in Fish Tissue	2006	L	213.19

backwaters (RU19).					
VAW-L07L_FIN02A10 / Smith Mtn. Lake (Falling Creek) / Falling Creek from its confluence with the Roanoke River upstream to its backwaters (795 Ft. pool elevation) (RU16).	4A	PCB in Fish Tissue	2006	L	18.36
VAW-L07L_HFW01A10 / Smith Mtn. Lake (Hales Creek) / Hales Creek from its mouth on the Roanoke River upstream to its backwaters.	4A	PCB in Fish Tissue	2002	L	117.90
VAW-L07L_IND01A10 / Smith Mtn. Lake (Indian Creek) / Indian Creek from its mouth on the Roanoke River upstream to the 795 Ft. pool elevation of Smith Mountain Lake.	4A	PCB in Fish Tissue	2002	L	161.67
VAW-L07L_JUM01A10 / Smith Mtn. Lake (Jumping Run) / Jumping Run from its confluence with the Roanoke River upstream to its backwaters.	4A	PCB in Fish Tissue	2002	L	29.10
VAW-L07L_LVL01A10 / Smith Mtn. Lake (Lynville Creek) / Lynville Creek from its confluence on the Roanoke River upstream to its backwaters.	4A	PCB in Fish Tissue	2002	L	76.75
VAW-L07L_ROA01A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from the Blackwater River confluence upstream to 37°04'39" / 79°37'15" below State Park.	4A	PCB in Fish Tissue	2006	L	######
VAW-L07L_ROA02A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from 37°04'39" / 79°37'15" below the State Park upstream to approximately 1 mile downstream of the Hales Ford Bridge.	4A	PCB in Fish Tissue	2006	L	######
VAW-L07L_ROA03A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from approximately 1 mile downstream of the Hales Ford Bridge upstream to the mouth of Falling Creek.	4A	PCB in Fish Tissue	2002	L	######
VAW-L07L_ROA04A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from ~ 3/4 miles upstream of the Hardy Road Bridge downstream to the confluence of Falling Creek.	4A	PCB in Fish Tissue	2006	L	184.71
VAW-L07L_ROA05A14 / Smith Mtn. Lake (Roanoke River) / Roanoke River from the Back Creek confluence downstream to ~ 3/4 miles upstream of the Hardy Road Bridge.	4A	PCB in Fish Tissue	2006	L	165.29
VAW-L07L_SWC01A10 / Smith Mtn. Lake (Stony Creek) / Stony Creek from its mouth on the Roanoke River upstream to its backwaters.	4A	PCB in Fish Tissue	2002	L	48.61
VAW-L07L_XNK01A10 / Smith Mtn. Lake (Roanoke R., UT XNK) / An unnamed tributary to the Roanoke River from its mouth upstream to its backwaters.	4A	PCB in Fish Tissue	2002	L	79.98
VAW-L07L_XNL01A10 / Smith Mtn. Lake (Roanoke R., UT XNL) / An unnamed tributary to the Roanoke River from its mouth upstream to its backwaters.	4A	PCB in Fish Tissue	2006	L	109.32
VAW-L07L_XNM01A10 / Smith Mtn. Lake (Roanoke R., UT XNM) / An unnamed tributary (XNM) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCB in Fish Tissue	2006	L	38.40
VAW-L07L_XNN01A10 / Smith Mtn. Lake (Roanoke R., UT XNN) / An Unnamed tributary (XNN) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCB in Fish Tissue	2006	L	87.77
VAW-L07L_XNT01A10 / Smith Mtn. Lake (Roanoke R., UT XNT) / An unnamed tributary (XNT) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCB in Fish Tissue	2006	L	68.39
VAW-L07L_XNU01A10 / Smith Mtn. Lake (Roanoke R., UT XNU) /	4A	PCB in Fish Tissue	2006	L	125.41

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

An unnamed tributary (XNU) to the Roanoke River from its mouth upstream to its backwaters.					
VAW-L07L_XOC01A10 / Smith Mtn. Lake (Roanoke R., UT XOC) / An unnamed tributary (XOC) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCB in Fish Tissue	2006	L	119.55
VAW-L08R_BWR01A00 / Blackwater River / Blackwater River mainstem from the Rt. 122 Bridge downstream to the mouth of Maggodee Creek (RU22).	4A	PCB in Fish Tissue	2006	L	3.02
VAW-L10L_BSA01A10 / Smith Mtn. Lake (Bull Run) / Bull Run from its mouth on the Blackwater River upstream to its backwaters (RU26).	4A	PCB in Fish Tissue	2006	L	######
VAW-L10L_BWR01A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its mouth on the Roanoke River upstream to the mouth of Gills Creek.	4A	PCB in Fish Tissue	2006	L	######
VAW-L10L_BWR02A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from the mouth of Gills Creek upstream to near the 4H Camp.	4A	PCB in Fish Tissue	2006	L	######
VAW-L10L_BWR03A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from ~1.6 miles downstream of the Brooks Mill Bridge on downstream to the 4H Camp (RU24).	4A	PCB in Fish Tissue	2006	L	351.97
VAW-L10L_BWR03B14 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its back waters downstream to ~1.6 miles downstream of the Brooks Mill Bridge (RU24).	4A	PCB in Fish Tissue	2006	L	114.22
VAW-L10L_COA01A10 / Smith Mtn. Lake (Cool Branch) / Cool Branch from its mouth on the Blackwater River upstream to its backwaters.	4A	PCB in Fish Tissue	2006	L	362.12
VAW-L10L_PCP01A10 / Smith Mtn. Lake (Poplar Camp Creek) / Poplar Camp Creek from its confluence with the Blackwater River upstream to its backwaters.	4A	PCB in Fish Tissue	2006	L	58.59
VAW-L10L_XNZ01A10 / Smith Mtn. Lake (Little Bull Run, UT XNZ) / Unnamed tributary (XNZ) from its backwaters downstream to its mouth on Little Bull Run.	4A	PCB in Fish Tissue	2006	L	15.21
VAW-L10L_XUV01A10 / Smith Mtn. Lake - Crazy Horse Camp Ground and Marinia / Off Route 601, Franklin County, on backwaters of an unnamed tributary (XUV) to Blackwater River in Smith Mountain Lake 37°04'04" / 79°38'54".	4A	PCB in Fish Tissue	2006	L	30.27
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	4A	PCB in Fish Tissue	2006	L	0.39
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	4A	PCB in Fish Tissue	2006	L	5.20
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	4A	PCB in Fish Tissue	2006	L	2.62
VAW-L11L_GIL01A10 / Smith Mtn. Lake (Gills Creek) / Gills Creek from its mouth on the Blackwater River upstream to near the end of Route 665 (RU25).	4A	PCB in Fish Tissue	2006	L	527.21
VAW-L11L_GIL02A10 / Smith Mtn. Lake (Gills Creek) / Gills Creek	4A	PCB in Fish Tissue	2006	L	197.42

from the end of Route 665 upstream to its backwaters (RU25).

VAW-L12L_CCK01A02 / Smith Mtn. Lake (Craddock Creek) / Craddock Creek from its mouth on the Roanoke River upstream to its backwaters (RU27).	4A	PCB in Fish Tissue	2006	L	######
VAW-L12L_LOS01A10 / Smith Mtn. Lake (Louse Creek) / Louse Creek from its mouth on the Roanoke River upstream to its backwaters (RU27).	4A	PCB in Fish Tissue	2006	L	152.09
VAW-L12L_ROA01A02 / Smith Mtn. Lake (Roanoke River) / Roanoke River from Smith Mountain Dam upstream to the confluence of the Blackwater River (RU27).	4A	PCB in Fish Tissue	2006	L	######
VAW-L12L_WTH01A10 / Smith Mtn. Lake (Witcher Creek) / Witcher Creek from its mouth on the Roanoke River upstream to its backwaters (RU27).	4A	PCB in Fish Tissue	2006	L	322.34
VAW-L12L_XNW01A10 / Smith Mtn. Lake (Witcher Creek, UT(XNW) / An unnamed tributary (XNW) to Witcher Creek (Roanoke River) from its mouth upstream to its headwaters (RU27).	4A	PCB in Fish Tissue	2006	L	136.22

Roanoke River, Blackwater River and Smith Mountain Lake.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		**19,814.24**	**14.39**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	4A	PCB in Water Column	2010	L	3.16

Roanoke River, Blackwater River and Smith Mountain Lake.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:			**3.16**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L12R-01-BAC** **Craddock Creek (XME)**

Cause Location: An unnamed tributary (XME) to Craddock Creek from it's headwaters downstream to it's inundation on Smith Mountain Lake.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

4ACCK004.26 (Surry Drive Bridge) 5 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window. The exceedances range from 399 to 2,282 cfu/100 ml. Prior to the 2018 IR, there were no additional data beyond the 2012 IR where 3 of 11 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. Exceedances range from 320 to 980 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L12R_XME01A02 / Craddock Creek, UT (XME) / An unnamed tributary to Craddock Creek and Smith Mountain Lake. These waters are within the WQS public water supply (PWS) designated section 6i eg. 5 miles of the 795 ft. pool elevation of Smith Mtn. Lake (RU27).	5A	Escherichia coli	2012	M	1.23

Craddock Creek (XME) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.23**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L13L-02-BAC** **Leesville Lake (Pigg River)**

Cause Location: Pigg River from its confluence with the Roanoke River in Leesville Lake upstream to its backwaters.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pigg River TMDL received U.S. EPA approval on 9/11/2006. Fed ID 30413 and SWCB approval on 6/27/2007.

4APGG003.29- (Rt. 605 Graves Bridge) 11 35 escherichia coli (E.coli) observations exceed the WQS instantaneous criterion of 235 cfu/100 ml within the 2018 data window. Excessive values range from 300 to 19863 cfu/100 ml. The 2016 data window finds 7 of 24 escherichia coli (E.coli) observations exceed the WQS instantaneous criterion of 235 cfu/100 ml within the 2016 data window. Excessive values range from 300 to greater than 2000 cfu/100 ml. The 2014 data window finds 3 of 12 E.coli samples exceeding the 235 cfu/10 ml instantaneous criterion. The range of exceeding values is from 300 cfu/100 ml to 1200. There are no additional data beyond the 2008 assessment where 9 of 27 E.coli exceed the instantaneous criterion. The range of exceeding values is from 300 cfu/100 ml to 1200. The station is located in the immediate backwaters of Leesville Reservoir.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L13L_PGG01A02 / Leesville Lake (Pigg R.) / Pigg River from its confluence with the Roanoke River in Leesville Lake upstream to its backwaters (RU37).	4A	Escherichia coli	2006	L	158.36

Leesville Lake (Pigg River) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**158.36**	

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L13R-01-BAC** **Old Womans Creek**

Cause Location: Old Womans Creek mainstem perennial headwaters downstream to its inundation at Leesville Lake.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station IDs:
4AOWC002.35 (TMDL Monitoring)(Paisley Rd. (Rt. 756))
E. coli - 3/9 Exceedance Rate
4AOWC005.36 (Ambient)(Station #17 Route 760 Bridge)
E. coli - 5/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L13R_OWC01A18 / Old Womans Creek / Old Womans Creek mainstem perennial headwaters downstream to its inundation at Leesville Lake (RU38).	4A	Escherichia coli	2006	L	4.90

Old Womans Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.90**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L14R-01-BAC** **Pigg River and Doe Run**

Cause Location: Pigg River from near the Five Mile Mountain Road (~ 1 mile upstream of the South Prong Pigg River confluence with the Pigg River) on downstream of the Rocky Mount STP to an unnamed tributary to the Pigg River upstream of the community of Gladehill. Doe Run mainstem from its mouth on the Pigg River upstream to its headwaters. (Rocky Mount & Gladehill Quads).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 and State Water Control Board (SWCB) approved on 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. The Doe Run bacteria impairment is not specifically addressed by the TMDL due to the listing occurring after initial study contractual design. However allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The 2004 Integrated Report (IR) extended the 1996 Pigg River bacteria 303(d) Listing upstream from the confluence of Storey Creek on the Pigg River continuing on upstream to the mouth of the South Prong Pigg River. The extension is due to sample collections in support of the Bacteria TMDL Study. Additional upstream samples from station 4APGG077.15 within the 2016 data window extend the impairment further upstream adding 2.95 miles to the total impairment.

This fact sheet describes the upper 37.76 mile impaired portion that includes the 2004 addition of 13.40 miles to the original 1996 impaired miles (21.41) and the 2016 addition of 2.95 miles on the Pigg River. Doe Run is a nested 2006 addition (5.68 miles). The Lower Pigg River portion is described in a separate fact sheet (L18R-01-BAC) and comprises 28.95 miles.

4ADOE002.47- (Rt. 720 Bridge) There are no additional data beyond the 2006 IR where fecal coliform (FC) exceeds the 400 cfu/100 ml instantaneous criterion in 3 of 12 samples. Exceedances range from 800 to 2100 cfu/100 ml. Escherichia coli has replaced fecal coliform as the indicator organism.

4APGG077.15- Both the 2016 and 2018 data windows find Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 12 of 17 samples. The range of exceeding values is from 325 to greater than 2000 cfu/100 ml. These data add an additional 2.95 miles to the bacteria impairment during the 2016 assessment cycle.

4APGG074.87- (Rt. 908 Ford) There are no additional data beyond the 2010 IR. The 2010 range of exceeding escherichia coli (E.coli) samples is from 300 to greater than 2000 cfu/100 ml where 12 of 24 observations exceed the 235 cfu/100 ml instantaneous criterion. The 2008 range of exceeding E.coli samples is from 250 to greater than 2000 cfu/100 ml where 5 of 12 observations exceed the instantaneous criterion. 2006 results are 4 of 9 observations in excess of the E.coli instantaneous criterion and the same range of exceedance as in 2008.

4APGG068.49- (Rt. 756 Bridge) The 2018 and 2016 assessments find 18 of 30 and 9 of 18 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion, respectively. The range of exceedance is from 250 to greater than 2000 cfu/100 ml. There are no additional data beyond the 2008 IR where 8 of 12 E.coli samples exceed the instantaneous criterion. The range of exceedance is from 254 to 820 cfu/100 ml. E.coli exceeds the criterion in 4 of 6 samples in 2006 ranging from 300 to 610 cfu/100 ml.

4APGG057.85 (Bus. 220 Bridge - above Old STP)- 2010 results find 5 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The range of exceedance is from 250 to 1100 cfu/100 ml. There are no additional data beyond the 2010 IR.

4APGG055.72 (Rt. 220 Bridge - below Old STP)-There are no additional data beyond the 2010 IR where 4 of 12 samples exceed the 235 cfu/100 ml instantaneous criterion in 2010. Exceedances range from 500 to 1000 cfu/100 ml.

4APGG052.73- (Rt. 713 Bridge)- The 2018 data window finds 17 of 36 samples exceed the 235 cfu/100 ml instantaneous criterion (exceedance range: 250 - 24,196 cfu/100 ml). 2016 E.coli exceedances range from 275 to greater than 2000 cfu/100 ml where 14 of 35 samples exceed the 235 cfu/100 ml instantaneous criterion. Thirteen of 35 escherichia coli (E.coli) exceed the 235 cfu/100 ml instantaneous criterion in 2014. Excessive values range from 275 to greater than 2000 cfu/100 ml. 2012 results find E.coli exceedances range from 480 to greater than 2000 cfu/100 ml where 16 of 38 samples exceed the

instantaneous criterion. 2010 E.coli exceedances range from 480 to greater than 2000 cfu/100 ml where 19 of 38 samples exceed the 235 cfu/100 ml instantaneous criterion. 2008 data reveals 16 of 26 E.coli samples exceed the instantaneous criterion. The exceedance range is the same as 2010. 2006 E.coli exceedances range from 480 to greater than 2000 cfu/100 ml where 8 of 11 samples exceed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_PGG02A00 / Pigg River / Pigg River mainstem from the town of Rocky Mount STP downstream to an unnamed tributary confluence on the Pigg River (RU30).	4A	Escherichia coli	2008	L	10.92
VAW-L14R_PGG03A00 / Pigg River / Pigg River mainstem from just downstream of the Rt. 220 Business Bridge on downstream to the Town of Rocky Mount STP (RU30).	4A	Escherichia coli	2006	L	4.72
VAW-L14R_PGG04A00 / Pigg River / Pigg River mainstem from the Storey Creek mouth on down to just downstream of the Rt. 220 Business Bridge (RU30).	4A	Escherichia coli	2006	L	5.77
VAW-L14R_PGG05A02 / Pigg River / Pigg River mainstem from the confluence of the South Prong Pigg River downstream to the mouth of Storey Creek (RU29).	4A	Escherichia coli	2006	L	11.92
VAW-L14R_PGG05B12 / Pigg River / Pigg River mainstem from the confluence of the South Prong Pigg River downstream to the confluence of Turners Creek (RU29).	4A	Escherichia coli	2006	L	1.48
VAW-L14R_PGG06A02 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong of the Pigg River downstream to the South Prong Pigg River confluence on the Pigg River (RU29).	4A	Escherichia coli	2016	L	1.01
VAW-L14R_PGG06B12 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong Pigg upstream to near Five Mile Mountain Rd. (Rt. 748) (RU29).	4A	Escherichia coli	2016	L	1.94

Pigg River and Doe Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**37.76**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_DOE01A06 / Doe Run / Doe Run mainstem from its mouth on the Pigg River upstream to its headwaters (RU30).	4A	Fecal Coliform	2006	L	5.68

Pigg River and Doe Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.68**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Residential Districts
Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L14R-01-BEN** **Pigg River**

Cause Location: Pigg River mainstem from near Five Mile Mountain Road (Rt. 748) on downstream to the confluence of Turners Creek.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired with this initial 2012 General Standard- Benthic Listing for 4.43 miles.

4APGG077.15 (Ferrum Mtn. Rd. (Rt. 602) Bridge) Bio 'IM' The 2018 data window finds 4 VSCI scores averaging 58.0. The 2018 window adds the 205 Spring VSCI score of 55.4 to the 3 scores within the 2016 IR window. Three Virginia Stream Condition Index (VSCI) surveys (fall 2013 and 2014 spring/fall) with an average 2016 score of 58.8. This station surveyed as a follow up to an initial 303(d) listing at 4APGG076.93. The average Stream Condition Index (SCI) score was 58.8 indicating a stressed benthic community. The two metrics that vary most are % Scrapers and %Chiro. The metric % 2Dom averaged 57% indicating that 2 taxa of benthic macroinvertebrates made up >50% of the samples. Total Habitat scores averaged 98, yielding a marginal score. Stream bank and riparian zone scores were poor and sediment deposition scores were all marginal

4APGG076.93 (~ 1 mile upstream of the South Prong Pigg River confluence) Bio 'IM' A 2009 Probabilistic site. Two 2009 VSCI surveys with an average score of 50.5. There are no additional data beyond the 2012 Integrated Report. A stressed benthic community. A high number of mayflies were in this sample; however, the family Ephemerellidae is tolerant of moderate sediment impacts. The stream substrate was impacted by sediment deposition and some benthic macroinvertebrates were covered with bacteria which may indicate nutrient enrichment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_PGG05B12 / Pigg River / Pigg River mainstem from the confluence of the South Prong Pigg River downstream to the confluence of Turners Creek (RU29).	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	1.48
VAW-L14R_PGG06A02 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong of the Pigg River downstream to the South Prong Pigg River confluence on the Pigg River (RU29).	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	1.01
VAW-L14R_PGG06B12 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong Pigg upstream to near Five Mile Mountain Rd. (Rt. 748) (RU29).	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	1.94

Pigg River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.43**

Sources:

- Crop Production (Crop Land or Dry Land)
- Dairies (Outside Milk Parlor Areas)
- Livestock (Grazing or Feeding Operations)
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L14R-02-BAC** **Storey Creek**

Cause Location: The Storey Creek upper limit is west of Ferrum near the intersection of Rt. 40 and Rt. 748, perennial headwaters (Ferrum Quad). The downstream limit is the mouth of Storey Creek on the Pigg River (RU29).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30412] and incorporates the Storey Creek drainage. The Pigg River bacteria study received approval from the State Water Control Board (SWCB) on 6/27/2007 incorporating the Storey Creek 11.86 mile impairment. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. Additional stations were added along Storey Creek in support of the Bacteria TMDL Study. Stations on Storey Creek find the recreational use impaired due to exceedance of the former fecal coliform (FC) bacteria 400 cfu/100 ml instantaneous criterion and the current escherichia coli (E.coli) instantaneous criterion of 235 cfu/100 ml.

4ASDA009.79- (Rt. 623 above Ferrum STP) 2010 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 10 of 23 collections ranging from 250 to greater than 2000 cfu/100 ml. E.coli exceeds the instantaneous criterion in 5 of 12 samples in 2008 ranging from 250 to greater than 2000 cfu/100 ml. The 2006 Integrated Report (IR) finds E.coli exceeds the criterion in 3 of 9 samples with the same range of exceedance.

4ASDA009.77- (off Rt. 864 below Ferrum STP) There are no additional data beyond the 2010 Integrated Report (IR) where E.coli exceed the 235 cfu/100 ml instantaneous criterion in 3 of 12 samples within the 2010 data window. Exceedances range from 300 to greater than 2000 cfu/100 ml. The 2004 IR reports fecal coliform (FC) exceeds the former instantaneous criterion of 400 cfu/100 ml in 13 of 37 samples. Exceeding values range from 500 cfu/100 ml to greater than 8000. There are no additional data reported in 2008 where no FC excursions are found from 5 samples.

4ASDA007.24- (Rt. 40 Bridge) There are no additional data beyond the 2010 IR where 10 of 18 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2010 data window ranging from 250 cfu/100 ml to greater than 2000. The 2008 assessment finds 2 of 6 E.coli samples exceed the instantaneous criterion at 250 cfu/100 ml and 1000. This station added in support of the Bacteria TMDL Study.

4ASDA004.19- (Pleasant Hill Rd. (Rt. 619) Bridge) There are no new data beyond the 2016 data window where E.coli exceeding values range from 250 to greater than 2000 cfu/100 ml in 5 of 12 samples.

4ASDA000.67- (Davis Mill Bridge - Rt. 754) 8 of 19 and 5 of 12 E.coli samples exceed the instantaneous criterion within the 2018 and 2016 data windows, respectively. Values in excess of the criterion range from 256 to 2,613 cfu/100 ml. There were no additional data within the 2010, 2012 or 2014 IRs. The 2008 IR reports 7 of 12 E.coli samples exceed the instantaneous criterion. Excessive values range from 255 to 1000 cfu/100 ml. Four of 6 E.coli samples exceed the criterion ranging from 310 to 1000 cfu/100 ml in 2006. This station added in support of the Bacteria TMDL Study.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_SDA01A00 / Story Creek / Story Creek mainstem from the Ferrum Water and Sewerage Authority POTW downstream to the Storey Creek mouth on the Pigg River (RU29).	4A	Escherichia coli	2006	L	9.82
VAW-L14R_SDA02A00 / Story Creek / Story Creek mainstem perennial headwaters downstream to the Ferrum Water and Sewerage Authority POTW (RU29).	4A	Escherichia coli	2006	L	2.04

Storey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.86**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L14R-02-BEN** **Storey Creek**

Cause Location: Storey Creek mainstem from the Ferrum Water and Sewerage Authority POTW downstream to the Storey Creek mouth on the Pigg River (RU29).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

These waters (9.82 miles) are initially 2016 listed for impairment of the Aquatic Life Use. Impairment is based on Virginia Stream Condition Index (VSCI) surveys conducted at station 4ASDA004.94.

4ASDA004.94 (Between Bridges on Waidsboro Rd. (607) & Pleasant Hill Rd. (619)) Bio 'IM' There are no new VSCI scores beyond the 2016 data window where 2 2013 VSCI surveys with an average score of 51.7 indicating a benthic community lacking in diversity and pollution-sensitive organisms. Some instream habitat scores are good; however, those related to sediment deposition were low. Bank erosion and bank vegetative cover were impacted by highly eroded stream banks in this reach.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_SDA01A00 / Story Creek / Story Creek mainstem from the Ferrum Water and Sewerage Authority POTW downstream to the Storey Creek mouth on the Pigg River (RU29).	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	9.82

Storey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.82**

Sources:

Crop Production (Crop Land or Dry Land)	Dairies (Outside Milk Parlor Areas)	Livestock (Grazing or Feeding Operations)	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L15R-01-BAC** **Big Chestnut Creek**

Cause Location: Big Chestnut Creek from the confluence of Muddy Fork downstream to its confluence with the Pigg River.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. Big Chestnut Creek is a 2004 bacteria 303(d) Listing and is nested within the TMDL Watershed.

The Big Chestnut Creek 12.87 mile bacteria impairment is not specifically addressed by the TMDL due to the 303(d) Listing occurring after initial study contractual design. However allocation scenario development is for the entire Pigg River drainage and provides pollutant reductions for all watersheds contributing to the bacteria impairment including Big Chestnut Creek. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The original 12.43 waters were de-listed with the 2014 Integrated Report (IR) where bacteria (escherichia coli (E.coli)) excursions of the 235 cfu/100 ml instantaneous criterion are 1 of 12 observations with an exceedance rate of 8.3% at station 4ACNT001.32 (Route 715 Bridge, Franklin County). These waters return and an additional 6.77 miles added as impaired with the 2016 IR (station 4ACNT017.37).

4ACNT001.32- (Chestnut Mtn. Road (Rt. 715) Bridge) There is no additional data beyond the 2016 IR where 3 of 24 E.coli observations in excess of the WQS instantaneous criterion. Excessive values range from 700 to 1575 cfu/100 ml. The 2014 assessment finds 1 of 12 samples exceeding and resulted in a de-listing of this station. There were no additional data within the 2010 or 2012 data windows. The 2008 assessment reports E.coli sample results are 6 exceeding values ranging from 250 to greater than 2000 cfu/100 ml from 12 samples. All in excess of the 235 cfu/100 ml instantaneous criterion. 2006 E.coli sample results report 6 exceeding values with the same range of exceedance as 2008. The original 2004 Listing is a result of fecal coliform samples exceeding the former WQS 400 cfu/100 ml instantaneous criterion in 2 of 17 observations. The exceedances are 600 and 2300 cfu/100 ml.

4ACNT017.37- (McNeil Mill Road (Rt. 718) Bridge) No new data exist for the 2018 data window. The 2016 data window finds 4 of 11 E.coli samples exceed the WQS instantaneous criterion. Excessive values range from 350 cfu/100 ml to 950.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L15R_CNT01A00 / Big Chestnut Creek / Big Chestnut Creek mainstem from its mouth on the Pigg River upstream to the confluence of Little Chestnut Creek (RU31).	4A	Escherichia coli	2006	L	12.43
VAW-L15R_CNT02A14 / Big Chestnut Creek / Big Chestnut mainstem waters from the Muddy Fork mouth downstream to the confluence of Little Chestnut Creek. (RU31).	4A	Escherichia coli	2016	L	6.77

Big Chestnut Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.20**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L17R-01-BAC** **Snow Creek and Turkeycock Creek**

Cause Location: Snow Creek from the Crab Creek confluence downstream to its mouth on the Pigg River (Penhook & Sandy Level Quads).
Turkeycock Creek from its mouth on Snow Creek upstream to the confluence of Sailor Creek.

City / County: Franklin Co. Henry Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Snow Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30410] and SWCB approved 6/27/2007. The Pigg River Implementation Plan received SWCB approval on 12/13/2010. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The 1999 Federal Consent Decree includes 4ASNW000.60 as an Attachment B station (10.95 miles). The initial 303(d) fecal coliform (FC) bacteria Listing in 2002 of Snow Creek is in response to the 1999 Consent Decree resulting in a 2010 TMDL Schedule. The 2002 assessment reports 5 of 22 samples in excess of the former (2002) 1000 cfu/100 ml instantaneous criterion. An exceedance rate of 22 percent. The 10.95 mile bacteria impairment remains- Category 4A. The 2012 Integrated Report (IR) extends the impairment 6.49 miles upstream from Ditto Branch to the confluence of Crab Creek from data collected at 4ASNW016.24. Turkeycock Creek adds an additional 6.46 miles and is Category 4A as the data collected for TMDL development includes Turkeycock Creek data and is nested within the TMDL Watershed and allocations.

4ASNW016.24 (Snow Cr. Rd Bridge at Parkers Store) There are no additional data beyond the 2012 IR where escherichia coli (E.coli) exceeds the 235 cfu/100 ml WQS instantaneous criterion in 6 of 11 samples. The range of exceeding values is from 350 to greater than 2000 cfu/10 ml. The impairment is extended upstream 8.19 miles on Snow Creek with the 2012 assessment.

4ASNW000.60- (Kirby Ford Bridge) 12 of 35 and 9 of 35 E.coli samples exceed the WQS instantaneous criterion within the 2018 and 2016 data windows, respectively. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. 2014 E.coli data find 8 of 35 samples in excess of the instantaneous criterion ranging from 250 to greater than 2000 cfu/100 ml. Seven of 30 E.coli samples exceed the instantaneous criterion in 2012. Exceedances range from 290 to greater than 2000 cfu/10 ml. 2010 data reveal E.coli exceed the instantaneous criterion in 10 of 30 samples ranging from 290 to 1600 cfu/100 ml. 2008 results find E.coli exceed the instantaneous criterion in 8 of 18 samples ranging from 290 to 1600 cfu/100 ml. The 2006 Integrated Report (IR) range of exceedance is from 480 to 880 cfu/100 ml from 5 of 12 samples.

4ATCC003.71-(Danville Turnpike near Sago, Rt. 969) 6 of 12 E.coli samples exceed during the 2018 IR. Excursions range from 256 to 3,255 cfu/100 ml.
There are no additional data beyond the 2012 IR where E.coli results produce 2 samples exceeding the 235 cfu/100 ml instantaneous criterion from 12 sample collections. The exceeding values are 620 and 1600 cfu/100 ml. There were no additional data beyond the 2008 assessment where 2 of 6 E.coli samples exceed the instantaneous criterion at 250 and 680 cfu/100 ml. Turkeycock Creek is a 6.35 mile 2008 addition to the original 2002 Snow Creek 303(d) Listing.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L17R_SNW01A00 / Snow Creek / Snow Creek mainstem from the mouth of Ditto Branch downstream to the mouth of Snow Creek on the Pigg River (RU35).	4A	Escherichia coli	2006	L	10.95
VAW-L17R_SNW02A12 / Snow Creek / Snow Creek from the Grassy Fork confluence with Snow Creek downstream to the mouth of Ditto Branch (RU35).	4A	Escherichia coli	2012	L	2.54
VAW-L17R_SNW03A14 / Snow Creek / Snow Creek from the Crab Creek confluence with Snow Creek downstream to the mouth of Grassy Fork (RU33).	4A	Escherichia coli	2012	L	3.95
VAW-L17R_TCC01A06 / Turkeycock Creek / Turkeycock Creek	4A	Escherichia coli	2008	L	6.50

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

from its mouth on Snow Creek upstream to the confluence of Sailor Creek (RU34).

Snow Creek and Turkeycock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.94**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L17R-01-BEN** **Poplar Branch**

Cause Location: Poplar Branch headwaters downstream to its confluence with Snow Creek.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired for 2.53 miles with the 2008 303(d) Listing of these waters from data at station 4APAA000.24.

4APAA000.71- Bio 'IM' 4 VSCI (2013-2014) surveys with an average score of 58.2. Fall samples had higher percentages of pollution sensitive taxa and less chironomidae. The habitat available for sampling at this bridge crossing is dominated by bedrock and may be better than the available habitat upstream yielding a VSCI score that is not indicative of all segments. Habitat survey scores for sediment were low in this reach due to landuse impacts to the watershed.

4APAA000.24 (Below Rt. 629)- Bio 'IM' There are no additional data beyond the 2008 assessment where 2 Virginia Stream Condition Index (VSCI) surveys score spring 54.0 and fall 55.5. The immediate land use at this station is forested with a closed canopy and excellent riparian vegetation. However, the watershed upstream from this station has pasture land with many small ponds that appear to reduce stream flow and subsequently allows fine sediment to accumulate in the stream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L17R_PAA01A04 / Poplar Branch / Poplar Branch headwaters downstream to its confluence with Snow Creek (RU35).	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	2.56

Poplar Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.56**

Sources:

Sediment Resuspension (Clean Sediment)	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L17R-02-BAC** **Poplar Branch**

Cause Location: Poplar Branch headwaters downstream to its confluence with Snow Creek.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2.53 mile Recreational Use impairment is based on data collection within the 2016 data window.

4APAA000.71 (Hatchett Rd. (Rt. 629) Crossing) 2 of 12 escherichia coli (E.coli) samples exceed the WQS 235 cfu/10 ml instantaneous criterion. Values in excess of the criterion are 620 and 1600 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L17R_PAA01A04 / Poplar Branch / Poplar Branch headwaters downstream to its confluence with Snow Creek (RU35).	4A	Escherichia coli	2016	L	2.56

Poplar Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.56**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L18R-01-BAC** **Pigg River**

Cause Location: Pigg River from the mouth of Big Chestnut Creek (RM 32.99) downstream to the backwaters of Leesville Lake (RM 3.29) (Penhook & Sandy Level Quads).

Note: These impaired waters now incorporate the former State TMDL ID of VAW-L16R-01 (15.54 miles) initially listed in 2002. The former VAW-L13L-02 (Bacteria 157.24 acres) impairment is described in the Cause Group Code L13L-02-BAC Leesville Lake Fact Sheet.

City / County: Franklin Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. This Fact Sheet addresses the lower riverine portion of the Pigg River 28.95 mile bacteria impairment. The Pigg River bacteria 2002 15.53 mile impairment extension from the original 1998 13.36 mile 303(d) Listing is the result of additional ambient and TMDL support sampling. A separate fact sheet (L14R-01-BAC) describes the Upper Pigg River 34.81 mile bacteria impairment.

4APGG030.62- (Rt. 646, Fralin Bridge) 5 of 23 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window. Excursions range from 288 to 645 cfu/100 ml. The 2016 data window produces 2 of 12 escherichia coli (E.coli) exceedances of the WQS 235 cfu/100 ml instantaneous criterion. The two excessive values are 301 and 325 cfu/100 ml. There are no additional data within the 2012 or 2014 data windows. The 2010 IR finds E.coli samples exceed the instantaneous criterion in 13 of 33 samples. Values in excess of the criterion range from 250 to 930 cfu/100 ml. Nine of 21 E.coli samples exceed the instantaneous criterion in 2008. Values in excess of the criterion range from 260 to 930 cfu/100 ml. Four of 6 E.coli samples exceed the criterion in 2006 with the same range of exceedance.

4APGG016.06- (Rt. 626 Bridge) There are no additional data within the 2012, 2014 or 2016 data windows. 2010 and 2008 E.coli exceedances of the instantaneous criterion range from 300 to greater than 2000 cfu/100 ml in 9 of 21 samples as there are no additional data beyond the 2008 assessment. 2006 reports E.coli exceeds the instantaneous criterion in 5 of 9 samples ranging from 400 to greater than 2000 cfu/100 ml.

4APGG008.87- (Off Rt. 40 at USGS Gage) Escherichia coli (E.coli) exceed the 235 cfu/10 ml instantaneous criterion in 11 of 33 and 9 of 34 observations within the 2018 and 2016 data windows, respectively. Exceedances range from 262 to greater than 2000 cfu/100 ml. 2014 E.coli exceed the 235 cfu/100 ml instantaneous criterion in 7 of 24 samples. 400 to greater than 2000 cfu/100 ml is the exceedance range. The 2012 assessment finds E.coli exceeds the instantaneous criterion in 8 of 24 samples ranging from 280 to greater than 2000 cfu/100 ml. Both the 2008 and 2010 assessments find E.coli exceeds the instantaneous criterion in 9 of 21 samples ranging from 280 to 1900 cfu/100 ml. 2006 E.coli exceedances range from 500 to greater than 800 cfu/100 ml in 5 of 9 samples.

4APGG003.29- (Rt. 605 Bridge) E.coli exceedances occur in 7 of 24 observations. Excessive values range from 350 cfu/100 ml to greater than 2000 within the 2016 data window. Three of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in 2014. Values in excess of the criterion are 300, 550 and greater than 2000 cfu/100 ml. There are no additional data within the 2012 data window. 2008 data reveal E.coli exceed the instantaneous criterion in 9 of 27 samples ranging from 300 to 1200 cfu/100 ml with no additional data beyond the 2008 assessment. Five of 12 E.coli samples exceed in 2006 with an exceedance range of 300 to 860 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L16R_PGG01A00 / Pigg River / Pigg River mainstem from the mouth of Dinner Creek downstream to the mouth of Snow Creek on the Pigg River (RU32).	4A	Escherichia coli	2006	L	6.66
VAW-L16R_PGG02A00 / Pigg River / Pigg River mainstem from the Big Chestnut Creek mouth downstream to the mouth of Dinner Creek on the Pigg River (RU32).	4A	Escherichia coli	2006	L	8.93
VAW-L18R_PGG01A00 / Pigg River / Pigg River mainstem from the	4A	Escherichia coli	2006	L	5.58

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Harpen Creek mouth downstream to backwaters of Leesville Lake (RU36).

VAW-L18R_PGG02A00 / Pigg River / Pigg River mainstem from the mouth of Snow Creek downstream to the mouth of Harpen Creek on the Pigg River (RU36).	A	Escherichia coli	2006	L	7.78

Pigg River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**28.95**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L18R-01-BEN** **Fryingpan Creek**

Cause Location: Headwaters of Fryingpan Creek downstream ~0.85 miles of the Rt. 40 crossing (36°57'30" / 79°26'54").

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The waters of Fryingpan Creek are impaired for the Aquatic Life Use due to contravention of the WQS General Standard (Benthic). The 2006 303(d) 2.56 mile 303(d) Listing is a result of benthic impairments found at station 4AFRY006.08 (Rt. 40 Bridge) where 2 2003 Virginia Stream Condition Index (VSCI) scores are spring 42.4 and fall 32.8. Four additional 2011 and 2013 VSCI surveys find continued impairment with an average score of 44.4. There are no additional data beyond the 2016 303(d)/305(b) Integrated Report data window.

The stream has a small watershed (5.2 mi2) which is approximately 46% agricultural land. The stream channel is impacted by deposits of fine sediment and some areas of eroded stream bank. Both sides of the stream are protected by a good riparian buffer. The benthic community has low diversity of pollution sensitive families and is dominated by those tolerant of excessive sediment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_FRY01A06 / Fryingpan Creek / Headwaters of Fryingpan Creek on downstream ~0.85 miles of the Rt. 40 crossing (36°57'30" / 79°26'54") (RU37).	5A	Benthic-Macroinvertebrate Bioassessments	2006	M	2.56

Fryingpan Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.56**

Sources:

Livestock (Grazing or Feeding Operations)	Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L18R-02-BAC** **Harpen Creek**

Cause Location: Harpen Creek from its mouth on the Pigg River upstream to near Climax (36°53'28" / 79°30'30").

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. Harpen Creek is a 2006 bacteria 303(d) Listing and nested within the Pigg River TMDL in 2008.

The Harpen Creek 5.35 mile bacteria impairment is not specifically addressed by the TMDL due to the 303(d) Listing occurring after initial study contractual design. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Harpen Creek. Harpen Creek is nested within the Pigg River TMDL Watershed. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AHPN001.62- (Rt. 785 Bridge) 17 of 24 E.coli samples exceed the 235 cfu/100 ml E.coli water quality criterion in the 2018 data window. Excursions range from 317 to 2,613 cfu/100 ml. 2016 exceeding values range from 1100 to greater than 2000 cfu/100 ml in 7 of 12 escherichia coli (E.coli) observations. There are no additional data beyond the 2008 assessment where E.coli exceed in 13 of 21 samples in excess of the 235 cfu/100 ml instantaneous criterion both 2008 and 2010. The range of exceedance is 450 to greater than 2000 cfu/100 ml. The 2006 Integrated Report (IR) results find E.coli exceeds in 4 of 9 samples with the same range of exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_HPN01A06 / Harpen Creek / Harpen Creek from its mouth on the Pigg River upstream to near Climax (36°53'28" / 79°30'30") (RU36).	4A	Escherichia coli	2006	L	5.35

Harpen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.35**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L18R-03-BAC** **Tomahawk Creek**

Cause Location: Tomahawk Creek from its mouth on the Pigg River upstream to above Andersons Mill (36°52'28" / 79°32'15").

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. The Study encompasses the Pigg River drainage, Old Womans Creek, Snow Creek, Storey Creek and Leesville Lake. Tomahawk Creek is a 2006 bacteria 303(d) Listing.

The Tomahawk Creek bacteria impairment is not specifically addressed by the TMDL due to the listing occurring after initial TMDL Study contractual design. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Tomahawk Creek. Tomahawk Creek is nested within the Pigg River Bacteria TMDL Watershed. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ATMA001.46 (Rt. 644 Bridge)- 12of 24 and 4 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 and 2016 data windows, respectively. Values exceeding the criterion range from 288 to greater than 10,000 cfu/100 ml. There are no additional data beyond the 2008 assessment where escherichia coli (E.coli) exceed in 5 of 21 samples in excess of the 235 cfu/100 ml criterion in 2008 and 2010. The range of exceedance is 350 to greater than 800 cfu/100 ml. 2006 assessment data reveal E.coli exceed in 2 of 9 samples in excess of the 235 cfu/100 ml criterion. The range of exceedance is 680 to greater than 800 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_TMA01A06 / Tomahawk Creek / Tomahawk Creek from its mouth on the Pigg River upstream to above Andersons Mill (36°52'28" / 79°32'15") (RU36).	4A	Escherichia coli	2006	L	4.58

Tomahawk Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.58**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L18R-04-BAC** **Fryingpan Creek**

Cause Location: Headwaters of Fryingpan Creek downstream ~0.85 miles of the Rt. 40 crossing (36°57'30" / 79°26'54").

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. The Study encompasses the Pigg River drainage, Old Womans Creek, Snow Creek, Storey Creek and Leesville Lake. Fryingpan Creek is a 2016 bacteria 303(d) Listing.

The Fryingpan Creek bacteria impairment is not specifically addressed by the TMDL due to the listing occurring after initial TMDL Study contractual design. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Fryingpan Creek. Fryingpan Creek is nested within the Pigg River Bacteria TMDL Watershed. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AFRY006.08- (Rt. 40 Bridge) The 2016 Integrated Report (IR) finds 6 of 12 escherichia coli (E.coli) samples exceed the WQS 235 cfu/100 ml instantaneous criterion. Excessive values range from 300 to 1,153 cfu/100 ml. There are no additional data collected during the 2018 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_FRY01A06 / Fryingpan Creek / Headwaters of Fryingpan Creek on downstream ~0.85 miles of the Rt. 40 crossing (36°57'30" / 79°26'54") (RU37).	4A	Escherichia coli	2016	L	2.56

Fryingpan Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.56**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-01-BAC** **Roanoke (Staunton) River**

Cause Location: Roanoke (Staunton) River from the (old) Dan River, Inc. outfall to the backwaters of Kerr Reservoir.

City / County: Campbell Co. Charlotte Co. Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station ID:
4AROA067.91 (Ambient)(Route 746 Bridge (WATKINS BRIDGE))
E. coli - 7/42 Exceedance Rate
4AROA059.12 (Ambient)(Route 360 Bridge, East of Clover) 2018 data window:
E. coli - 10/36 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Falling River mouth at the Campbell/Charlotte/Halifax County line downstream to the confluence of Catawba Creek.	4A	Escherichia coli	2006	L	3.89
VAW-L30R_ROA02A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Brookneal Staunton River POTW downstream to the confluence of Falling River at the Campbell/Charlotte/Halifax County Line.	4A	Escherichia coli	2008	L	2.23
VAW-L30R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Dan River, Inc. downstream to the Brookneal Staunton River POTW.	4A	Escherichia coli	2008	L	0.92
VAW-L36R_ROA01A98 / Roanoke (Staunton) River / Childrey Creek to Cub Creek.	4A	Escherichia coli	2006	L	12.78
VAW-L38R_ROA02A98 / Roanoke (Staunton) River / Cub Creek to Roanoke Creek.	4A	Escherichia coli	2006	L	12.49
VAW-L40R_ROA03A98 / Roanoke (Staunton) River / Roanoke Creek to the pipeline crossing approximately 5.4 miles downstream of the Route 360 bridge.	4A	Escherichia coli	2006	L	10.19
VAW-L40R_ROA04A98 / Roanoke (Staunton) River / The pipeline crossing about 5.4 miles downstream of the Route 360 bridge to Kerr Reservoir.	4A	Escherichia coli	2006	L	3.82

Roanoke (Staunton) River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**46.32**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-01-HG** **Roanoke (Staunton) River, Cub Creek, Kerr Reservoir**

Cause Location: Roanoke (Staunton) River from Leesville Dam to the John H. Kerr Dam including Kerr Reservoir, its tributaries Eastland Creek and Nutbush Creek (within the state of Virginia) and Cub Creek from its mouth to the crossing of Rough Creek Road near Rough Creek.

City / County: Campbell Co. Charlotte Co. Halifax Co. Mecklenburg Co. Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

VDH Fish Advisory - PCBs: Issued 7/24/98 , revised 8/31/07 & Mercury: Issued 8/31/07
Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Creek up to Rough Creek Road (State Route 695) near Rough Creek.
VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.
Eat fewer or smaller servings of fish.
Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).
Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:
Remove the skin, the fat from the belly and top and internal organs before cooking the fish.
Bake, broil or grill on an open rack to allow fats to drain away from the meat.
Discard the fats that cook out of the fish.
Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.
Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.
For more information about fish consumption advisories, including frequently asked questions go to www.vdh.virginia.gov.

Mercury Fish Tissue Sampling Results
Near Route 29 - Altavista
4AROA129.55 (2006 FT/Sediment) - 2 species exceed Mercury VDH level of concern
Near Brookneal
4AROA097.07 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern
Near Route 746 - Randolph
4AROA067.91 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern
Near Route 360 - Clover
4AROA059.12 (2006 FT/Sediment) - 4 species exceed Mercury VDH level of concern
Near Clarksville
4AROA036.59 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern
Kerr Reservoir near Ivy Hill
4AROA028.04 (2006 FT/Sediment) - 2 species exceed Mercury VDH level of concern
Lake Gaston near State Line
4AROA004.54 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Town of Altavista POTW downstream to the Big Otter River confluence with the Roanoke (Staunton) River.	5A	Mercury in Fish Tissue	2008	L	3.76
VAW-L19R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Goose Creek mouth on downstream to the Town of Altavista POTW.	5A	Mercury in Fish Tissue	2008	L	6.77
VAW-L19R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Leesville Dam downstream to the mouth of Goose Creek.	5A	Mercury in Fish Tissue	2008	L	3.46

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

VAW-L30R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Falling River mouth at the Campbell/Charlotte/Halifax County line downstream to the confluence of Catawba Creek.	5A	Mercury in Fish Tissue	2008	L	3.89
VAW-L30R_ROA02A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Brookneal Staunton River POTW downstream to the confluence of Falling River at the Campbell/Charlotte/Halifax County Line.	5A	Mercury in Fish Tissue	2008	L	2.23
VAW-L30R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Dan River, Inc. downstream to the Brookneal Staunton River POTW.	5A	Mercury in Fish Tissue	2008	L	0.92
VAW-L30R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Buffalo Creek confluence downstream to Dan River, Inc.	5A	Mercury in Fish Tissue	2008	L	5.05
VAW-L30R_ROA06A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the mouth of Hills Creek (37 7 9.187 N, -79 12 57.062) downstream to the confluence of Buffalo Creek.	5A	Mercury in Fish Tissue	2008	L	17.65
VAW-L36R_ROA01A98 / Roanoke (Staunton) River / Childrey Creek to Cub Creek.	5A	Mercury in Fish Tissue	2008	L	12.78
VAW-L37R_CUB01B08 / Cub Creek / The Rough Creek Road Crossing near Rough Creek to the confluence with Terrys Creek.	5A	Mercury in Fish Tissue	2008	L	5.58
VAW-L37R_CUB02A06 / Cub Creek / From Terrys Creek to the mouth at the Roanoke (Staunton) River	5A	Mercury in Fish Tissue	2008	L	8.80
VAW-L38R_ROA02A98 / Roanoke (Staunton) River / Cub Creek to Roanoke Creek.	5A	Mercury in Fish Tissue	2008	L	12.49
VAW-L40R_ROA03A98 / Roanoke (Staunton) River / Roanoke Creek to the pipeline crossing approximately 5.4 miles downstream of the Route 360 bridge.	5A	Mercury in Fish Tissue	2008	L	10.19
VAW-L40R_ROA04A98 / Roanoke (Staunton) River / The pipeline crossing about 5.4 miles downstream of the Route 360 bridge to Kerr Reservoir.	5A	Mercury in Fish Tissue	2008	L	3.82
VAW-L57R_DAN02A00 / Dan River / Dan River mainstem from the Schoolfield Dam upstream to the backwaters of the impoundment.	5A	Mercury in Fish Tissue	2018	L	2.51
VAW-L57R_DAN04A00 / Dan River / Dan River mainstem from the downstream most Virginia/North Carolina State Line (exiting Virginia) in Watershed L57R upstream to the Rt. 880 crossing (Virginia/North Carolina State Line entering Virginia).	5A	Mercury in Fish Tissue	2018	L	7.36
VAW-L75L_ROA05L98 / Kerr Reservoir / Kerr Reservoir from the John H. Kerr dam to its backwaters, excluding the Dan River portion, Bluestone Creek and Buffalo Creek.	5A	Mercury in Fish Tissue	2008	L	######
VAW-L76L_BMA01A06 / Buffalo Creek / Buffalo Creek and Tribs included in the boundaries of Kerr Reservoir	5A	Mercury in Fish Tissue	2008	L	358.96
VAW-L77L_BST01A06 / Bluestone Creek / Bluestone Creek and Tribs included in the boundaries of Kerr Reservoir	5A	Mercury in Fish Tissue	2008	L	860.21

Roanoke (Staunton) River, Cub Creek, Kerr Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**31,884.59**	**107.26**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-01-PCB** **Roanoke (Staunton) River, Cub Creek**

Cause Location: Roanoke (Staunton) River from Leesville Dam to the backwaters of Kerr Reservoir, and Cub Creek from its mouth to the crossing of Rough Creek Road near Rough Creek.

City / County: Campbell Co. Charlotte Co. Halifax Co. Pittsylvania Co.

Use(s): Fish Consumption Public Water Supply

Cause(s) / VA Category: PCB in Fish Tissue / 4A PCB in Water Column / 4A

VDH Fish Advisory - PCBs: Issued 7/24/98 , revised 8/31/07 & Mercury: Issued 8/31/07
Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Creek up to Rough Creek Road (State Route 695) near Rough Creek.
VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.
Eat fewer or smaller servings of fish.
Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).
Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:
Remove the skin, the fat from the belly and top and internal organs before cooking the fish.
Bake, broil or grill on an open rack to allow fats to drain away from the meat.
Discard the fats that cook out of the fish.
Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.
Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.
For more information about fish consumption advisories, including frequently asked questions go to:
http://www.vdh.virginia.gov/environmental-epidemiology/public-health-toxicology/fish-consumption-advisories/.

The Roanoke (Staunton) River is impaired for the Public Water Supply Use due to violations of the PCB in Water human health criteria. The PWS impairment extends from the confluence of the Big Otter River to the backwaters of Kerr Reservoir. Violation information is provided below.

4AROA137.00 (upstream of Goose Creek) 2013 – one species exceeded VDH upper level of concern (500 ppb); Flathead catfish. Four species exceeded VDH lower level of concern (50 ppb); Carp, Flathead catfish, Channel catfish, and shorthead redhorse sucker.

4AROA129.95 (near Bus Route 29 Bridge near Altavista Gage) 2013 three species exceeded VDH lower level of concern (50 ppb); Flathead catfish, channel catfish, and Carp. 2006 one species exceeded VDH upper level of concern (500 ppb); carp. 2006 six species exceeded VDH lower level of concern (50 ppb); Smallmouth bass, Rock bass, Redbreast sunfish, Channel catfish, Carp, Redhorse sucker.

4AROA108.09 (near Long Island) 2013 one species exceeded VDH upper level of concern (500 ppb); Flathead catfish. Four species exceeded VDH lower level of concern (50 ppb); Channel catfish, Carp, Shorthead redhorse sucker, and gizzard shad. 2006 one species exceeded VDH upper level of concern (500 ppb); carp. Three species exceeded VDH lower level of concern (50 ppb); Smallmouth bass, Channel catfish, Carp, Redhorse sucker.

4AROA097.07 (Route 501 at Brookneal) -2013 two species exceeded VDH upper level of concern (500 ppb); Blue catfish and Flathead catfish. Four species exceeded VDH lower level of concern (50 ppb; striped bass, Blue catfish, carp, and Channel catfish. 2006 one species exceeded VDH upper level of concern (500 ppb); Striped bass. Five species exceeded VDH lower level of concern (50 ppb); Striped bass, Black crappie, Channel catfish, Carp, and Redhorse sucker.

4AROA067.91 (Route 746 Bridge) - 2006 two species exceeded VDH upper level of concern (500 ppb); Walleye, and Carp. Five species exceeded VDH lower level of concern (50 ppb); Blue catfish, Channel catfish, carp, Golden redhorse sucker, and Gizzard shad.

4AROA059.12 (Route 360 Bridge, east of Clover) - 2006 two species exceeded VDH upper level of concern (500 ppb); Striped bass and Carp. Seven species exceeded VDH lower level of concern (50 ppb); Striped bass, White bass, Largemouth bass, walleye, Channel catfish, carp, and Redhorse sucker.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

4AROA036.59 (Station #B Buoy 18 Kerr Reservoir) - 2006 two species exceeded VDH lower level of concern (50 ppb); Carp and golden redhorse sucker.

4AROA028.04 (Station #B-9 Kerr Reservoir - Buoy 9) - 2006 two species exceeded VDH lower level of concern (50 ppb); Largemouth bass and Longnose gar.

4AROA004.54 (Lake Gaston near state line) - 2006 one species exceeded VDH lower level of concern (50 ppb); carp

4ACUB010.96 (near Route 40 Gaging Station) – 2006 one species exceeded VDH upper level of concern (500 ppb); carp. Three species exceeded VDH lower level of concern (50 ppb); channel catfish, carp, and Redhorse sucker

Station IDs:
2007-2008 PCB TMDL Monitoring
4AROA124.59
tPCB in Water Violations - 2909 pg/L & 4466 pg/L
4AROA097.76
tPCB in Water Violations - 1115 pg/L & 4304 pg/L
4AROA090.50
tPCB in Water Violations - 1192 pg/L & 1625 pg/L
4AROA067.91
tPCB in Water Violations - 1336 pg/L & 1307 pg/L
4AROA059.12
tPCB in Water Violations - 1627 pg/L & 1359 pg/L

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Town of Altavista POTW downstream to the Big Otter River confluence with the Roanoke (Staunton) River.	4A	PCB in Fish Tissue	1998	L	3.76
VAW-L19R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Goose Creek mouth on downstream to the Town of Altavista POTW.	4A	PCB in Fish Tissue	1998	L	6.77
VAW-L19R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Leesville Dam downstream to the mouth of Goose Creek.	4A	PCB in Fish Tissue	2002	L	3.46
VAW-L30R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Falling River mouth at the Campbell/Charlotte/Halifax County line downstream to the confluence of Catawba Creek.	4A	PCB in Fish Tissue	2002	L	3.89
VAW-L30R_ROA02A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Brookneal Staunton River POTW downstream to the confluence of Falling River at the Campbell/Charlotte/Halifax County Line.	4A	PCB in Fish Tissue	2002	L	2.23
VAW-L30R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Dan River, Inc. downstream to the Brookneal Staunton River POTW.	4A	PCB in Fish Tissue	2002	L	0.92
VAW-L30R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Buffalo Creek confluence downstream to Dan River, Inc.	4A	PCB in Fish Tissue	2002	L	5.05
VAW-L30R_ROA06A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the mouth of Hills Creek (37 7 9.187 N, -79 12 57.062) downstream to the confluence of Buffalo Creek.	4A	PCB in Fish Tissue	2002	L	17.65
VAW-L36R_ROA01A98 / Roanoke (Staunton) River / Childrey	4A	PCB in Fish Tissue	2002	L	12.78

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Creek to Cub Creek.

VAW-L37R_CUB01B08 / Cub Creek / The Rough Creek Road Crossing near Rough Creek to the confluence with Terrys Creek.	4A	PCB in Fish Tissue	2008	L	5.58
VAW-L37R_CUB02A06 / Cub Creek / From Terrys Creek to the mouth at the Roanoke (Staunton) River	4A	PCB in Fish Tissue	2008	L	8.80
VAW-L38R_ROA02A98 / Roanoke (Staunton) River / Cub Creek to Roanoke Creek.	4A	PCB in Fish Tissue	2002	L	12.49
VAW-L40R_ROA03A98 / Roanoke (Staunton) River / Roanoke Creek to the pipeline crossing approximately 5.4 miles downstream of the Route 360 bridge.	4A	PCB in Fish Tissue	1998	L	10.19
VAW-L40R_ROA04A98 / Roanoke (Staunton) River / The pipeline crossing about 5.4 miles downstream of the Route 360 bridge to Kerr Reservoir.	4A	PCB in Fish Tissue	1998	L	3.82

Roanoke (Staunton) River, Cub Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			**97.39**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Falling River mouth at the Campbell/Charlotte/Halifax County line downstream to the confluence of Catawba Creek.	4A	PCB in Water Column	2010	L	3.89
VAW-L30R_ROA02A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Brookneal Staunton River POTW downstream to the confluence of Falling River at the Campbell/Charlotte/Halifax County Line.	4A	PCB in Water Column	2010	L	2.23
VAW-L30R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Dan River, Inc. downstream to the Brookneal Staunton River POTW.	4A	PCB in Water Column	2010	L	0.92
VAW-L30R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Buffalo Creek confluence downstream to Dan River, Inc.	4A	PCB in Water Column	2010	L	5.05
VAW-L30R_ROA06A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the mouth of Hills Creek (37 7 9.187 N, -79 12 57.062) downstream to the confluence of Buffalo Creek.	4A	PCB in Water Column	2010	L	17.65
VAW-L36R_ROA01A98 / Roanoke (Staunton) River / Childrey Creek to Cub Creek.	4A	PCB in Water Column	2010	L	12.78
VAW-L38R_ROA02A98 / Roanoke (Staunton) River / Cub Creek to Roanoke Creek.	4A	PCB in Water Column	2010	L	12.49
VAW-L40R_ROA03A98 / Roanoke (Staunton) River / Roanoke Creek to the pipeline crossing approximately 5.4 miles downstream of the Route 360 bridge.	4A	PCB in Water Column	2010	L	10.19
VAW-L40R_ROA04A98 / Roanoke (Staunton) River / The pipeline crossing about 5.4 miles downstream of the Route 360 bridge to Kerr Reservoir.	4A	PCB in Water Column	2010	L	3.82

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Roanoke (Staunton) River, Cub Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:			**69.02**

Sources:

Contaminated Sediments	Municipal Point Source Discharges	Non-Point Source	Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-02-BAC** **Lynch Creek**

Cause Location: Lynch Creek from its headwaters to the mouth on the Roanoke (Staunton) River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24386, 06/20/2006(2018)

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study received U.S. EPA approval on 6/20/2006 [Fed. ID 24386] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24386, 6/20/2006

One station is located within the 3.90 miles of impaired waters. 4ALYH000.50 (Ambient)(Lynch Cr @ Foot Bridge - City Park)

4ALYH000.50 (Ambient) (Lynch Cr @ Foot Bridge - City Park) 9 of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_LYH01A02 / Lynch Creek / Lynch Creek from its mouth on the Roanoke (Staunton) River upstream to Bus. 29	4A	Escherichia coli	2010	L	0.37
VAW-L19R_LYH02A02 / Lynch Creek / Lynch Creek from Bus. Rte. 29 upstream to its headwaters.	4A	Escherichia coli	2008	L	3.53

Lynch Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.90**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-02-BEN** **Lynch Creek**

Cause Location: Lynch Creek from its headwaters to the mouth on the Roanoke (Staunton) River.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ALYH000.50 (Ambient, Bio) (Lynch Cr @ Foot Bridge - City Park) The 2018 data window finds Bio 'IM' from four VSCI surveys (2012, 2015) with an average score of 31.1.
2008 Bio: IM - Located in a City Park with significant impervious surface coverage in the riparian zone.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_LYH01A02 / Lynch Creek / Lynch Creek from its mouth on the Roanoke (Staunton) River upstream to Bus. 29	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	0.37
VAW-L19R_LYH02A02 / Lynch Creek / Lynch Creek from Bus. Rte. 29 upstream to its headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	3.53

Lynch Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-03-BEN** **Reed Creek**

Cause Location: Reed Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its perennial headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ARAB000.52 (Bio)(Reed Cr @ Grit Road (Rt 668))
2008 & 2012 Bio
IM - 4ARAB000.52 exhibited high seasonal variability, with one score approaching the impairment cutoff of 60. Sedimentation and elevated nutrients may be negatively affecting the stream community. Further sampling is needed to accurately assess the benthic community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_RAB01A00 / Reed Creek / Reed Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its perennial headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	8.90

Reed Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-04-BEN** **Roanoke (Staunton) River, Unnamed tributary**

Cause Location: An unnamed tributary to the Roanoke (Staunton) River downstream of Frazier Creek from its mouth on the Roanoke River upstream to its headwaters.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AXCN000.31 (2008 Bio)(UT to Staunton R @ Bus 29 & Rt 714)
IM - appears to be negatively affected by high nutrient levels and suburban storm flows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_XCN01A02 / Roanoke (Staunton) River, Unnamed Tributary / An unnamed tributary to the Roanoke (Staunton) River downstream of Frazier Creek from its mouth on the Roanoke River upstream to its headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	4.10

Roanoke (Staunton) River, Unnamed tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L19R-05-BAC** **Roanoke (Staunton) River and Sycamore Creek**

Cause Location: Roanoke (Staunton) River mainstem from the Town of Altavista POTW downstream to the Big Otter River confluence with the Roanoke (Staunton) River. Sycamore Creek from its mouth on Roanoke (Staunton) River upstream to the confluence with Little Sycamore Creek.

City / County: Campbell Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2018: 24386, 06/20/2006 (2018)

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study received U.S. EPA approval on 6/20/2006 [Fed. ID 24386] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24386, 6/20/2006.

4AROA129.55 (Business Rt. 29 Bridge, at gage) The 2018 IR reports 7 of 35 E.coli exceedances of the 235 cfu/100 ml instantaneous water quality standard. Excursions range from 325 cfu/100 ml to greater than 2,000 cfu/100 ml.

4ASYC000.26 (Rt. 929 Bridge) The 2018 data window finds three of 11 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion. Excursions range from 457 cfu/100 ml to greater than 6,000.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Town of Altavista POTW downstream to the Big Otter River confluence with the Roanoke (Staunton) River.	4A	Escherichia coli	2018	L	3.76
VAW-L19R_SCE01A00 / Sycamore Creek / Lower Sycamore Creek mainstem from its mouth to the confluence with Little Sycamore Creek (RU47).	4A	Escherichia coli	2018	L	8.28
VAW-L30R_ROA07A18 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Big Otter River mouth downstream to the confluence of Hills Creek (37 7 9.187 N, -79 12 57.062 W).	4A	Escherichia coli	2018	L	4.70

Roanoke (Staunton) River and Sycamore Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**16.74**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L20R-01-BAC** **Goose Creek**

Cause Location: The impairment begins at the confluence of the North and South Forks of Goose Creek extending downstream to the mouth of Bore Auger Creek.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Escherichia coli (E.coli) replaces the 2004 6.78 mile fecal coliform (FC) bacteria 2006 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AGSE037.78- (Rt. 755 Bridge) There are no additional data beyond the 2014 Integrated Report (IR). The 2014 IR results find escherichia coli (E.coli) exceedances of the 235 cfu/100 ml instantaneous criterion occur in 6 of 12 samples. Exceeding values range from 250 to 1500 cfu/100 ml. There are no additional data within the 2012 data window. Both the 2008 and 2010 assessments reveal escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 8 of 12 samples. Exceeding values range from 280 to 930 cfu/100 ml. The 2006 Integrated Report (IR) records E.coli exceedances of the instantaneous criterion in 7 of 9 samples with the same range of exceedance as in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L20R_GSE01A00 / Goose Creek / Goose Creek mainstem from the North and South Fork confluence downstream to the Bore Auger Creek mouth (RU39).	4A	Escherichia coli	2006	L	6.93

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.93**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Residential Districts
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L21R-01-BAC** **Goose Creek**

Cause Location: Goose Creek from the mouth of Rocky Branch downstream to the confluence of Stony Fork Creek.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. The 2012 Bore Auger Creek nested Listing extends the Recreational Use impairment for 7.24 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The 1999 Federal Consent Decree includes station 4AGSE022.55 as an Attachment B station for fecal coliform bacteria. The station was not 2002 303(d) listed as the 2002 exceedance rate is 8 percent where 2 of 23 analyses exceed the former 1000 cfu/100 ml instantaneous criterion (2002). The 2004 fecal coliform (FC) bacteria assessment results in 303(d) Listing finding nonsupport based on the former 400 cfu/100 ml instantaneous criterion in 2004.

4AGSE025.64- There are no additional data beyond the 2008 assessment. Escherichia coli (E.coli) exceed the 235 cfu/100 ml criterion in 3 of 9 samples ranging from 250 to 700 cfu/100 ml in both 2008 and 2010.

4AGSE022.55- 7 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window. Excursions range from 249 - 7701 cfu/100 ml. There are no additional data beyond the 2004 IR. The 2004 Integrated Report (IR) records FC exceeds the 400 cfu/100 ml instantaneous criterion in 2 of 18 samples. The exceeding values are 800 and 3100 cfu/100 ml. 2008 IR finds 1 of 3 FC samples exceeding the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_GSE01A00 / Goose Creek / Goose Creek mainstem from the Rocky Branch mouth on downstream to the confluence of Stony Fork Creek (RU41).	4A	Escherichia coli	2008	L	7.24

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.24**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L21R-01-BEN** **Wolf Creek**

Cause Location: Wolf Creek from its headwaters downstream to the Wolf Creek confluence on Goose Creek.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired with this 2012 303(d) Listing for contravention of the General Standard (Benthic). There are no additional data within the 2016 data window.

4AWLF001.20- (Upstream of Joppa Mill) Bio 'IM' There are no additional data beyond the 2012 Integrated Report (IR). Two 2010 VSCI surveys with an average score of 51.5. The benthic macroinvertebrate community is dominated by filter-feeding taxa indicating an environment high in organic matter. The station had relatively good habitat scores except for moderate sedimentation. Land cover upstream of this site is approximately 43% agriculture which could be a source of sediment and nutrients.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_WLF01A08 / Wolf Creek / Wolf Creek from the Fiddler Creek mouth downstream to the Wolf Creek confluence with Goose Creek (RU41).	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	4.16
VAW-L21R_WLF02A08 / Wolf Creek / Wolf Creek headwaters downstream to the Fiddler Creek confluence on Wolf Creek (RU41).	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	2.97

Wolf Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.13**

Sources:

- Crop Production (Crop Land or Dry Land)
- Livestock (Grazing or Feeding Operations)
- Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L21R-02-BAC** **Wolf Creek**

Cause Location: Wolf Creek from its headwaters downstream to the Wolf Creek confluence on Goose Creek

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired for 7.13 miles in this 2008 initial 303(d) Listing due to exceedances for Escherichia coli (E.coli) bacteria. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387]. SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries including Wolf Creek are nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AWLF000.09- (Rt. 691 Bridge at Joppa Mill) The 2018 data window finds 4 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions range from 243 to 12,997 cfu/100 ml. Both 2008 and 2010 data reveal E.coli exceeds the 235 cfu/100 ml criterion in 3 of 9 samples. E.coli exceedances range from 320 to 1400 cfu/100 ml. There are no additional data beyond the 2008 Integrated Report (IR).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_WLF01A08 / Wolf Creek / Wolf Creek from the Fiddler Creek mouth downstream to the Wolf Creek confluence with Goose Creek (RU41).	4A	Escherichia coli	2008	L	4.16
VAW-L21R_WLF02A08 / Wolf Creek / Wolf Creek headwaters downstream to the Fiddler Creek confluence on Wolf Creek (RU41).	4A	Escherichia coli	2008	L	2.97

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.13**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L21R-02-BEN** **Bore Auger Creek**

Cause Location: Bore Auger Creek from near it's headwaters downstream to it's confluence with Goose Creek.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

These waters are initially listed with the 2014 Integrated Report (IR). These waters are partially delisted (3.83 miles) with the 2018 IR based on data from 4ABOE004.86. Additional data is needed to evaluate delist of the lower Aquatic Life Use impairment.

4ABOE005.27 (Rt. 806 Bridge) Bio 'IM' 2 2012 VSCI surveys scoring spring 48.7 and fall 59.6. These surveys indicate a community dominated by pollution-tolerant taxa in the spring including midges and blackflies. There are a higher percentage of mayflies in the fall but both seasons had relatively low taxa richness, low numbers of stoneflies and low numbers of organisms in the scraper feeding category which require clean rock surfaces to feed upon. The instream habitat is affected by sediment deposition (low Sed score) with more than 50% of the stream bottom covered by fine particles. The sediment load in the stream also results in the low Embeddedness score meaning that the interstitial spaces between rocks is clogged by fine material thus limiting available habitat for sensitive macroinvertebrates. The watershed has a mix of forested and agricultural land cover.

The waters are partially delisted for Aquatic Life Use based on Virginia Stream Condition (VSCI) surveys collected at station 4ABOE004.86 (Saunders Rd./Rt. 616 Bridge, Bedford Co.) which represents Probabilistic Monitoring station 4ABOE005.27 for present and future monitoring. 4ABOE004.86 VSCI scores collected in 2015 and 2016 average 67.8. Spring 2015 and 2016 VSCI scores are 66.3 and 76.2, respectively; Fall 2015 and 2016 scores are 60.6 and 68.1, respectively. The VSCI surveys collected during the 2018 data window show full support of the Aquatic Life Use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_BOE01A08 / Bore Auger Creek / Bore Auger Creek from just upstream of the Rt. 619 crossing at an unnamed tributary downstream to its mouth on Goose Creek (RU40).	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	5.73

Bore Auger Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.73**

Sources:

Loss of Riparian Habitat	Non-Point Source	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L21R-03-BAC** **Bore Auger Creek**

Cause Location: Bore Auger Creek from near it's headwaters downstream to it's confluence with Goose Creek.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. The 2012 Bore Auger Creek nested Listing is due to excessive escherichia coli (E.coli) bacteria. The Recreational Use impairment extends 9.56 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ABOE004.86 (Saunders Road Bridge (Rt. 616)) - The 2018 data window finds 5 of 12 E.coli samples exceed the 235 cfu/100 ml criterion. Excursions range from 389 to 556 cfu/100 ml.

4ABOE001.34 (Rt. 754 Bridge N. of Chamblissburg) The 2012 assessment initially 303(d) Lists this portion of Bore Auger Creek based on Escherichia coli (E.coli) exceedances of the 235 cfu/100 ml WQS instantaneous criterion in 4 of 12 samples. The range of exceeding values is from 350 cfu/100 ml to 2000. There are no additional data within the 2014 or 2016 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_BOE01A08 / Bore Auger Creek / Bore Auger Creek from just upstream of the Rt. 619 crossing at an unnamed tributary downstream to its mouth on Goose Creek (RU40).	4A	Escherichia coli	2012	L	5.73
VAW-L21R_BOE02A08 / Bore Auger Creek / Bore Auger Creek from near it's headwaters downstream to an unnamed tributary just upstream of the Rt. 619 crossing (RU40).	4A	Escherichia coli	2012	L	3.83

Bore Auger Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.56**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L21R-04-BAC** **Stony Fork**

Cause Location: Stony Fork from it's headwaters downstream to it's confluence with Goose Creek.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. The 2012 Stony Fork nested Listing is due to excessive Escherichia coli (E.coli) bacteria. The Recreational Use impairment extends 13.17 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ASBA004.54 (Rucker Road, Rt. 806 Bridge) 9 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml WQS instantaneous criterion within the 2018 data window. The range of exceeding values is from 452 cfu/100 ml to 5172. The 2012 assessment initially Lists this portion of Stony Fork based on escherichia coli (E.coli) exceedances of the 235 cfu/100 ml WQS instantaneous criterion in 6 of 11 samples. The range of exceeding values is from 250 cfu/100 ml to greater than 2000. There are no additional data within the 2014 or 2016 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_SBA01A08 / Stony Fork / Stony Fork from the Shoulder Run confluence downstream to the Stony Fork mouth on Goose Creek (RU42).	4A	Escherichia coli	2012	L	4.75
VAW-L21R_SBA02A08 / Stony Fork / Stony Fork from its headwaters downstream to the Shoulder Run confluence on Stony Fork (RU42).	4A	Escherichia coli	2012	L	8.42

Stony Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**13.17**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L22R-01-BAC** **Goose Creek**

Cause Location: The upstream limit is at the Stony Fork mouth on Goose Creek extending downstream to the Carter Mill Creek confluence with Goose Creek.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The waters remain impaired for failure to support the Recreational Use. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Escherichia coli data from station 4AGSE013.78 extends the bacteria impairment upstream 8.93 miles from the original 10.03 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Goose Creek from the Carter Mill Creek confluence downstream to the Goose Creek mouth on the Roanoke (Staunton) River (RU45) is de-listed for 7.89 miles from the 2002 original 10.03 miles. The waters remain impaired for 11.11 miles. There are no additional data beyond the 2014 Integrated Report where no exceeding values are observed from 23 samples at 4AGSE000.20 (Rt. 630 Bridge).

4AGSE013.78- The 2018 Integrated Reporting window finds 7 of 24 E.coli samples exceed 235 cfu/100 ml WQS instantaneous criteria at 249 to 24,196 cfu/100 ml. Four escherichia coli (E.coli) samples exceed the WQS 235 cfu/100 ml instantaneous criterion from 23 observations within the 2016 data window. Excessive values range from 350 to greater than 2000 cfu/100 ml. There are no additional data beyond the 2012 Integrated Report (IR) where 2 of 11 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion at 580 and greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_GSE01A14 / Goose Creek / Goose Creek from the Crab Orchard Creek confluence downstream to the Carter Mill Creek mouth on Goose Creek (RU43).	4A	Escherichia coli	2012	L	2.18
VAW-L22R_GSE02A02 / Goose Creek / Goose Creek mainstem from the Stony Fork mouth on Goose Creek (watershed boundary) on downstream to the Crab Orchard Creek mouth on Goose Creek.	4A	Escherichia coli	2012	L	8.93

Goose Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.11**

Sources:

Livestock (Grazing or Feeding Operations)	Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Sewage Discharges in Unsewered Areas
Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L22R-02-BAC** **Mill Creek**

Cause Location: Mill Creek upstream to the mouth of Hunting Creek

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2010 assessment finds the Recreational Use impaired for this initial 303(d) Listing. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Therefore Mill Creek is nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMWW004.53 (Rt. 654 Bridge - Felspar Rd.) The 2016 Integrated Report (IR) finds 4 of 12 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. Values in excess of the criterion range from 300 to 600 cfu/100 ml. There are no additional data beyond the 2010 IR where 3 of 12 E.coli samples exceed the instantaneous criterion within the 2010 and 2012 data windows. Exceeding values range from 280 cfu/100 ml to 1900.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_MWW01A10 / Mill Creek / Mill Creek from its confluence with Goose Creek upstream to the mouth of Hunting Creek.	4A	Escherichia coli	2010	L	5.26

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.26**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L22R-03-BAC** **Hunting Creek**

Cause Location: Hunting Creek from its confluence with Mill Creek upstream to its headwaters.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This initial 2010 303(d) Listing is based on escherichia coli (E.coli) exceedances of the WQS 235 cfu/100 ml instantaneous criterion. Hunting Creek is tributary to Mill Creek and thence to Goose Creek. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Therefore Hunting Creek is nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AHNT001.29 (Rt. 608 Bridge - White House Rd.) - There are no additional data beyond the 2010 Integrated Report. 2012 and 2010 escherichia coli (E.coli) data exceed the 235 cfu/100 ml instantaneous criterion in 11 of 12 samples. Values in excess of the criterion range from 300 cfu/100 ml to greater than 2000. There are 6 samples greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_HNT01A10 / Hunting Creek / Hunting Creek from its confluence with Mill Creek upstream to its headwaters.	4A	Escherichia coli	2010	L	2.63

Hunting Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.63**

Sources:

- Landfills
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L22R-04-BAC** **Carter Mill Creek**

Cause Location: Carter Mill Creek from the mouth of Fitzpatrick Branch downstream to the confluence of Carter Mill Creek with Goose Creek

City / County: Bedford Co. Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386/23315/23316/24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Therefore Carter Mill Creek is nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

This initial 2012 bacteria Listing is due to escherichia coli (E.coli) exceedances causing non-support of the Recreational Use.

4ACMC001.58- Escherichia coli (E.coli) exceed the 235 cfu/100 ml WQS instantaneous criterion in 4 of 12 samples at 256 cfu/100 ml to greater than 2000 within the 2018 data window. 2012 Escherichia coli (E.coli) data finds exceedances of the 235 cfu/100 ml WQS instantaneous criterion in 2 of 12 samples at 550 cfu/100 ml and greater than 2000. There are no additional data within the 2014 or 2016 Integrated Reports (IR).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_CMC01A12 / Carter Mill Creek / Carter Mill Creek from the mouth of Fitzpatrick Branch downstream to the confluence of Carter Mill Creek with Goose Creek (RU44).	4A	Escherichia coli	2012	L	7.26

Carter Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.26**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L23R-01-BAC** **Big Otter River and Sheeps Creek**

Cause Location: The impairment begins on Sheeps Creek form just north of Reba, VA on Campbells Mountain off Rt. 614 (Montvale Quad) downstream to the confluence of Stony Creek forming the Big Otter River (Peaks of Otter Quad 37°23'25" /79°33'21"). The impairment continues downstream on the Big Otter River from the mouth of Sheeps Creek to the confluence of North Otter Creek.

Note: The original downstream end was ~0.25 miles west of the Rt. 43 Bridge where Sheeps Creek and Stoney Creek join to form the Big Otter River, 1996 (Peaks of Otter Quad 37°23'25" /79°33'21"). The 2004 ending of the impairment is at the mouth of North Otter Creek on the Big Otter River.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Big Otter River/Sheeps Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 2/02/2001 [Fed ID 1650/7798/23400]. The SWCB approved the TMDL 6/17/2004 (formerly VAW-L23R-01) and the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are therefore Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26) including Machine Creek (L26), Big Otter drainage (L23, L24, L27, L28- delisted 2008 13.98 mi.) including Sheeps (L23), North Otter (L24) and Elk (L25) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The original Sheeps Creek 303(d) Listing for fecal coliform (FC) bacteria in 1996 and again in 1998 (8.13 miles) is based on ambient data collections showing contravention of the former 1000 cfu/100 ml fecal coliform bacteria standard in greater than 25 percent of the samples collected. The waters remain impaired for the recreational use and is expanded to include the Big Otter River. The 2004 expansion adds an additional 9.62 miles to the impaired waters listing to include the Big Otter River from river mile 41.48 downstream to 32.01. Escherichia coli (E.coli) replaces fecal coliform bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Sheeps Creek (8.13 miles)
4ASEE003.16- (Rt. 680 Bridge) During the 2018 data window, 11 of 30 samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions ranged from 300 to 5,172 cfu/100 ml. The 2016 data window reveals escherichia coli (E.coli) exceeds the 235 WQS cfu/100 ml instantaneous criterion in 10 of 36 samples. The range of exceeding values is from 250 cfu/100 ml to greater than 2000. E.coli exceeds the instantaneous criterion in 5 of 35 samples in 2014 with excessive values ranging from 250 cfu/100 ml to 1300. The 2012 assessment reports 5 of 23 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion. The exceeding values also range from 250 cfu/10 ml to 1300. 2010 E.coli data find 2 of 11 samples exceeding the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion are 250 and 380 cfu/100 ml. The 2008 assessment found 4 of 14 fecal coliform (FC) samples exceeding the former 400 cfu/100 ml instantaneous criterion as there were no E.coli data to assess. The range of exceeding values is from 500 to 900 cfu/100 ml. FC exceeds the instantaneous criterion in 8 of 24 samples within the 2006 data window with the range of exceedance from 450 cfu/100 ml to 1500. The 2004 Integrated Report (IR) finds 10 of 27 observations exceed the instantaneous criterion. The 2004 exceedance range is from 500 cfu/100 ml to greater than 8000.

Big Otter River (9.62 miles)
4ABOR034.32- (Rt. 644 Bridge) There are no additional data beyond the 2010 Integrated Report (IR) where 4 of 23 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The range of exceedance is from 280 cfu/100 ml to 1000. E.coli exceed the 235 cfu/100 ml criterion in 4 of 11 samples ranging from 280 to 1000 cfu/100 ml in 2008. E.coli exceed the criterion in 4 of 8 samples in 2006 with the same range of exceedance as 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L23R_BOR01A02 / Big Otter River / Big Otter River mainstem from the mouth of North Otter Creek (Watershed Boundary) upstream to an unnamed tributary located at 37°23'24" / 79°30'19" (RU49).	4A	Escherichia coli	2006	L	6.00
VAW-L23R_BOR02A02 / Big Otter River / Big Otter River mainstem	4A	Escherichia coli	2006	L	3.58

from an unnamed tributary located at 37°23'24" / 79°30'19" upstream to the Bedford City raw water intake on the Big Otter River (RU49).					
VAW-L23R_BOR03A02 / Big Otter River / Big Otter River mainstem from the Bedford City raw water intake upstream to the confluence of Sheeps Creek and Stony Creek forming the Big Otter River (RU49).	4A	Escherichia coli	2006	L	0.04
VAW-L23R_SEE01A00 / Sheeps Creek / Sheeps Creek mainstem from the upstream end of WQS public water supply (PWS) section just downstream of Reba Creek on downstream to Sheeps Creek's confluence with Stony Creek (RU49).	4A	Escherichia coli	2010	L	4.89
VAW-L23R_SEE02A00 / Sheeps Creek / Headwaters north of Reba, VA on Campbells Mountain downstream to an unnamed tributary just downstream of Reba Creek (RU49).	4A	Escherichia coli	2010	L	3.24

Big Otter River and Sheeps Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**17.75**

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L23R-02-BAC** **Stony Creek**

Cause Location: Stony Creek from its confluence with Sheeps Creek upstream to the mouth of Little Stony Creek

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This 2010 303(d) Listing is based on data within the 2010 data window showing a Recreational Use impairment. The Big Otter River/Sheeps Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 2/02/2001 [Fed ID 1650/7798/23400]. The SWCB approved the TMDL 6/17/2004 (formerly VAW-L23R-01) and the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are therefore Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26) including Machine Creek (L26), Big Otter drainage (L23, L24, L27, L28- delisted 2008 13.98 mi.) including Sheeps (L23), North Otter (L24) and Elk (L25) Creeks. Stony Creek is nested within the TMDL Watershed and not specifically addressed by the Bacteria TMDL. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ASCB000.16 (Rt. 43 Bridge at intersection of 43 & 682)- There are no additional data beyond the 2010 assessment. 2014, 2012 and 2010 assessments results find 2 of 11 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion are 250 and 320 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L23R_SCB01A00 / Stony Creek / Stony Creek mainstem within the WQS designated public water supply (PWS) section from the Bedford Reservoir downstream to its confluence with Sheep Creek (RU49).	4A	Escherichia coli	2010	L	4.37

Stony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.37**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L25R-01-BAC** **Big Otter River, Elk Creek and North Otter Creek**

Cause Location: Big Otter River from the mouth of North Otter Creek downstream to the confluence of the Little Otter River. Elk Creek from the Rt. 644 crossing at Perrowville downstream to the Elk Creek confluence on the Big Otter River. North Otter Creek from near the Rt. 122 crossing downstream to the its mouth on the Big Otter River.

Note: The original 1998 bacteria 7.28 mile impairment on Elk Creek is extended with the 2004 IR to include the lower portion of North Otter Creek and the Big Otter River.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Big Otter River/Elk Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 2/02/2001 [Fed. ID 1498/9595/18708/23401/36497] and SWCB approved on 6/17/2004 (formerly VAW-L25R-01). The Bacteria Implementation Plan (IP) received SWCB approval on 3/27/2007. The waters are therefore Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R-mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. Ultimately escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

The 2004 extension is the result of additional data collections made while conducting the TMDL Study. The bacteria impairment encompasses the original Elk Creek 7.52 miles and the total 2004 extension of 32.17 miles. The original 1998 and 2004 extensions totaling 38.97 miles are described below:

The 1998 Elk Creek (L25R) original 7.52 mile bacteria upper limit is at Rt. 622 west of Forest (Forest Quad 37°20'25"/79°21'33") and ending at its mouth on the Big Otter River (Goode Quad 37°18'37"/79°23'38"). The 2004 extension runs from near Perrowville (37°24'58"/79°21'07") downstream to the Rt. 622 crossing adding 12.83 miles. The original 1998 and 2002 303(d) Listing basis is for fecal coliform bacteria (FC) exceedances at 4AECR003.02. These data show contravention of the former WQS 1000 cfu/100 ml fecal coliform criterion in greater than 25 percent of the samples collected.

Elk Creek (20.35 miles)
4AECR016.66- (Below Rt. 664 near Norwood) There are no additional data beyond the 2008 IR where 6 of 9 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in both 2008 and 2010 assessments. The exceedance range is from 320 to 1600 cfu/100 ml.

4AECR007.42- (intersection of Routes 643 and 705) There are no additional data beyond the 2008 IR where E.coli exceedances are found in 6 of 9 samples with a range of exceedance from 320 cfu/100 ml to greater than 2000 in both 2008 and 2010 assessments. Each in excess of the instantaneous criterion.

4AECR003.02- (Rt. 668 Bridge) The 2016 data window finds 14 of 23 E.coli samples in excess of the WQS 235 cfu/100 ml instantaneous criterion. Excessive values range from 250 cfu/100 ml to greater than 2000. There are no additional data within the 2014 data window. Seventeen of 32 E.coli samples exceed the instantaneous criterion within the 2012 data window. The exceeding values range from 300 to greater than 2000 cfu/100 ml. The 2010 assessment results find 11 of 21 E.coli samples exceed the instantaneous criterion ranging from 300 to 1500 cfu/100 ml. The 2008 assessment found 6 of 9 E.coli samples exceed the instantaneous criterion. The exceeding values range from 300 to greater than 2000 cfu/100 ml.

The 2004 North Otter Creek (L24R) extension is 6.80 miles. The extension includes the lower portion of North Otter Creek on the Sedalia Quad (37°27'12"/79°27'55") from near the Route 122 crossing extending downstream to its mouth on the Big Otter River (Sedalia Quad (37°23'04"/79°26'40").

4ANOT001.06- (Rt. 644 Bridge - Langford Mill Rd.) The 2016 and 2018 Integrated Reports (IRs) find escherichia coli (E.coli) exceeds the instantaneous criterion in 16 of 35 and 16 of 30 observations, respectively. Excessive values range from 250 cfu/100 ml to greater than 2000. E.coli exceed the WQS 235 cfu/100 ml instantaneous criterion in 11 of 35 observations. Values in excess of the criterion range from 275 cfu/100 ml to greater than 2000 in 2014. E.coli data within the 2012 data window find 7 of 23 observations exceeding the 235 cfu/10 ml instantaneous criterion. Values in excess of the criterion range from 300 cfu/100 ml to greater than 2000. 2010 data find E.coli) exceed the instantaneous criterion in 2 of 12 observations.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Values in excess of the criterion are 300 cfu/100 ml each. There were no additional data beyond the 2006 Integrated Report (IR). Exceedances within the 2008 data window are 4 of 13 FC samples with the same range of exceedance as in 2006. The 2006 IR reports 7 of 20 FC samples exceed the 400 cfu/100 ml instantaneous criterion. The range of exceedance is from 700 cfu/100 ml to greater than 8000. The 2004 IR reports 10 of 28 samples in excess of the instantaneous criterion for fecal coliform bacteria ranging from 500 cfu/100 ml to greater than 8000.

Big Otter River (L25R; 2004 extension of 11.82 miles.)
The Big Otter River (L25R) from the confluence of North Otter Creek (Sedalia Quad 37°27'12"/79°27'55") river mile 32.01 downstream to the confluence of Little Otter River on the Big Otter River (Goode Quad 37°16'28"/79°24'19") river mile 20.27.

4ABOR029.74- (Rt. 221 Bridge intersection Rt.'s 221 & 670) There are no additional data beyond the 2004 assessment. The 2004 assessment found 2 of 2 FC samples exceed the former 400 cfu/100 ml instantaneous criterion. Exceeding values are 2100 and 4900 cfu/100 ml.

4ABOR024.46- (Rt. 460 Bridge near intersection Rt.'s 460 & 706) 2014, 2016 and 2018 data reveal 2 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Both exceeding values are 275 cfu/100 ml. Three of 9 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in 2008 and 2010. Exceeding values range from 420 to greater than 2000 cfu/100 ml. The 2006 and 2004 assessments find 2 of 2 FC samples exceed the former 400 cfu/100 ml instantaneous criterion. Exceeding values are 7000 cfu/100 ml and greater than 160,000.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L24R_NOT01A02 / North Otter Creek / North Otter Creek from the Rt. 122 crossing at Coltons Mill downstream to the North Otter Creek mouth on the Big Otter River (RU50).	4A	Escherichia coli	2010	L	6.80
VAW-L25R_BOR01A02 / Big Otter River / Big Otter River mainstem from the mouth of the Little Otter River upstream to the Elk Creek confluence on the Big Otter River (RU52).	4A	Escherichia coli	2008	L	4.49
VAW-L25R_ECR01A00 / Elk Creek / Elk Creek mainstem from its mouth on the Big Otter River upstream to the Rt. 622 crossing west of Forest, VA (RU51).	4A	Escherichia coli	2008	L	7.52
VAW-L25R_ECR02A02 / Elk Creek / Elk Creek mainstem from and unnamed tributary near Norwood (37°20'25" / 79°21'32") Rt. 622 crossing, upstream to near Perrowville (37°24'58" / 79°21'07") at another unnamed tributary (RU51).	4A	Escherichia coli	2008	L	12.83

Big Otter River, Elk Creek and North Otter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**31.64**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L25R_BOR02A02 / Big Otter River / Big Otter River mainstem from the confluence of Elk Creek upstream to the mouth of Roaring Run (RU52).	4A	Fecal Coliform	2004	L	5.98
VAW-L25R_BOR03A04 / Big Otter River / Confluence of North Otter Creek downstream to the mouth of Roaring Run (RU52).	4A	Fecal Coliform	2004	L	1.35

Big Otter River, Elk Creek and North Otter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**7.33**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-01-BAC** **Little Otter River and Machine Creek**

Cause Location: Little Otter River from its perennial headwaters west of Rt. 680 at Cobbs Mountain on the Peaks of Otter Quad on downstream to the mouth of the Little Otter River on the Big Otter River. Machine Creek from its perennial headwaters downstream to its confluence with the Little Otter River.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little Otter River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 02/02/2001 [Fed ID 1547/9486/19639/24557] (VAW-L26R-01) and Machine Creek [Fed ID 1547/9467/20210] (VAW-L26R-02). SWCB approval achieved on 6/17/2004. The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved study and allocations can be viewed at http://www.deq.virginia.gov. Ultimately escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

The 1996/1998/2002 303(d) Listing basis for fecal coliform (FC) bacteria are ambient collections showing contravention of the former 1000 cfu/100 ml fecal coliform criterion in greater than 10 and 25 percent of the samples collected as well as the former 400 cfu/100 ml instantaneous criterion. The Little Otter River waters remain impaired for the recreational use for 27.63 miles.

Little Otter River [Fed ID 1547/9486/19639/24557] 27.63 miles:

4ALOR021.92- (Rt. 838 Bridge) There are no additional data beyond the 2010 Integrated Report (IR) where escherichia coli (E.coli) exceed the instantaneous criterion in 10 of 12 samples with excessive values ranging from 250 cfu/100 ml to greater than 2000. The 2002 Integrated Report (IR) finds fecal coliform (FC) bacteria exceeds the former 400 cfu/100 ml instantaneous criterion in 2 of 2 samples. Exceedances range from 3300 cfu/100 ml to greater than 160,000.

4ALOR018.96- (Rt. 122 Bridge north of the intersection of Rt.'s 122 and 211) There are no additional data beyond the 2002 IR where 2 FC exceedances from 2 samples are in excess of the former instantaneous criterion. Each exceedance is 4900 cfu/100 ml and greater than 160,000.

4ALOR014.75- (Rt. 718 Bridge above Bedford STP) The 2018 and 2016 assessments find E.coli exceeds the WQS instantaneous criterion in 20 of 36 and 16 of 36 observations, respectively. Exceedances range from 250 cfu/100 ml to greater than 2000. Ten of 36 E.coli samples ranging from 250 to greater than 2000 cfu/100 ml exceed the instantaneous criterion in 2014. The 2012 assessment finds E.coli exceedances range from 300 to greater than 2000 cfu/100 ml in 11 of 36 samples in excess of the 235 cfu/100 ml instantaneous criterion. Ten of 33 E.coli samples exceed the WQS instantaneous criterion in 2010. Exceedances range from 270 cfu/100 ml to 1200. 2008 E.coli exceedances range from 270 to 1200 cfu/100 ml in 8 of 21 samples in excess of the instantaneous criterion. The 2006 assessment reports the E.coli exceedance range from 270 to 920 cfu/100 ml in 4 of 9 samples. And the 2006 assessment also reports 16 of 52 FC samples exceeding the former FC 400 cfu/100 ml instantaneous criterion with an excursion range from 450 cfu/100 ml to greater than 8000.

4ALOR014.33- 2 of 3 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion at 475 and 600 cfu/100 m in the 2014 data window. There are no additional data within the 2016 or 2018 data windows.

4ALOR010.78- (Rt. 460 Bridge) There are no additional data beyond the 2002 IR. Two of 2 FC samples exceed the former instantaneous criterion at 1700 cfu/100 ml and greater than 160,000.

4ALOR008.64- (Rt. 784 Bridge) 4 of 18 E.coli samples exceed the WQS instantaneous criterion of 235 cfu/100 ml within the 2016 and 2018 data windows. Excessive values range from 275 cfu/100 ml to 550. The 2014 Integrated Report (IR) finds 7 of 24 E.coli samples exceed the WQS instantaneous criterion. Values in excess of the criterion range from 250 cfu/100 ml to 720. No new data are within the 2012 data window. The 2010 assessment results find 5 of 12 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion. Values in excess of the criterion range from 250 cfu/100 ml to 720. There were no E.coli data to assess in 2008. 2008 FC exceedances of the former 400 cfu/100 ml instantaneous criterion are found in 3 of 17 samples. Exceedances range from 500 to 2400 cfu/100 ml. FC exceedances of the former 400 cfu/100 ml instantaneous criterion in 2006 are 13 of 31 samples. Excessive values range from 500 to 28,000 cfu/100 ml.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Machine Creek [Fed ID 1547/9467/20210/24780] 11.59 miles:

4AMCR004.60- (Rt. 804 Bridge) 20of 36 E.coli samples exceed the 235 cfu/100 ml criterion during the 2018 data window (exceedance range is 250 - 24,196 cfu/100 ml). The 2016 data window reports 17 of 36 E.coli samples exceed the instantaneous criterion with a range from 275 to 1600 cfu/100 ml. Thirteen of 36 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. Exceedances range from 275 to 1600 cfu/100 ml. The 2012 assessment finds 10 of 24 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 300 to 1600 cfu/100 ml. 2010 data reveal 3 of 12 E.coli samples exceed the instantaneous criterion. Exceedances range from 300 to 550 cfu/100 ml. Three of 14 FC samples exceed the former 400 cfu/100 ml instantaneous criterion within the 2008 data window. Exceedances range from 500 to 1100 cfu/100 ml. The 2006 IR reports 7 of 18 FC samples exceed the former instantaneous criterion and the same range of exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little Otter River confluence with the Big Otter River (RU54).	4A	Escherichia coli	2010	L	4.47
VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	4A	Escherichia coli	2010	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	4A	Escherichia coli	2010	L	5.90
VAW-L26R_LOR04A00 / Little Otter River / Little Otter River mainstem from the Bedford City boundary at the Rt. 43 crossing downstream to Bedford City POTW (RU54).	4A	Escherichia coli	2008	L	7.44
VAW-L26R_LOR05A00 / Little Otter River / Little Otter River mainstem from its perennial headwaters downstream to the Bedford City boundary at the Rt. 43 crossing (RU54).	4A	Escherichia coli	2010	L	5.58
VAW-L26R_MCR01A00 / Machine Creek / Machine Creek mainstem from it perennial headwaters downstream to its mouth on the Little Otter River (RU53).	4A	Escherichia coli	2010	L	11.59

Little Otter River and Machine Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**39.22**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-01-BEN** **Little Otter River**

Cause Location: Little Otter River mainstem from the Bedford City POTW downstream to mouth to its confluence with the Big Otter River.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

TMDLs for Benthic Impairments in Little Otter R. (Sediment and Total Phosphorus), Johns Cr, Wells Cr, and Buffalo Cr (Sediment) were EPA approved on 2/3/15 [Fed IDs 65480/63924]. The original 2002 303(d) Listed 5.90 mile General Standard (Benthic) impairment is extended upstream in 2008 with an additional 7.44 miles showing benthic impairment at station 4ALOR014.75 for an additional impaired length of 13.34 miles. The 2010 assessment extends the impairment downstream 8.71 miles based on impaired benthic conditions at stations 4ALOR012.20, 4ALOR008.64 and 4ALOR007.20. Total impaired miles are 22.05 miles.

4ALOR014.75- (Rt. 718 Bridge - above Bedford STP) Bio 'IM' 4 Virginia Stream Condition Index (VSCI) surveys (2011-2012) report an average score of 57.9 within the 2016 and 2018 data windows. The 2014 IR reports 6 VSCI surveys (2008, 2011-2012) with an average score of 59.9. The 2010 and 2012 assessments record 3 Virginia Stream Condition Index (VSCI) surveys (2006 and 2008) scoring fall 2006 58.7; and spring 56.7 and fall 67.8 in 2008. The 2008 IR reports the fall 2006 VSCI survey as noted previously. Habitat impacts include stream substrates that are embedded by fine sediment, eroded stream banks and riparian zone vegetation removal. Application of the VSCI to previous RBP II surveys (1994-2006 outside the 2008 data window) reveals an average VSCI score of 54.0. As a result the benthic community is assessed as impaired and is a 2008 7.30 mile extension upstream from the 2002 303(d) Benthic Listing.

4ALOR014.33- (Below Bedford STP) Bio 'IM'. The 2014, 2016 and 2018 Integrated Reports (IR) find 4 (2011-2012) VSCI surveys with an average score of 49.2. The preliminary stressor identification determined sediment and nutrients to be the cause of the impairment.
There are no additional data between the 2004 and 2014 IRs where 3 2004 RBP II surveys Fall 1999 score 45; Spring '99 and '00 average score 53.95. This station is located below the City of Bedford's STP discharge at 4ALOR014.36 (excluding the mixing zone). Best Professional Judgment was used in spring 1999 because the sample had a high number of pollution tolerant organisms. The aquatic life use General Standard (Benthic) impairment is a 2002 original 303(d) Listing.

4ALOR012.20 (Passed the end of Dowdy Rock Rd.) Bio 'IM' 2 2008 VSCI surveys with an average score of 58.2. Habitat impacts include stream substrates that are embedded by fine sediment and eroded stream banks. This site replaces the historical downstream impact station (4ALOR014.33) that has become inaccessible.

4ALOR008.93 (Off Nicopolis Dr., Rt. 784)- Bio 'IM' The 2014, 2016, and 2018 IRs report 2 2012 VSCI surveys scoring spring 48.9 and fall 27.2. Habitat surveys indicated a stream section with marginal bank stability, sediment impacts and lack of instream habitat. Preliminary stressor identification determined sediment and nutrients to be the cause of the impairment.

4ALOR008.64 (Nicopolis Dr., Rt. 784 Bridge) Bio 'IM No new data since the 2010 data window where 1 2008 VSCI survey scored 56.5. This station was sampled as part of the Nutrient Criteria Special Study in 2008. Stations were selected based on historical nutrient levels and data on benthic macroinvertebrates, algae, periphyton and habitat were collected to be compared with nutrients. The VSCI score indicates a stressed community with low taxonomic diversity and low abundance of pollution-sensitive organisms. Habitat surveys indicated a stream section with substrates that were impacted by excessive fine sediments. Chemical analyses indicate high phosphorus levels.

4ALOR007.20 (Downstream of Nicopolis Dr. - Rt. 784) Bio 'IM'- A 2007 probabilistic site. Two 2007 VSCI surveys with an average score of 52.7. Both spring and fall samples had relatively low taxonomic diversity and low abundance of pollution-sensitive organisms. Habitat surveys indicated a stream section with substrates that were impacted by excessive fine sediments.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	4.47

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Otter River confluence with the Big Otter River (RU54).

VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	5.90
VAW-L26R_LOR04A00 / Little Otter River / Little Otter River mainstem from the Bedford City boundary at the Rt. 43 crossing downstream to Bedford City POTW (RU54).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	7.44

Little Otter River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**22.05**

Sources:

Crop Production (Crop Land or Dry Land)	Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Municipal Point Source Discharges
Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization	Wet Weather Discharges (Non-Point Source)	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-01-HG** **Little Otter River**

Cause Location: Little Otter River mainstem from the Bedford City POTW downstream to the Little Otter River confluence with the Big Otter River.

City / County: Bedford Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2006 fish tissue collections and Water Quality Standards (WQS) effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov for more information about mercury contamination and http://www.vdh.virginia.gov/environmental-epidemiology/public-health-toxicology/fish-consumption-advisories/ for VDH Advisories or Bans.

4ALOR007.94 (Below Bedford)- There are no additional data beyond the 2008 data window. Mercury (Hg) is found in 2006 fish tissue results for 1 smallmouth bass (0.489 ppm) and 1 rock bass (0.450 ppm) each greater than the water quality based mercury tissue value (TV) of 0.3 ppm.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little Otter River confluence with the Big Otter River (RU54).	5A	Mercury in Fish Tissue	2010	L	4.47
VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	5A	Mercury in Fish Tissue	2010	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	5A	Mercury in Fish Tissue	2010	L	5.90

Little Otter River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**14.61**

Sources:

Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-01-PCB** **Little Otter River**

Cause Location: Little Otter River mainstem from the Bedford City POTW downstream to the Little Otter River confluence with the Big Otter River.

City / County: Bedford Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 4A

The Roanoke R. PCB TMDL Study is US EPA approved 4/9/2010. Fed ID: 38522 and received SWCB approval on 12/9/2010. The Little Otter River is incorporated within the Roanoke River PCB TMDL with Fed IDs: 38461/38638/38639.

1999 Fish tissue collections at 4ALOR007.94 (below Bedford) find polychlorinated biphenyls (PCBs) in excess of the current 20 parts per billion (ppb) tissue value (TV) and former human health-risk carcinogenic WQS TV of 54 ppb from 3 species; Carp at 68.30; Smallmouth Bass at 54.8; and 1999 addition Redhorse Sucker at 28.50 ppb. Application of the new PCB WQS TV of 20 ppb to 2002 collections adds an additional species, Bluehead Chub at 21.28 ppb. The 14.33 mile fish consumption impairment is a 2002 addition to the initial Listing and the impairment remains in the 2014, 2016, and 2018 assessments with no additional data. A Virginia Department of Health fish consumption advisory has not been issued for these waters. The 2008 assessment found 2006 and 2002 fish tissue collections had no exceedances of the former WQS PCB TV of 54 ppb from species collected. However neither of these collections contained tissue results for carp or smallmouth bass, the original Listing basis.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little Otter River confluence with the Big Otter River (RU54).	4A	PCB in Fish Tissue	2002	L	4.47
VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	4A	PCB in Fish Tissue	2002	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	4A	PCB in Fish Tissue	2002	L	5.90

Little Otter River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**14.61**

Sources:

Urban Runoff/Storm Sewers

Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-02-BAC Johns Creek**

Cause Location: Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (Bedford & Goode Quads).

City / County: Bedford City Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little Otter River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 02/02/2001 [Fed ID 1547/9486/19639/24557] (VAW-L26R-01) and Machine Creek [Fed ID 1547/9467/20210] (VAW-L26R-02). SWCB approval achieved on 6/17/2004. The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26R) including Johns Creek (L26R Nested 2014 IR), Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved study and allocations can be viewed at http://www.deq.virginia.gov. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator organism as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AJHN000.01- (near the Johns Creek confluence with the Little Otter River) There are no additional data beyond the 2014 IR. The 2014 assessment finds the Recreational Use impaired from 2 of 3 escherichia coli samples. Values in excess of the 235 cfu/100 ml instantaneous criterion are 350 and 900 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_JHN01A00 / Johns Creek / Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (RU54).	4A	Escherichia coli	2014	L	2.24

Johns Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.24**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-02-BEN Johns Creek**

Cause Location: Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (Bedford & Goode Quads).

City / County: Bedford City Bedford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The TMDLs for Benthic Impairments in Little Otter River, Johns Creek, Wells Creek, and Buffalo Creek was EPA approved [Fed IDs 65480/63924] on 2/3/2015 and SWCB approved on ____. Historical surveys of Johns Creek from the 1990s and 2000 also indicate an impaired benthic community. The original 2002 Benthic results show moderate impact to the benthic community from a total of 3 Rapid Bioassessment Protocol II (RBP II) surveys. BPJ used in spring 1999 because the number of total taxa and total individuals were low, and pollution tolerant taxa were dominant.

4AJHN000.01- (near the Johns Creek confluence with the Little Otter River) Bio 'IM' 4 Virginia Stream Condition Index (VSCI) surveys (2011-2012) with an average score of 49.4 show an impaired condition within the 2016 data window. The 2014 data window contains 6 VSCI (2008-2012). The 2014 average score is 48.5 indicating continued impairment of the biota. The benthic community was dominated by midges (Chironomidae) and net-spinning caddisflies (Hydropsychidae). These organisms typically dominate streams that have high amounts of organic matter. Two surveys had low taxa richness and diversity and all had low numbers of pollution-sensitive taxa such as mayflies and stoneflies. There were no additional data within the 2012 data window. The 2010 assessment finds the benthic community impaired from 3 VSCI surveys (2006-2008) with an average score of 44.20. This stream is affected by urban and agricultural NPS pollution. Flashy flows appear to cause severe erosion of stream banks. The original 2002 2.13 mile General Standard (Benthic) 303(d) Listing remains. The 2008 assessment reports 1 2006 fall Virginia Stream Condition Index (VSCI) survey scoring 40.7.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_JHN01A00 / Johns Creek / Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (RU54).	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	2.24

Johns Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.24**

Sources:

Municipal (Urbanized High Density Area)	Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-03-BAC** **Wells Creek**

Cause Location: Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little Otter River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 02/02/2001 [Fed ID 1547/9486/19639/24557] (VAW-L26R-01) and Machine Creek [Fed ID 1547/9467/20210] (VAW-L26R-02). SWCB approval achieved on 6/17/2004. The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved study and allocations can be viewed at http://www.deq.virginia.gov.

The 2014 initial 303(d) Listing finds the Recreational Use impaired for 3.93 miles based on escherichia coli (E.coli) results at station 4AWEL001.14. The bacteria impairment is nested within the Little Otter River Bacteria TMDL.

4AWEL001.14- (Rt. 722 Bridge, Old Country Rd.) The 2014, 2016, and 2018 assessments find 11 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. The range of exceeding values is from 300 to greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_WEL01A02 / Wells Creek / Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters (RU53).	4A	Escherichia coli	2014	L	3.93

Wells Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.93**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L26R-03-BEN** **Wells Creek**

Cause Location: Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The 2008 initial 303(d) Listing finds the Aquatic Life Use impaired for 3.93 miles based on results from benthic surveys at station 4AWEL000.59.

4AWEL001.14- (Rt. 722 Bridge, Old Country Rd.) Bio 'IM' 4 Virginia Stream Condition Index (VSCI) surveys (2011-2012) with an average score of 50.2. The habitat at this station is moderately impacted by hay fields and pastures. The riparian zone buffers are narrow and there is obvious stream bank erosion. The instream habitat is affected by deposition of fine sediment. The benthic community is dominated by organisms tolerant of nutrient and organic matter impacts.

4AWEL000.59- (Downstream of Rt. 747 Crossing) Bio 'IM' Both the 2010 and 2008 assessments find 2 2005 VSCI surveys scoring spring 45.6 and fall 59.6. There are no additional data within the 2012, 2014, 2016, or 2018 data windows. The habitat is moderately impacted by hay fields and pastures. The riparian zone buffers are narrow and there is substantial stream bank erosion. The in stream habitat is affected by deposition of fine sediment. The benthic community is dominated by organisms tolerant of nutrient and organic matter impacts.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_WEL01A02 / Wells Creek / Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters (RU53).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.93

Wells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.93**

Sources:

Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L27R-01-BAC** **Big Otter River and Falling Creek**

Cause Location: Big Otter River from the mouth of the Little Otter River on the Big Otter River extending downstream to the confluence of Buffalo Creek with the Big Otter River (Goode, Forest& Lynch Station Quads).

Falling Creek from its headwaters downstream to the Falling Creek mouth on the Big Otter River.

City / County: Bedford Co. Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Big Otter River Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 02/02/2001 [FED ID 1547/9486/36497] and SWCB approval on 6/17/2004 (former VAW-L27R-01). The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Falling Creek is nested within the TMDL Watershed and not specifically addressed by the Bacteria TMDL. However allocation scenario development is for the entire TMDL Watershed to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved study and allocations can be viewed at http://www.deq.virginia.gov. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

No recreational use impairments are noted in the 1998 303(d) List for the Big Otter River in watershed L27R. The 2002 5.37 mile fecal coliform portion is added to the original former downstream (L28R- 2008 delisted 13.98 miles) 1998 303(d) Listing. Big Otter bacteria impaired waters span from the mouth of Little Otter River on the Big Otter on downstream to the Buffalo Creek confluence. A 2004 IR Falling Creek addition with 5.92 miles brings the total bacteria impaired length to 11.29 miles. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Big Otter River (5.37 miles):
4ABOR016.26- (Rt. 24 Bridge) The 2018 data window finds 12of 23 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion with a range of 275 cfu/100 ml to greater than 11,000 cfu/100 ml. Eight of 23 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml within the 2016 data window. Excessive values range from 275 cfu/100 ml to greater than 2000. There are no additional data beyond the 2012 Integrated Report (IR) where escherichia coli (E.coli) exceed the 235 cfu/100 ml WQS instantaneous criterion in 4 of 23 samples ranging from 280 cfu/100 ml to greater than 2000. The 2010 assessment finds E.coli exceed in 1 of 12 samples with the single exceedance at 280 cfu/100 ml.

The 2004 IR reports FC exceeds the former 400 cfu/100 ml instantaneous criterion in 3 of 17 samples. The range of excursions is from 500 cfu/100 ml to greater than 160,000. Three FC samples within the 2008 data window find no exceedances of the instantaneous criterion. 2006 IR finds 1 of 8 FC samples exceeds at 160,000 cfu/100 ml.

Falling Creek (5.92 miles):
4AFNG001.06- There are no additional data beyond the 2004 IR where 2 of 2 FC samples exceed the 400 cfu/100 ml instantaneous criterion at 2,400 and greater than 160,000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_BOR01A00 / Big Otter River / Big Otter River mainstem from the upstream WQS designated public water supply (PWS) Sec. 5j end downstream to the Buffalo Creek mouth on the Big Otter River (RU55).	4A	Escherichia coli	2010	L	2.66
VAW-L27R_BOR02A00 / Big Otter River / Big Otter River mainstem from the mouth of Little Otter R. on Big Otter R. downstream to the upstream end of the WQS designated public water supply (PWS) section 5j (RU55).	4A	Escherichia coli	2010	L	2.71

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Big Otter River and Falling Creek

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.37**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_FNG01A02 / Falling Creek / Falling Creek mainstem from its mouth on the Big Otter River upstream to it headwaters (RU55).	4A	Fecal Coliform	2004	L	5.92

Big Otter River and Falling Creek

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.92**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L27R-01-BEN** **Buffalo Creek**

Cause Location: Buffalo Creek from an unnamed tributary at the Route 811 crossing in Campbell County to its mouth on the Big Otter River.

City / County: Bedford Co. Campbell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Little Otter River (Sediment and Total Phosphorus), Johns Creek, Wells Creek, and Buffalo Creek (Sediment) TMDL Benthic Impairments received U.S. EPA approval on 2/3/2015. [Fed. ID 64056] and SWCB approval on 12/11/2014.

Station ID:
4ABWA008.53 (2003 Probmon/2009/2012 Bio)(Along Rt. 623 near New London)
IM - Flow regime and nutrients seem to negatively affect the stream community. Abundant periphyton and the presence of filamentous algae indicate elevated nutrients are the probable cause of the impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_BWA01A18 / Buffalo Creek / Buffalo Creek mainstem from its mouth on the Big Otter River upstream to the end of the WQS designated public water supply (PWS) Sec. 5j end (RU56).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.10
VAW-L27R_BWA02A18 / Buffalo Creek / Buffalo Creek from the end of the WQS designated public water supply (PWS) section 5j upstream to an unnamed tributary at the Rt. 811 crossing in Campbell County (37° 14' 56"/79° 18' 20") (RU56).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	6.43

Buffalo Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.53**

Sources:

Clean Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L27R-02-BAC** **Buffalo Creek**

Cause Location: Buffalo Creek from an unnamed tributary at the Route 811 crossing in Campbell County to its mouth on the Big Otter River.

City / County: Bedford Co. Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 36497, 2/2/2001
Station ID:
4ABWA002.00 (Ambient)(2018)(Below Rt. 24 Bridge)
E. coli - 8/24 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_BWA01A18 / Buffalo Creek / Buffalo Creek mainstem from its mouth on the Big Otter River upstream to the end of the WQS designated public water supply (PWS) Sec. 5j end (RU56).	4A	Escherichia coli	2006	L	2.10
VAW-L27R_BWA02A18 / Buffalo Creek / Buffalo Creek from the end of the WQS designated public water supply (PWS) section 5j upstream to an unnamed tributary at the Rt. 811 crossing in Campbell County (37° 14' 56"/79° 18' 20") (RU56).	4A	Escherichia coli	2006	L	6.43

Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.53**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L28R-01-BAC** **Big Otter River**

Cause Location: Big Otter River mainstem from the mouth of Flat Creek downstream to Big Otter River confluence with the Roanoke (Staunton) River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station IDs:
4ABOR000.62 (Ambient, TMDL)(Bernards Creek 30 m above mouth)
E. coli - 10/35 Exceedance Rate
4ABOR012.18 (Ambient)(Station #8, Route 644 Bridge)
E. coli - 2/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L28R_BOR01A00 / Big Otter River / Big Otter River mainstem from the mouth of Flat Creek downstream to Big Otter River confluence with the Roanoke (Staunton) River.	4A	Escherichia coli	2010	L	9.45
VAW-L28R_BOR02A00 / Big Otter River / Big Otter River mainstem from the Campbell County USA Otter River WTP downstream to mouth of Flat Creek.	4A	Escherichia coli	2016	L	2.22
VAW-L28R_BOR03A00 / Big Otter River / Big Otter River mainstem from the Buffalo Creek mouth on Big Otter River downstream to the Campbell County USA Otter River WTP.	4A	Escherichia coli	2016	L	2.34

Big Otter River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.01**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L29R-01-BEN** **Flat Creek**

Cause Location: Flat Creek from the confluence of Yellow Branch to its headwaters.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2007/2012/2014 Bio
IM - 4AFCA010.95 (Flat Cr @ RT 622 bridge) was listed as impaired in the 2008 IR. Sediment and scour are listed as probable stressors. It exhibits slight seasonal variability and moderate variability near the assessment threshold of 60. Recent sampling has indicated an improvement is VSCI scores, although sediment and scour are still affecting the community. Additional monitoring is required to accurately assess the waterbody.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L29R_FCA02A10 / Flat Creek / Flat Creek from the confluence of Yellow Branch to its headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	8.21

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L29R-02-BAC** **Flat Creek**

Cause Location: Flat Creek mainstem from Yellow Branch's mouth downstream to the Flat Creek mouth on the Big Otter River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This 2018 initial bacteria listing for Flat Creek is nested within the Big Otter River Bacteria Total Maximum Daily Load (TMDL) which received U.S. EPA approval on 02/02/2001 [FED ID 1547/9486/36497] and SWCB approval on 6/17/2004 (former VAW-L27R-01). The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Flat Creek is included within this area.

4AFCA001.40 (Rt. 696 Bridge) - 2 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions are 291 and 565 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L29R_FCA01A00 / Flat Creek / Flat Creek mainstem from Yellow Branch's mouth downstream to the Flat Creek mouth on the Big Otter River.	4A	Escherichia coli	2018	L	7.66

Flat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.66**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L30R-01-BAC** **Roanoke (Staunton) River**

Cause Location: Roanoke (Staunton) River mainstem from the Big Otter River mouth downstream to the confluence of Hills Creek (37° 7' 9.187" N, -79° 12' 57.062" W).

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The initial 2018 data window Recreational Use listing is nested within the Bacteria TMDLs for the Cub Cr., Turnip Cr., Buffalo Cr., Buffalo Cr. (UT), and Staunton R. Watersheds. EPA approved 6/22/06, SWCB approved 6/27/07 [FED ID: 24387].

4AROA124.59 (Rt. 640 Bridge, Pitts. Line Old Mansion) - 3 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions range from 281 to 4884 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_BHA01A02 / Buffalo Creek / Buffalo Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its headwaters.	4A	Escherichia coli	2008	L	10.23

Roanoke (Staunton) River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.23**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L30R-02-BAC** **Childrey Creek**

Cause Location: Childrey Creek mainstem from its headwaters downstream to the Childrey Creek mouth on the Roanoke (Staunton) River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

Two stations are located within the 14.54 miles of impaired waters. 4ACRE002.52 (Ambient)(2018)(Childrey Creek at Route 632 Bridge) and 4ACRE008.75 (Ambient)(Childrey Cr @ State Shed Rd (Rt 645)

4ACRE002.52 (Ambient)(2018)(Childrey Creek at Route 632 Bridge) 0/0 samples in excess of the instantaneous criterion.

4ACRE008.75 (Ambient)(Childrey Cr @ State Shed Rd (Rt 645)) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_CRE01A00 / Childrey Creek / Childrey Creek mainstem from its headwaters downstream to the Childrey Creek mouth on the Roanoke (Staunton) River.	4A	Escherichia coli	2006	L	14.53

Childrey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.53**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L30R-03-BAC** **Straightstone Creek**

Cause Location: Straightstone Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to Little Straightstone Creek

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 8.75 miles of impaired waters. 4ASSC002.98 (TMDL Monitoring)(2018)(Route 761 (Straightstone Rd))

4ASSC002.98 (TMDL Monitoring)(2018)(Route 761 (Straightstone Rd)) 7 of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_SSC01A02 / Straightstone Creek / Straightstone Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to Little Straightstone Creek	4A	Escherichia coli	2006	L	8.75

Straightstone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.75**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L30R-04-BAC** **Whipping Creek**

Cause Location: Whipping Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its headwaters.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 13.9 miles of impaired waters. 4AWPP002.53 (TMDL, Ambient)(Whipping Creek at Route 633)

4AWPP002.53 (TMDL, Ambient) (Whipping Creek at Route 633) Three of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_WPP01A02 / Whipping Creek / Whipping Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its headwaters.	4A	Escherichia coli	2006	L	13.90

Whipping Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.90**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L30R-05-BAC** **Little Straightstone Creek**

Cause Location: Little Straightstone Creek from its headwaters to the mouth

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 7.55 miles of impaired waters. 4ALHT000.70 (TMDL Monitoring) (Route 668 (Level Run Road))

4ALHT000.70 (TMDL Monitoring) (Route 668 (Level Run Road)) Five of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_LHT01A06 / Little Straightstone Creek / Little Straightstone Creek from its headwaters to the mouth	4A	Escherichia coli	2006	L	7.57

Little Straightstone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.57**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L31R-01-BEN** **East Little Seneca Creek, Unnamed Tributary**

Cause Location: East Little Seneca Creek, Unnamed Tributary from the headwaters to the mouth

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AXUP000.06 (2004 FPM) (Upstream of route 698) No additional data beyond the 2016 data window:
IM - seems to be negatively affected by flow regime and sedimentation.
2011/2013 Bio - IM - Sediment and nutrients are primary stressors to this reach. VSCI scores exhibit seasonal variability over several years.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L31R_XUP01A06 / East Little Seneca Creek, Unnamed Tributary / From the headwaters to the mouth	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.50

East Little Seneca Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L32R-01-BAC** **Falling River**

Cause Location: Falling River from its headwaters to its confluence with South Fork Falling River

City / County: Appomattox Co. Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Two stations are located within the 18.16 miles of impaired waters. 4AFRV025.34 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 650 bridge) and 4AFRV029.24 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 647 bridge)

4AFRV025.34 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 650 bridge) Four of 12 samples in excess of the instantaneous criterion.

4AFRV029.24 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 647 bridge) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L32R_FRV01A06 / Falling River / Falling River from its headwaters to its confluence with South Fork Falling River	4A	Escherichia coli	2006	L	18.17

Falling River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.17**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L33R-01-BAC** **Button Creek**

Cause Location: Button Creek from the headwaters to the mouth.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 7.86 miles of impaired waters. 4ABTF002.16 (TMDL Monitoring)(Button Creek at Rt. 651)

4ABTF002.16 (TMDL Monitoring)(Button Creek at Rt. 651) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L33R_BTF01A06 / Button Creek / From the headwaters to its mouth	4A	Escherichia coli	2006	L	7.86

Button Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.86**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L33R-02-BAC** **South Fork Falling River**

Cause Location: South Fork Falling River from its headwaters to the mouth.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Three stations are located within the 16.79 miles of impaired waters. 4AFSF000.66 (TMDL Monitoring)(2018)(South Fork Falling River, Rt. 648 bridge), 4AFSF004.56 (Ambient)(Route 604), and 4AFSF011.11 (TMDL Monitoring)(South Fork Falling River, Rt. 663 bridge)

4AFSF000.66 (TMDL Monitoring)(2018) (South Fork Falling River, Rt. 648 bridge) Six of Six samples in excess of the instantaneous criterion.

4AFSF004.56 (Ambient)(Route 604) Four of 12 samples in excess of the instantaneous criterion.

4AFSF011.11 (TMDL Monitoring)(South Fork Falling River, Rt. 663 bridge) Five of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L33R_FSF01A06 / South Fork Falling River / From its headwaters to the mouth (RU67).	4A	Escherichia coli	2006	L	16.78

South Fork Falling River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.78**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L34R-01-BAC** **Falling River**

Cause Location: Falling River mainstem from the Falling River North and South Fork confluence to its mouth on the Roanoke (Staunton) River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Four stations are located within the 17.88 miles of impaired waters. 4AFRV002.78 (Ambient, TMDL)(Off Rt. 600 Below Brookneal STP) , 4AFRV003.07 (TMDL IP Monitoring)(2018) (Falling River @ Rt 40) , 4AFRV010.99 (Ambient, TMDL Monitoring)(2018) (Naruna Gage Route 643)
, and 4AFRV017.71 (Ambient & 2004 Falling River TMDL)(2018)(Route 615 Bridge)

4AFRV002.78 (Ambient, TMDL) (Off Rt. 600 Below Brookneal STP) Six of 10 samples in excess of the instantaneous criterion.

4AFRV003.07 (TMDL IP Monitoring)(2018)(Falling River @ Rt 40) Two of 12 samples in excess of the instantaneous criterion.

4AFRV010.99 (Ambient, TMDL Monitoring)(2018) (Naruna Gage Route 643) 17 of 36 samples in excess of the instantaneous criterion.

4AFRV017.71 (Ambient & 2004 Falling River TMDL)(2018)(Route 615 Bridge) 9 of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_FRV01A00 / Falling River / Falling River mainstem from the Brookneal Lagoon outfall downstream to the Falling River mouth on the Roanoke (Staunton) River.	4A	Escherichia coli	2006	L	2.95
VAW-L34R_FRV02A00 / Falling River / Dan River Inc. water intake on Falling River downstream to the Brookneal Lagoon outfall.	4A	Escherichia coli	2006	L	0.32
VAW-L34R_FRV03A00 / Falling River / Little Falling River mouth downstream to Dan River, Inc. intake on Falling River.	4A	Escherichia coli	2006	L	4.37
VAW-L34R_FRV04A00 / Falling River / WQS public water supply (PWS) section 5c end downstream to mouth of Little Falling River.	4A	Escherichia coli	2006	L	0.86
VAW-L34R_FRV05A02 / Falling River / Falling River from the Mollys Creek mouth downstream to the WQS section 5c public water supply (PWS) end.	4A	Escherichia coli	2006	L	6.50
VAW-L34R_FRV06A02 / Falling River / Falling River mainstem from the Falling River North and South Fork confluence downstream to the mouth of Mollys Creek.	4A	Escherichia coli	2006	L	2.85

Falling River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.85**

Sources:

- Livestock (Grazing or Feeding Operations)
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L34R-02-BAC** **Little Falling River**

Cause Location: Little Falling River from its headwaters at the confluence of to its mouth on Falling River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Four stations are located within the 15.94 miles of impaired waters. 4ALRV005.17 (TMDL Monitoring),4ALRV007.84 (Ambient), 4ALRV009.74 (Ambient)(2018), and 4ALRV013.53 (Ambient)(2018)

4ALRV005.17 (TMDL Monitoring)(Little Falling River at Rt. 618 bridge) Five of 11 samples in excess of the instantaneous criterion.

4ALRV007.84 (Ambient) (L. Falling River @ Rt. 646) Three of 12 samples in excess of the instantaneous criterion.

4ALRV009.74 (Ambient)(2018) (Little Falling River at Route 615) Three of 12 samples in excess of the instantaneous criterion.

4ALRV013.53 (Ambient)(2018)(L. Falling River @ Rt 649) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_LRV01A00 / Little Falling River / Little Falling River mainstem from the WQS designated public water supply (PWS) upstream end downstream to its mouth on Falling River.	4A	Escherichia coli	2006	L	0.81
VAW-L34R_LRV02A06 / Little Falling River / From the PWS WQS Section 5c to its confluence with Jacobs Creek	4A	Escherichia coli	2006	L	8.90
VAW-L34R_LRV03A06 / Little Falling River / From its confluence with Jacobs Creek to the Campbell/Appomattox Co line	4A	Escherichia coli	2012	L	4.41
VAW-L34R_LRV04A12 / Little Falling River / From the Campbell/Appomattox Co line to its headwaters at the confluence of Jonnican Branch, Steele Fork, and Marrowbone Creek	4A	Escherichia coli	2014	L	1.81

Little Falling River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.93**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L34R-03-BAC** **Suck Creek**

Cause Location: Suck Creek from its headwaters to the mouth.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 8.49 miles of impaired waters. 4ASUC001.31 (Ambient)

4ASUC001.31 (Ambient)(Suck Creek at Route 648) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_SUC01A06 / Suck Creek / From its headwaters to the mouth	4A	Escherichia coli	2006	L	8.49

Suck Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.49**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L34R-04-BAC** **Entry Creek**

Cause Location: Entry Creek from its headwaters to its mouth on Little Falling River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 4.74 miles of impaired waters. 4AENT001.64 (Ambient)(2018)

4AENT001.64 (Ambient)(2018)(Entry Cr @ Rt 601) Four of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_ENT01A08 / Entry Creek / Entry Creek from its headwaters to its mouth on Little Falling River (RU70)	4A	Escherichia coli	2008	L	4.73

Entry Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.73**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L34R-05-BAC** **Hickory Creek**

Cause Location: Hickory Creek from its headwaters to the mouth.

City / County: Appomattox Co. Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 2.77 miles of impaired waters. 4AHCK000.51 (Ambient)(2018)

4AHCK000.51 (Ambient)(2018) (Hickory Creek @ Rt. 641) Zero of 2 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_HCK01A10 / Hickory Creek / Hickory Creek from its headwaters to the mouth.	4A	Escherichia coli	2010	L	2.76

Hickory Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.76**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L34R-06-BAC** **Dog Creek**

Cause Location: Dog Creek from its headwaters to its mouth

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 2.55 miles of impaired waters. 4ADOG000.80 (Ambient)

4ADOG000.80 (Ambient)(Route 600) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_DOG01A10 / Dog Creek / Dog Creek from its headwaters to its mouth	4A	Escherichia coli	2010	L	2.66

Dog Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.66**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L34R-07-BEN** **Entry Creek, Unnamed Tributary**

Cause Location: From its headwaters to the mouth on Entry Creek

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AXVK001.44 (2009-2010 FPM)(UT Entry Cr w of Route 600 s of Route 639)
IM - very small intermittent stream within the PROBMON program. Sampling in the fall of 2010 was halted due to lack of flow. The site is within an agricultural watershed and cattle do have direct access to the stream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_XVK01A12 / Entry Creek, Unnamed Tributary / From its headwaters to the mouth on Entry Creek	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	1.69

Entry Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L35R-01-BAC** **Mollys Creek**

Cause Location: Mollys Creek from its headwaters to its mouth on Falling River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID 24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Four stations are located within the 17.59 miles of impaired waters. 4AMEY016.00 (Ambient, TMDL Monitoring)(2018)(Private Road off Route 655, below Rustburg), 4AMEY010.46 (Ambient, TMDL)(2018)(Mollys Creek at Rt. 654 bridge), 4AMEY007.76 (Prob Ambient)(2018)(Route 650),and 4AMEY000.40 (TMDL Monitoring)(Mollys Creek at Rt. 648)

4AMEY016.00 (Ambient, TMDL Monitoring)(2018)(Private Road off Route 655, below Rustburg) Three of 6 samples in excess of the instantaneous criterion.

4AMEY010.46 (Ambient, TMDL)(2018)(Mollys Creek at Rt. 654 bridge) three of 6 samples in excess of the instantaneous criterion.

4AMEY007.76 (Prob Ambient)(2018)(Route 650) Five of 12 samples in excess of the instantaneous criterion.

4AMEY000.40 (TMDL Monitoring)(Mollys Creek at Rt. 648) 8 of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L35R_MEY01A00 / Mollys Creek / Mollys Creek mainstem from its perennial headwaters downstream to the reservoir backwaters	4A	Escherichia coli	2006	L	1.99
VAW-L35R_MEY02A06 / Mollys Creek / From the reservoir dam to the mouth at Falling River	4A	Escherichia coli	2006	L	15.59

Mollys Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.58**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L35R-01-BEN** **Mollys Creek**

Cause Location: Mollys Creek mainstem from its perennial headwaters downstream to the reservoir backwaters.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AMEY016.00 (2007-2008 Bio) (Private Road off Route 655, below Rustburg) The 2018 data window finds Aquatic Life Use impairment from three Virginia Stream Condition Index (VSCI) surveys with an average score of 41.5. Initial listing was based on benthic macroinvertebrate community data from 2007-2008. Agriculture watershed influences in addition to a small POTW several miles upstream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L35R_MEY01A00 / Mollys Creek / Mollys Creek mainstem from its perennial headwaters downstream to the reservoir backwaters	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.99

Mollys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L36R-01-BAC** **Turnip Creek**

Cause Location: Turnip Creek from its headwaters to the mouth.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station IDs:
4ATIP002.55 (Ambient, TMDL)(2018)(Turnip Creek, Route 619 Bridge)
E. coli - 4/12 Exceedance Rate
4ATIP008.76 (TMDL Monitoring)(Route 40)
E. coli - 6/12 Exceedance Rate
4ATIP013.21 (TMDL Monitoring)(Route 756)
E. coli - 4/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_TIP01A00 / Turnip Creek / Buck Branch to Roanoke River	4A	Escherichia coli	2006	L	2.61
VAW-L36R_TIP02A06 / Turnip Creek / From its headwaters to the confluence with Buck Branch	4A	Escherichia coli	2006	L	17.13

Turnip Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.74**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L36R-03-BAC** **Buckskin Creek**

Cause Location: Buckskin Creek from its headwaters to its mouth on the Roanoke (Staunton) River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 7.64 miles of impaired waters. 4ABCD001.70 (Ambient)(2018)(Buckskin Cr @ Rt. 624)

4ABCD001.70 (Ambient)(2018)(Buckskin Cr @ Rt. 624) Three of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_BCD01A08 / Buckskin Creek / Buckskin Creek from its headwaters to its mouth on the Roanoke (Staunton) River	4A	Escherichia coli	2008	L	7.65

Buckskin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.65**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L36R-04-BAC** **Armistead Branch**

Cause Location: Armistead Branch from its headwaters to its mouth on Catawba Creek.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 5.12 miles of impaired waters. 4AATD002.66 (Ambient)(2018)(Armistead Br @ Rt. 627)

4AATD002.66 (Ambient)(2018)(Armistead Br @ Rt. 627) 0/0 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_ATD01A08 / Armistead Branch / Armistead Branch from the second unnamed tributary upstream of Route 627 to its mouth on Catawba Creek	4A	Escherichia coli	2010	L	3.20
VAW-L36R_ATD02A14 / Armistead Branch / Armistead Branch from its headwaters to the second unnamed tributary upstream of Route 627.	4A	Escherichia coli	2014	L	1.92

Armistead Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.12**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L36R-04-BEN** **Armistead Branch**

Cause Location: Armistead Branch from the second unnamed tributary upstream of Route 627 to its mouth on Catawba Creek

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AATD002.66 (Ambient/2012 Bio)(Armistead Br @ Rt. 627)
IM - Lack of riparian vegetation and poor bank condition may be limiting the ability of 4AATD002.66 to support a diverse community. This station was sampled in an effort to follow up on seasonal variability of the upstream Probmon station (4AATD003.36). The probmon station is not accessible. Satellite imagery shows changes in land use upstream of 4AATD002.66 and this portion of the watershed should not be excluded in any future TMDL study.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_ATD01A08 / Armistead Branch / Armistead Branch from the second unnamed tributary upstream of Route 627 to its mouth on Catawba Creek	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.20

Armistead Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.20**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L37R-01-BAC** **Cub Creek**

Cause Location: From the Rough Creek Road crossing to the mouth at the Roanoke (Staunton) River

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Cub Creek) received U.S. EPA approval on 6/20/2006 [Fed. ID 24391] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24391, 6/20/2006

Three stations are located within the 14.4 miles of impaired waters. 4ACUB002.21 (2006 Roanoke Bacteria TMDL)(2018)(Rt 649 (Coles Ferry Road)), 4ACUB005.46 (2006 Roanoke Bacteria TMDL)(Rt 619 (Cub Creek Church Rd)), and 4ACUB010.96 (Trend)(2018)(Route 40 Bridge)

4ACUB002.21 (2006 Roanoke Bacteria TMDL)(2018)(Rt 649 (Coles Ferry Road)) Three of 11 samples in excess of the instantaneous criterion.

4ACUB005.46 (2006 Roanoke Bacteria TMDL)(Rt 619 (Cub Creek Church Rd)) Three of 12 samples in excess of the instantaneous criterion.

4ACUB010.96 (Trend)(2018)(Route 40 Bridge) 7 of 35 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_CUB01B08 / Cub Creek / The Rough Creek Road Crossing near Rough Creek to the confluence with Terrys Creek.	4A	Escherichia coli	2008	L	5.58
VAW-L37R_CUB02A06 / Cub Creek / From Terrys Creek to the mouth at the Roanoke (Staunton) River	4A	Escherichia coli	2006	L	8.80

Cub Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.38**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L37R-02-BAC** **Louse Creek**

Cause Location: Louse Creek from its headwaters to the mouth.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 8.7 miles of impaired waters. 4ALOU001.16 (TMDL Monitoring)(Route 619)

4ALOU001.16 (TMDL Monitoring)(Route 619) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_LOU01A06 / Louse Creek / From its headwaters to the mouth on Cub Creek	4A	Escherichia coli	2006	L	8.70

Louse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.70**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L37R-03-BAC** **Big Cub Creek**

Cause Location: Big Cub Creek from the confluence with Cub Creek upstream to its headwaters to include Left Hand Fork and tribs.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24391, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Cub Creek) received U.S. EPA approval on 6/20/2006 [Fed. ID 24391] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24391, 6/20/2006

Two stations are located within the 33.66 miles of impaired waters. 4ABUB000.06 (Ambient, TMDL)(2018)(Route 701) and 4ABUB006.50 (TMDL Monitoring)

4ABUB000.06 (Ambient, TMDL)(2018)(Route 701) Six of 12 samples in excess of the instantaneous criterion.

4ABUB006.50 (TMDL Monitoring) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_BUB01A06 / Big Cub Creek / From the confluence with Cub Creek upstream to its headwaters to include Left Hand Fork and tribs (RU76).	4A	Escherichia coli	2006	L	33.68

Big Cub Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**33.68**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L37R-05-BAC** **Terrys Creek**

Cause Location: Terrys Creek from its headwaters to its mouth on Cub Creek.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 23315,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 7.14 miles of impaired waters. 4ATYS001.25 (Ambient)(2018)(Terrys Creek at Stockdale Road)

4ATYS001.25 (Ambient)(2018)(Terry Creek at Stockdale Road) 8 of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_TYS01A08 / Terrys Creek / Terrys Creek from its headwaters to its mouth on Cub Creek	4A	Escherichia coli	2008	L	7.14

Terrys Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.14**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L38L-01-DO** **Conner Lake**

Cause Location: Conner Lake

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4AHTA003.26 ((2013-2014 Lake Station)(Station 1 - Conner Lake)
Dissolved Oxygen - 7/39 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38L_HTA01L00 / Conner Lake / On Hunting Creek.	5A	Oxygen, Dissolved	2018	L	101.92

Conner Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**101.92**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L38L-01-HG** **Conner Lake**

Cause Location: Conner Lake

City / County: Halifax Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station ID:
4AHTA003.26 (2006 FT/Sediment)(Station 1 - Conner Lake)
Hg 2 Species

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38L_HTA01L00 / Conner Lake / On Hunting Creek.	5A	Mercury in Fish Tissue	2010	L	101.92

Conner Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**101.92**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L38R-02-BAC** **Black Walnut Creek**

Cause Location: Black Walnut Creek from its headwaters to the mouth.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

One station is located within the 6.39 miles of impaired waters. 4ABWC001.00 (Ambient)(Route 600)

4ABWC001.00 (Ambient) (Route 600) Four of 9 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38R_BWC01A06 / Black Walnut Creek / From the headwaters to the mouth	4A	Escherichia coli	2014	L	6.39

Black Walnut Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.39**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L38R-03-BAC** **Hunting Creek**

Cause Location: Hunting Creek from the mouth of Conner Lake downstream to the Roanoke River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 3.24 miles of impaired waters. 4AHTA000.77 (Ambient)(Route 617)

4AHTA000.77 (Ambient)(Route 617) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38R_HTA01A06 / Hunting Creek / From the mouth of Conner Lake downstream to the Roanoke River	4A	Escherichia coli	2014	L	3.24

Hunting Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.24**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-01-BAC** **Ash Camp Creek**

Cause Location: Ash Camp Creek from its headwaters to the mouth.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

NESTED 2014:23316,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

Two stations are located within the 8.17 miles of impaired waters. 4AACC002.60 (TMDL Monitoring)(Station 1 -Route 654 Bridge) and 4AACC004.87 (TMDL Monitoring)(Ash Camp Cr @Private Rd 0.6 mi from Rt 40)

4AACC002.60 (TMDL Monitoring)(Station 1 - Route 654 Bridge) Four of 7 samples in excess of the instantaneous criterion.

4AACC004.87 (TMDL Monitoring)(Ash Camp Cr @Private Rd 0.6 mi from Rt 40) Two of 6 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ACC01A98 / Ash Camp Creek / Headwaters to Roanoke Creek.	4A	Fecal Coliform	2004	L	8.18

Ash Camp Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.18**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-01-BEN** **Ash Camp Creek**

Cause Location: Ash Camp Creek from its headwaters to the mouth.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Ash Camp Creek Sediment TMDL for a Benthic Impairment received U.S. EPA approval on 4/26/2004. [Fed. ID 24393] and SWCB approval on 8/31/2004 for this 2004 303(d) Listed impairment to the benthic community.

Station IDs:
4AACC001.75 (2002 Probabilistic Monitoring)(0.85 mi downstream of Rt 654 bridge)
IM - Heavy rains occurred within a week of the fall 2002 sampling event.
The benthic TMDL completed in 2004 identified sediment as the stressor to the benthic community.
4AACC002.60 (Benthic, Ash Camp Creek Source Assessment SS)
IM - A slight improvement has been noted at this site during recent sampling. Sediment continues to affect the stream community negatively.
4AACC004.87 (Benthic, Ash Camp Creek Source Assessment SS)
IM - A slight improvement has been noted at this site during recent sampling. Sediment and nutrients continue to affect the stream community negatively.
4AACC007.62 (Benthic)
J - 50 yds below Keysville STP discharge, may not be appropriate for benthic assessment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ACC01A98 / Ash Camp Creek / Headwaters to Roanoke Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	8.18

Ash Camp Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.18**

Sources:

- Crop Production (Crop Land or Dry Land)
- Erosion from Derelict Land (Barren Land)
- Managed Pasture Grazing
- Municipal Point Source Discharges

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-02-BAC** **Twittys Creek**

Cause Location: Twittys Creek from its headwaters to the mouth on Roanoke Creek.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23316,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 14.79 miles of impaired waters. 4ATWT000.32 (Ambient)(Twittys Creek @ Sylvan Hill Rd.)

4ATWT000.32 (Ambient)(Twittys Creek @ Sylvan Hill Rd.) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_TWT01A98 / Twittys Creek / Headwaters to Roanoke Creek	4A	Escherichia coli	2012	L	14.79

Twittys Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.79**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-02-BEN** **Twittys Creek**

Cause Location: Twittys Creek from its headwaters to the mouth on Roanoke Creek.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Twittys Creek Sediment TMDL for a Benthic Impairment received U.S. EPA approval on 9/30/2004. [Fed. ID 24392] and SWCB approval on 3/15/2005 for this 2004 303(d) Listed impairment to the benthic community.

Station IDs:
4ATWT003.36 (Station 2 - Route 642 Bridge) - The 2018 data window finds Aquatic Life Use impairment from four Virginia Stream Condition Index (VSCI) surveys (2011, 2016) averaging 48.7. The Implementation Plan is in progress. A modest improvement in VSCI scores was observed over previous sampling events.

4ATWT006.40 (2008 Bio)(Station 1 - Route 47 Bridge) No additional data since the 2014 data window.
IM - The Implementation Plan is in progress. An improvement in VSCI scores was observed over previous sampling events. A major VPDES discharger ceased operation in early 2005 and may be the cause of the improvement.

4ATWT008.59 (new REF dwnstrm of Town Lk @ power lines)
IM - Reference Station - 2004 Twittys Creek TMDL

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_TWT01A98 / Twittys Creek / Headwaters to Roanoke Creek	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	14.79

Twittys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.79**

Sources:

Clean Sediments	Non-Point Source	Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-03-BAC** **Horsepen Creek**

Cause Location: Horsepen Creek from Little Horsepen Creek to Reynolds Creek.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23316,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 1.87 miles of impaired waters. 4AHEN002.16 (Ambient)(Route 637 Bridge)

4AHEN002.16 (Ambient)(Route 637 Bridge) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_HEN01A00 / Horsepen Creek / Little Horsepen Creek to Reynolds Creek.	4A	Escherichia coli	2012	L	1.86

Horsepen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.86**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-03-BEN** **Horsepen Creek**

Cause Location: Horsepen Creek from Route 47 downstream to Little Horsepen Creek

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station IDs:
4AHEN004.74 (2001 FPM)(above Route 612 in Charlotte County)
IM - Potential sediment impacts and lack of instream habitat.

4AHEN004.27 (2009/2012/2015 Bio)(Above Route 612 in Charlotte County) The 2018 data window finds Aquatic Life Use impairment from four Virginia Stream Condition Index (VSCI) surveys (2012, 2015) with an average score of 59.6. Stream reach exhibits significant seasonal variation. Additional data were collected in 2012 and 2015 and characterize the stream community as unbalanced. Sediment and bank scour seem to be likely stressors within this reach.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_HEN02A04 / Horsepen Creek / Horsepen Creek from Route 47 downstream to Little Horsepen Creek	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	5.32

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.32**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-04-BAC** **Wards Fork Creek**

Cause Location: Wards Fork Creek from an unnamed tributary at Rivermile 5.73 to its mouth on Roanoke Creek.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23316,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 5.31 miles of impaired waters. 4AWFC002.12 (Ambient)(2018)(Route 645 Bridge)

4AWFC002.12 (Ambient)(2018)(Route 645 Bridge) 12 of 36 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_WFC01A00 / Wards Fork Creek / Unnamed tributary at river mile 5.73 to Roanoke Creek.	4A	Escherichia coli	2008	L	5.30

Wards Fork Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.30**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-05-BAC** **Roanoke Creek**

Cause Location: Roanoke Creek from Wards Fork Creek to its mouth on the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

Two stations are located within the 10.51 miles of impaired waters. 4AROC001.00 (TMDL Monitoring)(Roanoke Cr. @ Roanoke Station Rd.) and 4AROC005.35 (Ambient)(Roanoke Creek at the confluence with TWI)

4AROC001.00 (TMDL Monitoring)(Roanoke Cr. @ Roanoke Station Rd.) Three of 12 samples in excess of the instantaneous criterion.

4AROC005.35 (Ambient) (Roanoke Creek at the confluence with TWI) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ROC01A98 / Roanoke Creek / Wards Fork Creek to Horsepen Creek.	4A	Escherichia coli	2010	L	7.85
VAW-L39R_ROC02A06 / Roanoke Creek / From Horsepen Creek to the mouth at the Roanoke (Staunton) River	4A	Escherichia coli	2006	L	2.65

Roanoke Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.50**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-05-HG** **Roanoke Creek**

Cause Location: Roanoke Creek from Wards Fork Creek to its mouth on the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station ID:
4AROC005.35 (2006 FT/Sed)[Roanoke Creek at the confluence with TWI]
Hg 2 Species
largemouth bass 0.313
spotted bass 0.345

This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov for VDH Advisories or Bans.

4AROC005.35 (2006 FT/Sed)[Roanoke Creek at the confluence with TWI] - The initial 2010 303(d) Listing is based on 2006 fish tissue analysis where mercury (Hg) is found in two species; largemouth bass at 0.313ppm and spotted bass at 0.345ppm; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 or 2018 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ROC01A98 / Roanoke Creek / Wards Fork Creek to Horsepen Creek.	5A	Mercury in Fish Tissue	2010	L	7.85
VAW-L39R_ROC02A06 / Roanoke Creek / From Horsepen Creek to the mouth at the Roanoke (Staunton) River	5A	Mercury in Fish Tissue	2010	L	2.65

Roanoke Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**10.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-06-BAC** **Middle Branch Wards Fork Creek**

Cause Location: Middle Branch Wards Fork Creek from its headwaters to its mouth on Wards Fork Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 7.4 miles of impaired waters. 4AWMB001.07 (Ambient)(2018)(Middle Br. Wards Fork @ Virginian)

4AWMB001.07 (Ambient)(2018)(Middle Br. Wards Fork @ Virginian) 7 of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_WMB01A08 / Middle Branch Wards Fork Creek / Middle Branch Wards Fork Creek from its headwaters to its mouth on Wards Fork Creek	4A	Escherichia coli	2008	L	7.39

Middle Branch Wards Fork Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.39**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-07-BAC** **Little Roanoke Creek**

Cause Location: Roanoke Creek from the confluence with Wards Fork Cr. upstream to its confluence with Ash Camp Creek (RU82).

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 4.46 miles of impaired waters. 4ALRO003.34 (Rt. 47 Bridge)(Route 47 Bridge)

4ALRO003.34 (Rt. 47 Bridge)(Route 47 Bridge) The 2018 data window finds the initial Recreational listing based on data from this station. Escherichia coli (E.coli) exceeds the 235 cfu/100 ml criterion in three of 24 samples. Excursions range from 399 to greater than 24,000 cfu/100 ml. Three of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_LRO01A00 / Little Roanoke Creek / Roanoke Creek from the confluence with Wards Fork Cr. upstream to its confluence with Ash Camp Creek (RU82).	4A	Escherichia coli	2018	L	4.46

Little Roanoke Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.46**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-07-BEN** **Little Roanoke Creek**

Cause Location: Little Roanoke Creek from its headwaters to its confluence with Dunnavant Creek.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ALRO010.68 (2007 FPM)(L. Roanoke Cr upst of 604 dwnstr of dam)
IM - exhibited high seasonal variation. The spring sample half the taxa of the fall sample and both samples were dominated by tolerant taxa (Hydropsychidae in the spring and Chironomidae in the fall).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_LRO02A10 / Little Roanoke Creek / Little Roanoke Creek from its headwaters to its confluence with Dunnavant Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	10.15

Little Roanoke Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-08-BEN** **Bush Ford Branch**

Cause Location: Bush Ford Branch from its headwaters to the mouth.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABWB000.32 (2008 FPM)(Bush Ford Br - SW of Rt 47)
IM Benthic Assessment

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_BWB01A10 / Bush Ford Branch / Bush Ford Branch from its headwaters to the mouth.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	3.09

Bush Ford Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.09**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L39R-09-BEN** **UT, Spencer Creek**

Cause Location: An unnamed tributary to Spencer Creek from its headwaters to its mouth

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AXVO000.50 (2012 FPM)(UT Spencer just west of Rt 653) There is no additional data beyond the 2014 data window. The Aquatic Life Use is impaired based on two 2012 Virginia Stream Condition Index (VSCI) surveys: Spring 40.8 and Fall 36.1. This stream was incised and had a sedimentation problem. The habitat was marginal and the banks were unstable.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_XVO01A14 / UT, Spencer Creek / From its headwaters to the mouth	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	2.90

UT, Spencer Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L40R-01-BAC** **Berles Creek**

Cause Location: Berles Creek from its headwaters to Sandy Creek.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 2.28 miles of impaired waters. 4ABLE001.21 (2018)(Berles Cr. @ Rt. 631, DSS Vaughan Farm)

4ABLE001.21 (2018)(Berles Cr. @ Rt. 631, DSS Vaughan Farm) 0/0 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BLE01A06 / Berles Creek / Headwaters to Sandy Creek	4A	Escherichia coli	2006	L	2.28

Berles Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.28**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L40R-01-BEN** **Berles Creek**

Cause Location: Berles Creek from its headwaters to Sandy Creek.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

NESTED 2014: 23316, 06/20/2006
Station ID:
4ABLE001.21 (Ambient, 2010/2014 Bio)(Berles Cr. @ Rt. 631, DSS Vaughan Farm)
E. coli - 3/6 Violation Rate
IM - Heavy to moderate embeddedness observed in 2014 samples. Sedimentation is a likely stressor

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BLE01A06 / Berles Creek / Headwaters to Sandy Creek	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.28

Berles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L40R-04-BAC** **Sandy Creek**

Cause Location: Sandy Creek from its headwaters to mouth on Roanoke (Staunton) River

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 5.4 miles of impaired waters. 4ASLA001.52 (Ambient)(Route 608)

4ASLA001.52 (Ambient)(Route 608) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_SLA01A06 / Sandy Creek / Headwaters to mouth on Roanoke (Staunton) River	4A	Escherichia coli	2012	L	5.41

Sandy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.41**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L40R-05-BAC** **Unnamed Tributary to Buffalo Creek**

Cause Location: Unnamed Tributary to Buffalo Creek from its headwaters to the mouth.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 24394 and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24394, 6/20/2006

One station is located within the 1.5 miles of impaired waters.
4AXMC000.54(Route 605)

4AXMC000.54(Route 605) Two of 5 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_XMC01A06 / Buffalo Creek, Unnamed Tributary / From its headwaters to the mouth	4A	Escherichia coli	2002	L	1.49

Unnamed Tributary to Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.49**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L40R-06-BAC** **Buffalo Creek**

Cause Location: Buffalo Creek from an unnamed tributary at river mile 2.3 to the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Buffalo Creek) received U.S. EPA approval on 6/20/2006 [Fed. ID 24395] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24395, 6/20/2006

One station is located within the 2.34 miles of impaired waters. 4ABNN001.85 (Route 608)

4ABNN001.85(Route 608) 13 of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BNN01A06 / Buffalo Creek / Unnamed tributary at river mile 2.3 to the Roanoke River.	4A	Escherichia coli	2006	L	2.35

Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.35**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L40R-06-BEN** **Buffalo Creek**

Cause Location: Buffalo Creek from an unnamed tributary at river mile 2.3 to the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABNN002.17 (2012 Bio)(Upstream of Route 608) sonal variability below the impairment threshold. Habitat scores and Taxa lists indicate bank scour and sedimentation to be likely stressors within this reach.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BNN01A06 / Buffalo Creek / Unnamed tributary at river mile 2.3 to the Roanoke River.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.35

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.35**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L40R-07-BAC** **Cargills Creek**

Cause Location: Cargills Creek from its headwaters to its mouth on Kerr Reservoir

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 4.27 miles of impaired waters. 4ACAR001.70 (Ambient)(2018)(Cargills at Cargills Creek Road)

4ACAR001.70 (Ambient)(2018)((Cargills at Cargills Creek Road)) Three of 10 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_CAR01A08 / Cargills Creek / Cargills Creek from its headwaters to its mouth on Kerr Reservoir	4A	Escherichia coli	2008	L	4.27

Cargills Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.27**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L41R-01-BAC** **Difficult Creek**

Cause Location: Difficult Creek from East Prong to Ashcake Creek.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID 23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

Two stations are located within the 6.99 miles of impaired waters. 4ADFF004.90 (2018)(Difficult Cr. @ Rt. 720, DSS Brian Farm)
and 4ADFF009.01 (2018)(Difficult Cr. @ Rt. 360, USS Brian Farm)

4ADFF004.90 (2018)(Difficult Cr. @ Rt. 720, DSS Brian Farm)
Three of 12 samples in excess of the instantaneous criterion.

4ADFF009.01 (2018) (Difficult Cr. @ Rt. 360, USS Brian Farm) One of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L41R_DFF01A02 / Difficult Creek / East Prong to Ashcake Creek	4A	Escherichia coli	2008	L	7.00

Difficult Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.00**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42L-01-HG** **Talbott Reservoir**

Cause Location: Talbott Reservoir

City / County: Patrick Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ADAN196.09- (Talbott Res. Arm of Reservoir) 2007 fish tissue collection finds 2 species in excess of the WQS TV based 0.3 ppm criterion; largemouth bass (4-fish composite at 0.394 ppm) and yellow bullhead catfish (2 fish composite at 0.429 ppm).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN01A02 / Talbott Reservoir / Talbott Reservoir from its impounding structure upstream to its backwaters (RD01).	5A	Mercury in Fish Tissue	2010	L	140.51

Talbott Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**140.51**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42L-06-BAC** **Townes Reservoir**

Cause Location: Townes Reservoir from its impounding structure upstream to its backwaters (RD01).

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008 (Fed ID 35748) and State Water Control Board approved 4/28/2009. Townes Creek Reservoir located in Patrick County is initially listed for the Recreation Use during the 2018 303(d)/305(b) Integrated Report data window. This impairment is nested in the Dan River Bacteria TMDL Study.

4ADAN187.94 (Townes Reservoir at Dam) The reservoir 2018 data window reports 2 of 14 Escherichia coli (E.coli) measurements exceed the 235 cfu/100 ml instantaneous criterion. The excursions are 301 cfu/100 ml and 487 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN02A02 / Townes Reservoir / Townes Reservoir from its impounding structure upstream to its backwaters (RD01).	4A	Escherichia coli	2018	L	28.12

Townes Reservoir **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**28.12**	

Sources:

- Livestock (Grazing or Feeding Operations)
- Non-Point Source
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42L-06-PH** **Townes Reservoir**

Cause Location: Townes Reservoir from its impounding structure upstream to its backwaters (RD01).

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Townes Creek Reservoir located in Patrick County is listed for Aquatic Life Use during the 2018 303(d)/305(b) Integrated Report data window.

4ADAN187.94 (Townes Reservoir at Dam) The reservoir 2018 data window reports 2 of 17 pH measurements in excess of the Class IV pH acidity criterion of 9.0. The two values in excess of the criterion are at 9.1 (6/30/2015) and 1 at 9.7 (7/28/15)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN02A02 / Townes Reservoir / Townes Reservoir from its impounding structure upstream to its backwaters (RD01).	5A	pH	2018	L	28.12

Townes Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**28.12**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42R-01-BAC** **Little Dan River**

Cause Location: Little Dan River mainstem from the VA/NC State Line upstream to just above the mouth of Pigg Creek.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Escherichia coli (E.coli) bacteria results render the Recreational Use impaired for 7.26 miles in 2008. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35748] and SWCB approved 4/28/2009. The Dan River Bactria TMDL did not specifically address the Little Dan River but is encompassed by the TMDL Watershed. These waters are nested within the Dan River Bacteria TMDL Watershed and allocations via the Study. These waters are Category 4A.

4ALDR004.50- (Rt. 645 Bridge) There are no additional data beyond the 2008 Integrated Report (IR) where 2 of 9 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values are 250 and 500 cfu/100 ml.

4ALDR002.61- (Rt. 649 Bridge (Gammons Rd.)) No additional data beyond the 2016 data window where 2 of 12 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. The excessive values are 250 and 383 cfu/100 ml. Within the 2008 IR, E.coli observations showed 3 of 9 are in excess of the instantaneous criterion. Values exceeding the criterion range from 400 to 700 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_LDR01A02 / Little Dan River / Little Dan River mainstem from the VA/NC State Line upstream to just above the mouth of Pigg Creek Class V (RD03).	4A	Escherichia coli	2008	L	7.26

Little Dan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.26**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42R-01-TEMP** **Dan River**

Cause Location: The Dan River from the Pinnacles Power House downstream to the VA-NC State Line in Patrick County.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The Dan River 2002 temperature impairment of 9.66 miles is extended 5.81 miles upstream with additional data obtained at 4ADAN181.10 within the 2008 data window. The Aquatic Life Use remains impaired for temperature (Category 5C).

4ADAN181.10- (Rt. 648 Bridge near Kibler (Kibler Valley Rd.)) There are no additional data beyond the 2014 Integrated Report (IR). Temperature exceedances of the 21°C Class V criterion are found in 3 of 12 measurements in 2014. The 3 excursions occur on 6/29/2011 (21.2°C), 8/25/2011 (21.4°C and 7/31/2012 (21.7°C). There are no additional temperature data within the 2010 and 2012 data windows. The 2008 assessment records 2 of 9 temperature measurements exceed the 21°C Class V stockable trout water criterion. These exceedances occur on 8/24/2005 at 21.8°C and 22.3°C on 8/30/2006 within both the 2008 and 2010 data windows.

4ADAN169.57- (Rt. 645 Bridge, VA-NC Stateline) There are no additional temperature data beyond the 2008 assessment where exceedances of the 21°C Class V criterion are found in 2 of 9 measurements within the 2008 and 2010 data windows. The two excursions occur on the same days as at 4ADAN181.10; 8/24/2005 at 21.6°C and 8/30/2006 at 22.5°C. Previous assessment cycles have found temperature exceeds the criterion in 1 of 11 measurements taken within the 2004 assessment window (1998 - 2002- Station last sampled in May 2000). There were no additional data within the 2006 data window. The 2002 assessment and the original 303(d) Listing Cycle found 3 of 19 excursions of the criterion. The exceedances are 21.5 °C (1996), 21.2 °C (1997) and 23.6 °C (1998), all occurring in the month of July.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_DAN01A00 / Dan River / Dan River mainstem from the VA/NC State Line upstream to the Squirrel Creek mouth on the Dan River Class V (RD02).	5C	Temperature, water	2002	L	9.66
VAW-L42R_DAN02A02 / Dan River / Dan River mainstem from the Squirrel Creek mouth upstream to the Pinnacles Power House Class V (RD02).	5C	Temperature, water	2008	L	5.81

Dan River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**15.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42R-02-BAC** **Dan River**

Cause Location: The Dan River mainstem from the backwaters of Talbott Reservoir upstream to the Cockram Mill Pond Dam.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This initial 2012 impairment is nested within the approved Dan River Bacteria TMDL. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008. Fed ID 35748 and received SWCB approval on 4/28/2009.

4ADAN205.79 (Dan River Road- Rt. 632 Bridge) There is no additional data beyond the 2016 data window where 11 of 24 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. The range of exceeding values is from 272 cfu/100 ml to greater than 2000. There are no additional data beyond the 2012 IR where 5 of 12 escherichia coli (E.coli) samples exceed the instantaneous criterion ranging from 320 to greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_DAN05A02 / Dan River / Dan River mainstem from the backwaters of Talbott Reservoir upstream to the mouth of Tuggle Creek Class IV (RD01).	4A	Escherichia coli	2012	L	2.73
VAW-L42R_DAN06A02 / Dan River / Dan River mainstem from the mouth of Tuggle Creek upstream to the Cockram Mill Pond Dam Class IV (RD01).	4A	Escherichia coli	2012	L	5.72

Dan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.45**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42R-03-BAC** **Elk Creek**

Cause Location: Elk Creek from the state line upstream to it's headwaters.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This initial 2012 Elk Creek impairment is nested within the approved Dan River Bacteria TMDL. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008. Fed ID 35748 and received SWCB approval on 4/28/2009.

4AELK005.44- The 2018 IR finds 5 of 12 escherichia coli (E.coli) exceed the 235 cfu/100 ml WQS instantaneous criterion. Excursions range from 400 to greater than 1,300 cfu/100 ml. There are no additional data beyond the 2012 IR where escherichia coli (E.coli) exceed the 235 cfu/100 ml WQS instantaneous criterion in 4 of 12 samples. The range of exceeding values is from 300 to 1200 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_ELK01A12 / Elk Creek / Elk Creek from the state line upstream to it's headwaters (RD04).	4A	Escherichia coli	2012	L	7.78

Elk Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.78**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42R-04-BAC** **Peters Creek**

Cause Location: Peters Creek mainstem from the VA/NC State Line upstream to the confluence of Ditch Creek.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreational Use impairment on Peters Creek is an initial 2012 Listing. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008 Fed ID 35748 and SWCB approval on 4/28/2009. These waters are nested within the Dan River Bacteria TMDL.

4APRS008.76 (Five Forks Rd. near State Line- Rt. 660) Within the 2018 data window, 4 of 12 E.coli samples exceeded the 235 cfu/100 ml instantaneous criterion. The range of excursions was 262 to 1,935 cru/100 ml. The 2012 IR found 4 of 12 escherichia coli (E.coli) samples exceed the WQS 235 cfu/100 ml instantaneous criterion. The range of exceeding values is from 250 cfu/100 ml to 1700.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_PRS01A02 / Peters Creek / Peters Creek mainstem from the VA/NC State Line upstream to the confluence of Ditch Creek Class IV (RD05).	4A	Escherichia coli	2012	L	5.96

Peters Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.96**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42R-05-BAC** **Dan River**

Cause Location: The Dan River from the Pinnacles Power House downstream to the VA-NC State Line in Patrick County.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008 (Fed ID 35748) and State Water Control Board approved 4/28/2009. The 2014 initially 303(d) Listed bacteria impairment is nested within the Dan River Bacteria TMDL Watershed and allocations via the Study. A portion of these relisted Dan River waters from the mouth of Squirrel Creek downstream to the VA/NC State Line was 303(d) Listed for fecal coliform in 1998 and delisted in 2002 (10.41 miles). The waters are relisted with the 2014 Integrated Report (IR) for escherichia coli (E.coli). These waters are Category 4A. The 2014 relisted bacteria impairment extends 15.47 miles.

4ADAN181.10- (Rt. 648 Bridge near Kibler (Kibler Valley Rd.)) Two of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 1150 and greater than 2000 cfu/100 ml within the 2014 data window. There are no additional data beyond the 2014 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_DAN01A00 / Dan River / Dan River mainstem from the VA/NC State Line upstream to the Squirrel Creek mouth on the Dan River Class V (RD02).	4A	Escherichia coli	2014	L	9.66
VAW-L42R_DAN02A02 / Dan River / Dan River mainstem from the Squirrel Creek mouth upstream to the Pinnacles Power House Class V (RD02).	4A	Escherichia coli	2014	L	5.81

Dan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.47**

Sources:

- Livestock (Grazing or Feeding Operations)
- Non-Point Source
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L42R-06-TEMP** **Little Dan River**

Cause Location: Little Dan River mainstem from the VA/NC State Line upstream to just above the mouth of Pigg Creek Class V (RD03).

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

This initial 2018 303(d) Aquatic Life Use listing of the Little Dan River is for a 7.26 mile temperature impairment (Category 5C).

4ALDR002.61 (Gammons Rd.) - 2 temperature measurements exceed the Class V 21°C temperature criterion within the 2018 and 2016 data windows. Excursions occur during late summer: 21.3 °C (8/4/14) and 22.6°C (9/3/14).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_LDR01A02 / Little Dan River / Little Dan River mainstem from the VA/NC State Line upstream to just above the mouth of Pigg Creek Class V (RD03).	5C	Temperature, water	2018	L	7.26

Little Dan River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**7.26**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L43R-01-BAC** **South Mayo River**

Cause Location: The upper limit is 0.3 miles upstream of the Wilson Creek mouth (near Dobyns) on the South Mayo River and extends downstream to the Virginia / North Carolina State Line.

City / County: Henry Co. Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The South Mayo River Bacteria TMDL Load Duration Study is U.S. EPA approved on 02/27/2004 and SWCB approved on 6/17/2004 for the original 1998 303(d) Listed 5.78 mile impairment. Extensions described below were not specifically addressed by the Load Duration TMDL. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the extensions described below and are nested within the Bacteria TMDL. The TMDL can be viewed at http://www.deq.virginia.gov. Additional data collection causes the original 1998 bacteria impairment (from Russell Creek mouth downstream to the mouth of Spoon Creek) to be extended 20.67 miles upstream with the 2004 Integrated Report (IR). The 2004 IR also extends the original listed bacteria impairment 10.97 miles downstream for a total impaired mileage of 37.47.

The original bacteria impairment (5.83 miles) is based on fecal coliform (FC) bacteria data producing a greater than 10 percent exceedance rate of the former 1998 1000 cfu/100 ml instantaneous criterion at station 4ASMR016.09 (Rt. 700 Bridge at the USGS gaging station). Additional data collection and application of the former FC 400 cfu/100 ml instantaneous criterion results in the 2004 IR extension upstream from 2 stations 4ASMR033.98 (Rt. 787 Bridge West of Stuart) and 4ASMR027.44 (Rt. 681 Bridge South of Stuart). The 2004 10.97 mile downstream extension in watershed L45 results from additional FC data collection at station 4ASMR004.14 (Rt. 695 Bridge).

Station 4ASMR033.98 (Rt. 787 Bridge West of Stuart) There are no additional data beyond the 2010 Integrated Report (IR). 2010 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 2 of 12 samples. Exceeding values are 420 and 450 cfu/100 ml. Fecal coliform (FC) exceeds the former 400 cfu/100 ml instantaneous criterion in 2 of 12 samples within the 2008 data window. 2008 exceeding values are 900 and 1200 cfu/100 ml. The 2006 IR data window produces FC exceedances in 2 of 15 samples with the same exceedance range as 2008. The 2004 IR initial 303(d) Listing Cycle found 5 of 20 fecal coliform samples exceed the former 400 cfu/100 ml instantaneous criterion. Exceeding values range from 500 to 1200 cfu/100 ml. (Note: 4ASMR033.98 is a 1999 Federal Consent Decree Attachment B station for fecal coliform bacteria. The station was not 2002 303(d) Listed as there are no exceedances of the former 1000 cfu/100 ml criterion from 19 samples within the 2002 data window.)

4ASMR027.44- (Rt. 681 Bridge South of Stuart) The 2016 Integrated Report (IR) finds 1 of 11 escherichia coli (E.coli) in excess of the WQS instantaneous criterion of 235 cfu/100 ml. The single exceeding value is 300 cfu/100 ml. Delisting of this station is not proposed at this time as data from station 4ASMR016.09 shows impairment. And upstream station 4ASMR033.98 has no additional data to indicate improved conditions upstream. There are no additional data beyond the 2010 Integrated Report (IR) where 4 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion ranging from 320 to greater than 2000 cfu/100 ml within the 2010 data window. Both the 2008 and 2006 Irs find 2 of 12 FC samples exceed the former 400 cfu/100 ml instantaneous criterion at 1400 and 1700 cfu/100 ml. The 2004 IR initial 303(d) Listing Cycle found 2 excursions from 9 observations and the same range of exceedance.

4ASMR016.09- (Rt. 700 Bridge at the USGS gaging station) Additional data collected within the 2018 data window shows 8 of 36 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions range from 275 to greater than 4,000 cfu/. Six of 36 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2016 data window. Values in excess of the criterion range from 300 cfu/100 ml to greater than 2000. Escherichia coli exceeds the instantaneous criterion in 11 of 36 samples in both the 2012 and 2014 data windows with additional data. The range of exceedance is from 300 to greater than 2000 cfu/100 ml for both cycles. 2010 assessment finds E.coli exceed the instantaneous criterion in 15 of 41 samples. The range of exceedance is from 250 to greater than 2000 cfu/100 ml. The 2008 IR reports E.coli exceeds the instantaneous criterion in 11 of 33 samples. The range of exceedance is from 250 to greater than 2000 cfu/100 ml. Eight of 20 E.coli samples exceed the instantaneous criterion within the 2006 data window with the same range of exceedance as 2008. One of 3 E.coli observations exceed the instantaneous criterion in 2004.

4ASMR004.14- (Rt. 695 Bridge) There are no additional data beyond the 2008 IR where E.coli exceedances occur in 4 of 17 samples ranging from 350 to 700 cfu/100 ml within both the 2008 and 2010 data windows. Each excursion is in excess of the 235 cfu/100 ml WQS instantaneous criterion.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L43R_SMR02A02 / South Mayo River / South Mayo River mainstem from the Anglin Branch confluence downstream to the Russell Creek confluence on the South Mayo River.	4A	Escherichia coli	2010	L	8.15
VAW-L43R_SMR03A02 / South Mayo River / South Mayo River mainstem from the Town of Stuart POTW downstream to the confluence of Anglin Branch.	4A	Escherichia coli	2010	L	4.61
VAW-L43R_SMR03B02 / South Mayo River / South Fork Mayo River mainstem from the confluence of the North Fork South Mayo River downstream to the Town of Stuart POTW.	4A	Escherichia coli	2010	L	2.32
VAW-L43R_SMR04A00 / South Mayo River / South Mayo River mainstem from the Town of Stuart water intake downstream to the North Fork South Mayo River confluence.	4A	Escherichia coli	2010	L	0.43
VAW-L43R_SMR05A00 / South Mayo River / South Mayo River mainstem from the WQS natural trout section just upstream of the Stuart water intake downstream to the Town of Stuart intake.	4A	Escherichia coli	2010	L	0.43
VAW-L43R_SMR06A00 / South Mayo River / South Mayo River mainstem from upstream of the Wilson Creek mouth downstream to the end of the WQS natural trout section located just upstream of the Town of Stuart water intake.	4A	Escherichia coli	2010	L	4.73
VAW-L45R_SMR01A00 / South Mayo River / South Mayo River mainstem from the upstream ending of the WQS designated public water supply (PWS) section 3f (36°33'25" / 80°02'15") located downstream of unnamed tributary on downstream to VA/NC State Line (RD09).	4A	Escherichia coli	2008	L	5.01
VAW-L45R_SMR02A00 / South Mayo River / South Mayo River mainstem from the mouth of an unnamed tributary downstream to the WQS designated public water supply (PWS) section 3f upstream ending (36°33'25" / 80°02'15") (RD09).	4A	Escherichia coli	2008	L	0.72
VAW-L45R_SMR03A00 / South Mayo River / South Mayo River mainstem from the Spoon Creek mouth downstream to an unnamed tributary above the WQS designated public water supply (PWS) section (RD09).	4A	Escherichia coli	2008	L	5.24
VAW-L45R_SMR04A14 / South Mayo River / South Mayo River mainstem from the Russell Creek mouth downstream to the Spoon Creek confluence (RD09).	4A	Escherichia coli	2008	L	5.83

South Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**37.47**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L43R-01-TEMP** **South Mayo River**

Cause Location: South Mayo River mainstem from upstream of the Wilson Creek mouth downstream to the end of the WQS natural trout section located just upstream of the Town of Stuart water intake.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

These waters were previously 303(d) Listed in 2004 and delisted in 2006. The temperature impairment returns with the 2010 assessment.

4ASMR033.98 (Rt. 787 Bridge west of Stuart)- There are no additional data beyond the 2010 Integrated Report (IR). 2010 data find the Aquatic Life Use is impaired where temperature measurements exceed the Class VI 20°C criterion in 3 of 15 samples. Excursions range from 20.6 to 20.8°C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L43R_SMR06A00 / South Mayo River / South Mayo River mainstem from upstream of the Wilson Creek mouth downstream to the end of the WQS natural trout section located just upstream of the Town of Stuart water intake.	5C	Temperature, water	2010	L	4.73

South Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**4.73**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L43R-02-BAC** **Russell Creek**

Cause Location: Russell Creek from it's mouth on the South Mayo River upstream to Gilbert Mill (Rt. 631).

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008 Fed ID 35757; and SWCB approval on 4/28/2009. Previous to the Dan River TMDL a Flow Duration Bacteria TMDL Study on the South Mayo River received U.S. EPA approval on 02/27/2004 Fed ID 23412/24558; and SWCB approval on 6/17/2004. Russell Creek is nested within the Dan River TMDL watershed.

4ARSL003.20- (Palmetto School Rd. - Rt. 825 Bridge) The 2018 data window finds E.coli exceed the 235 cfu/100 ml instantaneous criterion in 8 of 12 samples. Excursions range from 373 to greater than 10,000 cfu/100 ml. 2012, 2014 and 2016 assessments reveal escherichia coli (E.coli) exceed the WQS 235 cfu/100 ml instantaneous criterion in 7 of 12 samples. Values in excess of the criterion range from 250 cfu/100 ml to greater than 2000. There are no additional data within the 2016 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L43R_RSL01A12 / Russell Creek / Russell Creek from it's mouth on the South Mayo River upstream to Gilbert Mill (Rt. 631) (RD07).	4A	Escherichia coli	2012	L	8.53

Russell Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.53**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L44R-01-BAC** **Spoon Creek**

Cause Location: Spoon Creek mainstem from an unnamed tributary to Spoon Creek (southeast of Patrick Springs (36° 37' 02" / 80° 09' 45") downstream to its confluence with the South Mayo River.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

These 2004 fecal coliform (FC) bacteria 303(d) Listed waters remain impaired for 8.17 miles as non-support for the Recreational Use continues. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL Watershed incorporates Spoon Creek. Spoon Creek is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ASOO003.12 (Route 832 Bridge) The 2018 data window finds 9 of 23 E.coli samples in exceedance of the instantaneous criterion. Excursions range from 300 to greater than 12,000 cfu/100 ml. Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 3 of 12 observations within the 2014 and 2016 data windows. Exceeding values range from 300 to 650 cfu/100 ml. There are no additional data within the 2012 data window. The 2008 Integrated Report (IR) finds escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 8 of 21 observations within both the 2008 and 2010 assessments. Exceeding values range from 320 to 1600 cfu/100 ml. The 2006 IR finds E.coli exceeds the instantaneous criterion in 3 of 9 observations. Exceeding values range from 320 to 1100 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L44R_SOO01A00 / Spoon Creek / Spoon Creek mainstem from an unnamed tributary to Spoon Creek (southeast of Patrick Springs @ 36° 37' 02" / 80° 09' 45") downstream to its confluence with the South Mayo River.	4A	Escherichia coli	2006	L	8.17

Spoon Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.17**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L45R-01-HG** **South Mayo River**

Cause Location: South Mayo River mainstem from the confluence of Spoon Creek downstream to the Virginia / North Carolina State Line.

City / County: Henry Co. Patrick Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2008 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ASMR004.17 (George Taylor Rd, Rt. 695 Bridge)- There are no additional data beyond the 2010 Integrated Report (IR). 2007 fish tissue records exceedance of the mercury (Hg) WQS tissue value (TV) of 0.30 ppm in smallmouth bass (1 fish 27.3 cm) at 0.442 ppm and (4 fish composite 38.0-43.1 cm) redhorse sucker at 0.419 ppm.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L45R_SMR01A00 / South Mayo River / South Mayo River mainstem from the upstream ending of the WQS designated public water supply (PWS) section 3f (36°33'25" / 80°02'15") located downstream of unnamed tributary on downstream to VA/NC State Line (RD09).	5A	Mercury in Fish Tissue	2010	L	5.01
VAW-L45R_SMR02A00 / South Mayo River / South Mayo River mainstem from the mouth of an unnamed tributary downstream to the WQS designated public water supply (PWS) section 3f upstream ending (36°33'25" / 80°02'15") (RD09).	5A	Mercury in Fish Tissue	2010	L	0.72
VAW-L45R_SMR03A00 / South Mayo River / South Mayo River mainstem from the Spoon Creek mouth downstream to an unnamed tributary above the WQS designated public water supply (PWS) section (RD09).	5A	Mercury in Fish Tissue	2010	L	5.24

South Mayo River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**10.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L46R-01-BAC** **North Mayo River**

Cause Location: The bacteria impairment begins at the confluence of Laurel Branch and Polebridge Creek extending downstream to the Virginia / North Carolina State Line.

City / County: Henry Co. Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the North Mayo River within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Station 4ANMR002.60 is a 1999 Federal Consent Decree Attachment B station for fecal coliform bacteria (FC). The station is not 303(d) Listed in 2002 as only 1 exceedance of the former 1000 cfu/100 ml instantaneous criterion is found from 21 samples. Two stations 4ANMR020.13 (Rt. 626 Bridge) and 4ANMR002.60 (Rt. 629 Bridge at Gage) both found excursions of the former 400 cfu/100 ml Water Quality Standards (WQS) instantaneous criterion for fecal coliform (FC) bacteria in 2004. The Recreational Use remains impaired for 22.92 miles for bacteria exceedances.

4ANMR020.13- ((Rt. 626 Bridge) There are no additional data beyond the 2006 Integrated Report (IR) where 4 of 12 FC samples exceed the former 400 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 500 to 1000 cfu/100 ml.

4ANMR002.60- (Rt. 629 Bridge at Gage) Escherichia coli (E.coli) exceeds the WQS 235 cfu/100 ml instantaneous criterion in 20 of 36 and 14 of 36 observations within the 2018 and 2016 data windows, respectively. The range of exceedance is from 250 cfu/100 ml to greater than 2000. Twelve of 36 E.coli samples exceed the instantaneous criterion in 2014. Excessive values range from 250 to greater than 2000 cfu/100 ml. The 2012 assessment finds 10 of 35 E.coli samples exceed the WQS 235 cfu/100 ml instantaneous criterion. Exceedances range from 280 to 1400 cfu/100 ml. Seven of 23 E.coli samples exceed the WQS 235 cfu/100 ml instantaneous criterion within the 2010 data window. 2010 exceeding values range from 280 to 1100 cfu/100 ml. The 2008 assessment finds 3 of 11 E.coli samples exceed the instantaneous criterion with exceeding values ranging from 280 to 1100 cfu/100 ml. 2006 IR finds 1 (600 cfu/100 ml) of 21 FC samples in excess of the instantaneous criterion. 2004 IR reports FC exceeds the former instantaneous criterion 400 cfu/100 ml in 3 of 25 samples. Exceedances are 500, 600 and 1100 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L46R_NMR01A00 / North Mayo River / North Mayo River mainstem from the Horse Pasture Creek mouth downstream to VA/NC State Line.	4A	Escherichia coli	2008	L	4.37
VAW-L46R_NMR02A00 / North Mayo River / North Mayo River mainstem from the upper end of the WQS designated public water supply (PWS) section 3f (36° 34' 25" / 79° 59' 34") downstream to the Horse Pasture Creek mouth.	4A	Escherichia coli	2008	L	0.72
VAW-L46R_NMR03A00 / North Mayo River / North Mayo River mainstem from the first upstream (RF3) unnamed tributary downstream to the WQS designated public water supply (PWS) section 3f (36° 34' 25" / 79° 59' 34").	4A	Escherichia coli	2008	L	5.25

North Mayo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.34**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

VAW-L46R_NMR04A00 / North Mayo River / North Mayo River mainstem from the Kroger Creek mouth downstream to the first upstream (RF3) unnamed tributary (36°35'43" / 80°01'44").	4A	Fecal Coliform	2004	L	2.76
VAW-L46R_NMR05A02 / North Mayo River / North Mayo River mainstem from the RD10/RD12 boundary downstream to the mouth of Kroger Creek (RD12).	4A	Fecal Coliform	2004	L	7.75
VAW-L46R_NMR06A14 / North Mayo River / North Mayo River mainstem from the confluence of Laurel Branch and Polebridge Creek downstream to the RD10/RD12 boundary (RD10).	4A	Fecal Coliform	2004	L	2.07

North Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**12.58**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L47R-01-BAC** **Horse Pasture Creek**

Cause Location: The upper limit of the bacteria impairment is at the confluence of an unnamed tributary East of Route 696 (36°39'38" / 80°00'55") downstream to the mouth of Horse Pasture Creek on the North Mayo River (Spencer and Price Quads).

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The waters remain impaired for 7.44 miles for non-support of the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35754] and SWCB approved 4/28/2009. Horse Pasture Creek is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. The 2004 original 303(d) Listing for fecal coliform (FC) bacteria continues where escherichia coli (E.coli) replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AHRN004.93- (Route 695 Bridge) No new data beyond the 2016 data window. Nine of 24 escherichia coli (E.coli) samples exceed the WQS 235 cfu/100 ml instantaneous criterion within the 2016 data window. Excursions range from 269 to 1300 cfu/100 ml. The 2014 data window reveals 5 of 12 E.coli observations in excess of the instantaneous criterion. Excessive values range from 400 to 1300 cfu/10 ml. There are no additional data within the 2010 or 2012 data windows. The 2008 assessment reports E.coli bacteria exceed the 235 instantaneous criterion in 6 of 21 samples. Exceeding values range from 280 cfu/100 ml to 1050. Three excursions each of the former FC 400 and current E.coli 235 cfu/100 ml instantaneous criteria are found from 9 observations within the 2006 data window. The FC range of exceedance is from 600 to 2000 cfu/100 ml while E.coli exceeds in the range of 280 to 1050. The 2004 IR finds FC exceeds the former 400 cfu/100 ml instantaneous criterion in 5 of 17 samples with a range of exceedance as in 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L47R_HRN01A00 / Horse Pasture Creek / Horse Pasture mainstem from the ending of the WQS designated public water supply (PWS) section 3f (36°34'59" / 79°59'40") downstream to the Horse Pasture Creek mouth on the North Mayo River.	4A	Escherichia coli	2006	L	0.47
VAW-L47R_HRN02A00 / Horse Pasture Creek / Horse Pasture Creek mainstem from an unnamed tributary mouth East of Route 696 (36°39'38" / 80°00'55") downstream to the upstream ending of WQS PWS section 3f (36°34'59" / 79°59'40").	4A	Escherichia coli	2006	L	6.97

Horse Pasture Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.44**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L47R-01-BEN** **Horse Pasture Creek**

Cause Location: The upper limit of the bacteria impairment is at the confluence of an unnamed tributary East of Route 696 (36°39'38" / 80°00'55") downstream to the mouth of Horse Pasture Creek on the North Mayo River (Spencer and Price Quads).

City / County: Henry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired from data collected at 2 sites within the 2010 data window causing this 2010 initial 303(d) Listing.

4AHRN007.65 (Off Rt. 695 north of Rt. 58) Bio 'IM' A 2003 Probabilistic site. The 2008 assessment reserved judgment on 303(d) listing of these waters for Aquatic Life Use impairment until more data could be collected to determine use support. Two 2003 VSCI surveys scoring 67.5 spring and 41.5 fall resulted in an average score of 54.5. The spring collection indicates full support while the fall indicates impairment. The impaired Use is confirmed based on additional data collection at 4AHRN004.93. The land use at this station consists of forest and pasture land. There is a beef cattle farm upstream that includes a large pond that may affect flow and the ability of the stream to transport sediment. Stream banks are eroded.

4AHRN004.93 (Route 695 Bridge) 5 Virginia Stream Condition Index (VSCI) surveys (Fall 2009 and Fall 2010; Spring/Fall 2013-2014) find continued benthic impairment with an average score of 53.3. Three fall VSCI surveys (2008, 2009 & 2010) results in an average score of 49.3 indicating impairment. Data collection at this station validates biological community impairment at the upstream Probabilistic Monitoring station surveyed in 2003 (4AHRN007.93). This site is also collocated at an ambient chemical monitoring station. The stream substrate is impacted by fine sediments also with eroded stream banks.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L47R_HRN01A00 / Horse Pasture Creek / Horse Pasture mainstem from the ending of the WQS designated public water supply (PWS) section 3f (36°34'59" / 79°59'40") downstream to the Horse Pasture Creek mouth on the North Mayo River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.47
VAW-L47R_HRN02A00 / Horse Pasture Creek / Horse Pasture Creek mainstem from an unnamed tributary mouth East of Route 696 (36°39'38" / 80°00'55") downstream to the upstream ending of WQS PWS section 3f (36°34'59" / 79°59'40").	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	6.97

Horse Pasture Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.44**

Sources:

Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L48R-01-BAC** **Mayo River**

Cause Location: Fall Creek and its tributaries downstream to the VA/NC State Line.

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2016 initial 303(d) Listing is a result of escherichia coli (E.coli) bacteria excursions of the WQS instantaneous criterion of 235 cfu/100 ml criterion. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the Mayo River within the TMDL Watershed. The Mayo River is nested within the Dan River Bacteria TMDL. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMAY018.17 (Rt. 691 Bridge at Gage) No data beyond the 2016 data window where 4 of 12E.coli samples exceed the instantaneous criterion. Values in excess of the criterion range from 275 to 1450 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L48R_FCR01A16 / Mayo River (Fall Creek) / Fall Creek mainstem downstream to the VA/NC State Line (RD13).	4A	Escherichia coli	2016	L	4.02

Mayo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.02**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L50R-01-BAC** **Smith River and Sycamore Creek**

Cause Location: Smith River from the mouth of Rich Run on the Smith River downstream to the mouth of Shooting Creek on the Smith River spanning the Woolwine and Charity Quads. And Sycamore Creek from it's mouth on the Smith River upstream to the Pole Branch confluence.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreational Use is impaired based on escherichia coli (E.coli) data showing excessive counts recoded at 4ASRE075.69 and 4ASYC002.02. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008 [Fed ID 35748/35756]; and SWCB approval on 4/28/2009. The Recreational Use impairment is extended during the 2018 Integrated Reporting window

4ASRE075.69 (Rt. 708 Bridge) Escherichia coli (E.coli) exceed the 235 cfu/100 ml criterion in 8 of 36 samples within the 2014, 2016 and 2018 data windows. 2018 excursions range from 275 to 1,850 cfu/. 2016 excessive values range from 300 to 1200 cfu/100 ml and 2014 excursions range from 250 to 1200 cfu/100 ml. 2012 E.coli data exceed the instantaneous criterion in 6 of 36 samples. Excursions also range from 250 to 1200 cfu/100 ml.

4ASRE069.46 (Downstream of Iron Bridge Rd. bridge) The 2018 Integrated Reporting window finds 5 of 24 E.coli samples exceed the 235 cfu/100 ml criterion. Excursions range from 313 - >9,000 cfu/100 ml.

4ASYC002.02 (Elamsville Road Bridge) 4 of 12E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Prior to 2018, there were no additional data beyond the 2012 IR. E.coli exceed the 235 WQS instantaneous criterion in 2 of 12 samples. The exceeding values are 380 and 1000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L50R_SRE01A00 / Smith River / Smith River mainstem from the Liberty Fabrics outfall downstream to Sycamore Creek at the RD15/16/17 watershed boundaries (RD15).	4A	Escherichia coli	2012	L	3.88
VAW-L50R_SRE02A00 / Smith River / Smith River mainstem from the Jacks Creek mouth downstream to Liberty Fabrics outfall.	4A	Escherichia coli	2012	L	0.25
VAW-L50R_SRE03A00 / Smith River / Smith River mainstem WQS Class VI end of section, as described in WQS, downstream to mouth of Jacks Creek.	4A	Escherichia coli	2012	L	0.58
VAW-L50R_SRE04A00 / Smith River / Smith River mainstem from the Rich Run mouth downstream to WQS Natural Trout section, as described in WQS.	4A	Escherichia coli	2012	L	2.86
VAW-L50R_SYC01A12 / Sycamore Creek / Sycamore Creek from it's mouth on the Smith River upstream to the Pole Branch confluence (RD16).	4A	Escherichia coli	2012	L	6.15
VAW-L51R_SRE07A00 / Smith River / Smith River mainstem from the mouth of Shooting Creek upstream (WQS Class V waters) to Rt. 704 (RD17).	4A	Escherichia coli	2018	L	6.43
VAW-L51R_SRE08A00 / Smith River / Smith River mainstem (WQS Class VI waters) from Rt. 704 upstream to the mouth of Widgeon Creek.	4A	Escherichia coli	2018	L	1.45
VAW-L51R_SRE08B14 / Smith River / Smith River mainstem from the RD15/16/17 watershed boundaries downstream to the mouth of Widgeon Creek (RD17).	4A	Escherichia coli	2012	L	1.91

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Smith River and Sycamore Creek

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.51**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L50R-01-TEMP** **Smith River**

Cause Location: The temperature impaired waters begin at the mouth of Rich Run on the Smith River and extend downstream to the mouth of Shooting Creek on the Smith River spanning the Woolwine and Charity Quads.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

Exceedance of the WQS Class VI 20°C temperature criterion for this natural trout water caused the original 2002 303(d) Listing of these waters. The 9.48 mile Aquatic Life Use impairment remains and is extended during the 2018 data window by 1.45 miles.

4ASRE075.69- (Rt. 708 Bridge) The 2018 data window finds 9 of 36 temperature measurements exceed the 20°C Class VI natural trout water criterion with exceedances ranging from 20.8°C to 23.6°C. 2014 and 2016 temperature data records 9 of 36 measurements in excess of the 20°C natural trout water criterion. Both the 2014 and 2016 range of exceedance is from 20.3 to 25.2°C all occurring in the summer months. Temperature exceeds the natural trout criterion in 10 of 35 measurements within the 2012 data window. The range of exceedance is from 20.5 to 25.2°C all occurring in the summer months. 2010 data find 9 of 37 temperature measurements exceeding the 20°C criterion in the summer months. Excursions range from 20.4° to 22.7°C. Temperature exceeds the 20°C natural trout criterion in 12 of 41 measurements with the 2008 assessment. The range of exceedance is from 20.4 to 24.3°C all occurring in the summer months. 2006 records 9 of 33 measurements exceeding the criterion and ranging from 21 to 24°C. Excursions are found primarily during the 1999-2002 drought. The temperature impairment, originally listed in 2002, is based on 4ASRE075.69 data where 3 of 20 measurements exceed the criterion.

4ASRE069.46 (Downstream of Iron Bridge Rd. bridge) - From 24 temperature measurements during the 2018 data window, 4 exceed the Class VI 20°C criterion. Exceedances range from 21.6°C to 22.0°C and occur during July, August, and September. These data were incorrectly assigned to 4ASRE063.69 during the 2016 IR.

Supplemental information: (Outside 2008 Assessment data window 2000 - 2004): Two of 8 exceedances of the 20°C criterion are recorded by the US Geological Survey (USGS) station 02071510. The excursions are from July 18 (23°C) and August 15 (24°C) 1995. The USGS station is located 1.19 miles upstream of any known potential anthropogenic source of heat at the Rt. 615 crossing.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L50R_SRE01A00 / Smith River / Smith River mainstem from the Liberty Fabrics outfall downstream to Sycamore Creek at the RD15/16/17 watershed boundaries (RD15).	5C	Temperature, water	2002	L	3.88
VAW-L50R_SRE02A00 / Smith River / Smith River mainstem from the Jacks Creek mouth downstream to Liberty Fabrics outfall.	5C	Temperature, water	2002	L	0.25
VAW-L50R_SRE03A00 / Smith River / Smith River mainstem WQS Class VI end of section, as described in WQS, downstream to mouth of Jacks Creek.	5C	Temperature, water	2002	L	0.58
VAW-L50R_SRE04A00 / Smith River / Smith River mainstem from the Rich Run mouth downstream to WQS Natural Trout section, as described in WQS.	5C	Temperature, water	2002	L	2.86
VAW-L51R_SRE08A00 / Smith River / Smith River mainstem (WQS Class VI waters) from Rt. 704 upstream to the mouth of Widgeon Creek.	5C	Temperature, water	2018	L	1.45
VAW-L51R_SRE08B14 / Smith River / Smith River mainstem from the RD15/16/17 watershed boundaries downstream to the mouth of Widgeon Creek (RD17).	5C	Temperature, water	2002	L	1.91

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Smith River		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	Temperature, water - Total Impaired Size by Water Type:			**10.93**

Sources:

Natural Sources	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51L-01-HG** **Philpott Reservoir**

Cause Location: Philpott Reservoir

City / County: Franklin Co. Henry Co. Patrick Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ASRE046.90 (Above Philpott Dam)- 2007 fish tissue analysis finds exceedances of the WQS based tissue value (TV) for mercury (Hg) of 0.3 ppm in 3 individual largemouth bass (size 41.8 cm) at 0.59 ppm, (size 40.9 cm) at 0.563 ppm and (size 33.2 cm) at 0.374 ppm. There are no additional data within the 2016 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51L_GOB01A02 / Philpott Reservoir (Goblin Town Creek) / Philpott Reservoir - Goblin Town Creek arm from its confluence with the Smith River upstream to the Fairystone Dam.	5A	Mercury in Fish Tissue	2010	L	532.38
VAW-L51L_SRE01A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from its impounding structure upstream to just above the confluence of Goblin Town Creek.	5A	Mercury in Fish Tissue	2010	L	######
VAW-L51L_SRE02A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Goblin Town Creek confluence upstream to just above the Beards Creek mouth.	5A	Mercury in Fish Tissue	2010	L	671.08
VAW-L51L_SRE03A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Beards Creek confluence upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	388.70

Philpott Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**2,813.52**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-01-BAC** **Goblintown Creek**

Cause Location: Goblintown Creek from the backwaters of Fairystone Lake upstream to the headwaters of Goblintown Creek.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Escherichia coli (E.coli) exceedances cause this initial 2014 303(d) Listing for the Recreational Use impairment. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748/35756. SWCB approved 4/28/2009. Goblintown Creek is nested within the overall Bacteria TMDL Watershed.

4AGOB005.18 (Rt. 623 Bridge near Fairystone State Park) 2 escherichia coli (E.coli) of 12 samples exceed the 235 cfu/100 ml instantaneous criterion at 375 and 950 cfu/100 ml. There are no additional data beyond the 2014 Integrated Report (IR).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_GOB01A08 / Goblintown Creek / Goblintown Creek from the backwaters of Fairystone Lake upstream to the confluence of Little Goblintown Creek (RD20).	4A	Escherichia coli	2014	L	1.20
VAW-L51R_GOB02A08 / Goblintown Creek / Goblintown Creek from the mouth of Little Goblintown Creek upstream to its headwaters (RD20).	4A	Escherichia coli	2014	L	5.60

Goblintown Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.80**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-01-HG** **Goblintown Creek**

Cause Location: Goblintown Creek from its headwaters downstream to the backwaters of Fairystone Lake

City / County: Patrick Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.vdh.virginia.gov/environmental-epidemiology/ for VDH Advisories or Bans.

4AGOB005.18 (Rt. 623 Bridge)- 2007 fish tissue analysis finds exceedances of the WQS based tissue value (TV) for mercury (Hg) of 0.3 ppm in 5 individual largemouth bass 33.5 cm at 0.306; 37.1 at 0.472; 39.2 cm at 0.420; 47.1 cm at 0.926 and 48.9 cm at 0.734 ppm. There are no additional data beyond the 2010 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_GOB01A08 / Goblintown Creek / Goblintown Creek from the backwaters of Fairystone Lake upstream to the confluence of Little Goblintown Creek (RD20).	5A	Mercury in Fish Tissue	2010	L	1.20
VAW-L51R_GOB02A08 / Goblintown Creek / Goblintown Creek from the mouth of Little Goblintown Creek upstream to its headwaters (RD20).	5A	Mercury in Fish Tissue	2010	L	5.60

Goblintown Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**6.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-01-TEMP** **Rennet Bag Creek**

Cause Location: Rennet Bag Creek from its headwaters downstream to its inundation at Philpott Reservoir. The impairment spans the Endicott, Charity and Philpott Reservoir Quads.

City / County: Floyd Co. Franklin Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

Station 4ARBC005.44 is utilized to assess both the natural trout and stockable trout waters for this stream. Station 4ARBC005.44 is located on Rt. 43 west of Endicott near the downstream end of the WQS 9.41 mile natural trout water section. And is just upstream of the Class V stockable trout waters that are 2.13 miles in length. Both WQS Classes are assessed by this station. The 2002 temperature impairment remains from the initial 303(d) Listing.

4ARBC005.44- (Rt. 43 west of Endicott) No additional data beyond the 2016 assessment where 3 of 12 temperature measurements exceed the Class VI Natural Trout criterion of 20°C. Excessive values occur in July, August, and September with a range of 20.2°C to 21.9°C. Only 1 excursion of the Class V Stockable Trout waters occurs. There are no additional data beyond the 2008 Integrated Report (IR). The natural trout water (Class VI) criterion of 20°C is exceeded in 3 of 8 measurements taken within the 2010 and 2008 data windows. These excursions are 20.6 (8/25/05), 21.9 (6/22/06) and 21.6°C (8/29/06). Based on these results 2 of 8 temperature measurements exceed the downstream stockable trout water (Class V) criterion of 21°C in both the 2010 and 2008. In the 2002 and 2004 assessments 2 temperature exceedances from 6 measurements are found. Temperature excursions of the WQS Class V (stockable trout) 21°C and Class VI (natural trout) 20°C criteria occurred in the summer months of August 1999 at 26.4 °C and June 2000 at 23.3 °C. Both excursions occur during the 1999-2002 drought years.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_RBC01A00 / Rennet Bag Creek / Rennet Bag Creek mainstem from its inundation at Philpott Reservoir upstream to the confluence of Long Branch Class V (RD18).	5C	Temperature, water	2002	L	2.13
VAW-L51R_RBC02A02 / Rennet Bag Creek / Rennet Bag Creek mainstem from the confluence of Long Branch upstream to its headwaters Class VI.	5C	Temperature, water	2002	L	9.41

Rennet Bag Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**11.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-02-BAC** **Shooting Creek**

Cause Location: Shooting Creek from its mouth on the Smith River upstream to its headwaters.

City / County: Floyd Co. Franklin Co. Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Escherichia coli (E.coli) exceedances cause this initial 2014 303(d) Listing for the Recreational Use impairment. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748/35756. SWCB approved 4/28/2009. Shooting Creek is nested within the overall Bacteria TMDL Watershed.

4ASOT000.99- (Rt. 622 Bridge, Deer Run Rd.) The 2016 and 2018 data windows find 3 of 24 escherichia coli (E.coli) samples in excess of the WQS instantaneous criterion of 235 cfu/100 ml. Excessive values range from 375 to 950 cfu/100 ml. E.coli exceeds the instantaneous criterion in 3 of 12 observations within the 2014 data window. Values in excess of the criterion are the same as in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_SOT01A08 / Shooting Creek / Shooting Creek from its mouth on the Smith River upstream to its headwaters (RD17).	4A	Escherichia coli	2014	L	7.32

Shooting Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.32**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-02-TEMP** **Shooting Creek**

Cause Location: Shooting Creek from its mouth on the Smith River upstream to its headwaters.

City / County: Floyd Co. Franklin Co. Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

4ASOT000.99- (Rt. 622 Bridge) 5 of 24 temperature measurements exceed the Class VI 20°C within the 2018 and 2016 data windows. Values in excess range from 20.4°C to 22.2°C. Each excursion occurs within the summer months. 2014 temperature excursions are found in 3 of 12 measurements. The 3 excursions are 21.8°C (6/29/2011), 21.5°C (8/25/2011) and 22.2°C (7/31/2012). There are no additional data within the 2012 data window. Three of 8 temperature measurements exceed the 20°C Class VI natural trout water criterion within both 2008 and 2010 data windows. Temperature excursions are 20.6 (8/25/05 & 6/22/06) and 21.2°C (8/29/06). These waters were assessed based on a stream Class IV designation in the 2008 IR resulting in full support. The stream Class is VI, natural trout waters, and should have been initially 303(d) Listed in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_SOT01A08 / Shooting Creek / Shooting Creek from its mouth on the Smith River upstream to its headwaters (RD17).	5C	Temperature, water	2008	L	7.32

Shooting Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**7.32**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-03-BAC** **Nicholas Creek**

Cause Location: Nicholas Creek from the inundated waters of Philpott Reservoir upstream to a point south of Franklin St. at 36°54'13" / 80°03'48".

City / County: Franklin Co. Henry Co. Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This initial 2016 303(d) Listing is the result of excursions of the escherichia coli WQS instantaneous criterion of 235 cfu/100 ml. The Recreational Use is impaired. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748/35756. SWCB approved 4/28/2009. Nicholas Creek is nested within the overall Bacteria TMDL Watershed.

4ANCH001.23 (Rt. 780 (Jamison Rd.) Entrance to Jamison Mill Park- 4 of 12 E.coli samples exceed the instantaneous criterion within the 2016 data window. Excursions range from 250 to 528 cfu/100 ml. No additional data was collected since the 2016 Integrated Report data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_NCH01A12 / Nicholas Creek / Nicholas Creek from the inundated waters of Philpott Reservoir upstream to a point south of Franklin St. at 36°54'13" / 80°03'48" (RD19).	4A	Escherichia coli	2016	L	5.40

Nicholas Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.40**

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-03-TEMP** **Smith River**

Cause Location: Smith River mainstem from the mouth of Shooting Creek upstream (WQS Class V waters) to Rt. 704 (RD17).

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The 2016 Integrated Report (IR) produced the initial 303(d) Listing for temperature excursions of the Class V Stockable Trout water criterion resulting in impairment of the Aquatic Life Use. Part of the 2016 IR listing was made in error as the data discussed below were actually collected at 4ASRE069.46. Of the 2016 IR 8.99 mile listed segment, 2.55 miles are delisted and 6.43 miles remain listed in the 2018 IR.

4ASRE069.46 (Downstream of Iron Bridge Rd. bridge) - The 2018 IR finds 4 of 24 excursions of the Class V 21°C criterion. Exceedances are: 21.6°C (7/7/14), 22.0°C (9/3/14), 21.6°C (8/18/16), and 21.7°C (9/19/16). The 7/7/14 and 9/3/14 excursions were incorrectly assigned to 4ASRE063.69 during the 2016 IR and resulted in the original temperature impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_SRE07A00 / Smith River / Smith River mainstem from the mouth of Shooting Creek upstream (WQS Class V waters) to Rt. 704 (RD17).	5C	Temperature, water	2016	L	6.43

Smith River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.43**

Sources:

Natural Sources	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L51R-04-BAC** **Rennet Bag Creek**

Cause Location: Rennet Bag Creek from its headwaters downstream to its inundation at Philpott Reservoir. The impairment spans the Endicott, Charity and Philpott Reservoir Quads.

City / County: Floyd Co. Franklin Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2016 Integrated Report (IR) is the initial listing of E.coli for Rennet Bag Creek. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748/35756. SWCB approved 4/28/2009. Rennet Bag Creek is nested within the overall Bacteria TMDL Watershed.

4ARBC005.44 - (Rt. 43 west of Endicott) No additional data beyond the 2016 data window. The 2016 assessment finds 3 Escherichia Coli (E.coli) bacteria exceedances of the 235 cfu/100 mL instantaneous criterion. Exceedances range from 575 to greater than 2000 cfu/100 mL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_RBC01A00 / Rennet Bag Creek / Rennet Bag Creek mainstem from its inundation at Philpott Reservoir upstream to the confluence of Long Branch Class V (RD18).	4A	Escherichia coli	2016	L	2.13
VAW-L51R_RBC02A02 / Rennet Bag Creek / Rennet Bag Creek mainstem from the confluence of Long Branch upstream to its headwaters Class VI.	4A	Escherichia coli	2016	L	9.41

Rennet Bag Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.54**

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L52R-01-BAC** **Smith River**

Cause Location: The bacteria impairment begins at the Blackberry Creek mouth on Smith River VAW-L52R (Bassett Quad) and extends downstream to the backwaters of the Martinsville power pool (Martinsville West Quad).

City / County: Henry Co. Martinsville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The original 2002 Assessment basis for 303(d) Listing the waters is exceedance of the former fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml and the former geometric mean (WQS frequency of 2 samples/calendar month of 200 cfu/100 ml causing the waters to not support the Recreational Use. Special monitoring on Blackberry Creek (L52R) and the Smith River (L53R) reported and 303(d) Listed these exceedances in 2002.

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35748/35756] and SWCB approved 4/28/2009. The Smith River is encompassed by the overall Dan River Bacteria TMDL Watershed and allocations. Portions of the Smith River are nested within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

A portion of the bacteria impaired waters were delisted in 2004 for the area between the Blackberry Creek mouth on the Smith River (L52R Bassett Quad) extending downstream to the Reed Creek confluence on the Smith River L53R- Martinsville West Quad), 3.31 miles. The delisting of these waters was based on an exceedance rate of less than 10.5%. This portion returned to 303(d) Listing status with the 2006 Integrated Report (IR) based on stations 2000W0034A and 4ASRE036.55. The total bacteria impairment size is 10.30 miles.

4ASRE036.55- There are no additional data beyond the 2008 assessment where escherichia coli (E.coli) are found to exceed the 235 cfu/100 ml instantaneous criterion in 3 of 21 samples. Exceeding values range from 250 to 720 cfu/100 ml. 2006 exceedances are 250 and 350 cfu/100 ml from 2 of 9 samples.

4ASRE033.19- During the 2018 data window, 18 of 41 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion; exceedances range from 262 to greater than 2,000 cfu/100 ml. 2014 E.coli samples exceed the 235 cfu/100 ml criterion in 8 of 36 samples. Exceeding values range from 250 to greater than 2000 cfu/100 ml. Ten of 46 E.coli samples exceed the WQS instantaneous criterion within the 2012 data window. The range of exceedance is from 250 cfu/100 ml to greater than 2000. The 2010 assessment finds E.coli exceed the instantaneous criterion in 9 of 43 observations with the same range of exceedance as 2012. E.coli exceed the instantaneous criterion in 4 of 31 samples in 2008. Exceeding values range from 280 to 1000 cfu/100 ml.

Special Study Stations:
2008 E. coli exceedances/total observations; range 2008/2006 & 2004 exceedances/total observations; range 2004.
2000W0034B- (downstream of Blackberry Creek confluence)- SS data ends 6/06/02- 1 of 10 at 270/2006 & 2004- 2 of 20; 270 to >800.
2000W0034A- (located downstream in VAW-L53R)- SS data ends 6/06/02- 1 of 11 exceeds at >800/2006 & 2004- 2 of 21; at >800.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L52R_SRE01A00 / Smith River / The Smith River mainstem from the Blackberry Creek mouth downstream to Rock Run mouth (Watershed Boundary RD22).	4A	Escherichia coli	2006	L	0.96
VAW-L53R_SRE01B06 / Smith River / Smith River mainstem from the former E. I. duPont outfall upstream to the E. I. duPont water intake on the Smith River (RD24).	4A	Escherichia coli	2008	L	0.49
VAW-L53R_SRE02A00 / Smith River / Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall (RD24).	4A	Escherichia coli	2008	L	4.25

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VAW-L53R_SRE03A00 / Smith River / Smith River mainstem from the former Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek (RD24).	4A	Escherichia coli	2008	L	2.25
VAW-L53R_SRE04A00 / Smith River / Smith River mainstem from the mouth of Reed Creek upstream to an unnamed tributary. The unnamed tributary is approximately 0.70 miles downstream of the Alt. 57 Bridge (RD22).	4A	Escherichia coli	2006	L	0.81
VAW-L53R_SRE05A00 / Smith River / Smith River mainstem from an unnamed tributary located approximately 0.70 miles downstream of the Alt. 57 Bridge, upstream to the watershed boundary at the mouth of Rock Run (RD22).	4A	Escherichia coli	2006	L	1.54

Smith River		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation				
	Escherichia coli - Total Impaired Size by Water Type:			**10.30**

Sources:

- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L52R-02-BAC** **Blackberry Creek and Blackberry, UTs**

Cause Location: The impairment begins at the headwaters of Blackberry Creek (~RM 13.63) and extends downstream to Blackberry Creek's mouth on the Smith River. The impaired waters include an unnamed tributary from the north (XMI). The mouth of the unnamed tributary is at 36° 44' 38" / 80° 03' 07". The bacteria impairment spans the Charity, Sanville, Martinsville West and Bassett Quads.

City / County: Henry Co. Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Blackberry Creek as it lies within the TMDL Watershed. An unnamed tributary (XMI) is nested within the Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Exceedance of the former fecal coliform (FC) instantaneous criterion of 1000 cfu/100 ml and the geometric mean of 200 cfu/100 ml caused the waters to not support the recreational use in 2002. Ambient station 4ABRY000.05, a 1999 Federal Consent Decree Attachment B station is 2002 303(d) Listed with a 2010 TMDL schedule date. The 2002 fecal coliform exceedance rate of 15 percent from 3 of 20 samples at 4ABRY000.05 resulted in the original 303(d) Listing. Exceedance of the Escherichia coli 235 cfu/100 ml instantaneous criterion and the former (2 samples/calendar month) geometric mean in 2004 continue to show nonsupport with the 2010 Integrated Report (IR).

The Recreational Use is impaired for a total of 15.49 miles in the Blackberry Creek drainage. An unnamed tributary comprises 1.15 miles of the overall impairment.

Special monitoring of Blackberry Creek began in the fall of 1999 after complaints from local residents regarding sewer service in the Blackberry Creek drainage. Listed below are stream coded sites having data within the 2008 data window and 2000 Special Study (SS) sites and instantaneous results from the 2004 IR. All values are in cfu/100 ml.

4ABRY011.44 formerly 2000W0034L- (at Microfilm Road) There are no additional data beyond the 2008 assessment where escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 10 of 22 samples. The E.coli range of exceedance is 250 to 20,000 cfu/100 ml. The former geometric mean (WQS frequency of 2 samples/calendar month) exceeds in 3 of 6 calculations in excess of the 126 cfu/100 ml criterion. E.coli data within the 2010 data window exceed the instantaneous criterion in 6 of 12 samples.

4ABRY010.27 formerly 2000W0034J- (Rt. 687 Bridge) 2008 E.coli exceedances range from 350 to 1100 cfu/100 ml in excess of the 235 cfu/100 ml criterion from 5 of 17 samples. E.coli data within the 2010 and 2012 data windows exceed the instantaneous criterion in 4 of 12 samples.

4ABRY000.05 formerly 2000W0034E- (American Legion Bridge) There are no additional data beyond the 2008 assessment. The 2008 IR finds E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 11 of 31 samples. Exceeding values range from 260 to 1200 cfu/100 ml. Three of 7 geometric mean calculations exceed the former (WQS frequency of 2 samples/calendar month) 126 cfu/100 ml criterion.

Special Study Stations (no additional data beyond 2008 assessment):
2008 E. coli exceedances/total observations; range 2008/2004 exceedances/total observations; range 2004.

2000W0034C- (Rt. 57A) SS data ends 6/06/02 - 2 of 11/range 500 to >800/2004 - 5 of 21 range 340 to >800.
2000W0034E- (American Legion Bridge) SS data ends 6/06/02 - 2004 - 7 of 20/range 250 to >800.
4ABRY000.05- 2004 FC exceeds the 400 cfu/100 ml instantaneous criterion in 4 of 20 samples with exceeding values ranging from 500 cfu/100 ml to greater than 8000.
2000W0034F- (upstream of Rt. 698 Bridge) SS data ends 6/06/02 - 5 of 11; range 280 to >800/2004 - 10 of 21 range 280 to >800.
2000W0034G- (Rt. 676 Bridge) SS data ends 6/06/02 - 1 of 10/620/2004 - 2 of 20; range 330 to 620.
2000W0034H- (Rt. 677 end) SS data ends 6/06/02 - 2 of 10; 280 and >800/2004 - 3 of 20; 280 and >800.
2000W0034I- (Rt. 882 Bridge) SS data ends 6/06/02 - 4 of 11; range 400 to greater than 800/2004 - 7 of 21; range 330 to >800.
2000W0034J- (Rt. 687 Bridge) SS data ends 6/06/02 - 2004 - 5 of 15; range 290 to >800.

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2000W0034L- (at Microfilm Road) SS data ends 6/06/02 - 2004 - 8 of 19/range 250 to >800.
2000W0034R- (along Rt. 799) SS data ends 6/06/02 - 4 of 10; range 400 to >800/2004 - 8 of 20; range 380 to greater than 800.

Unnamed Tributary (UT) stations - No NHD stream trace. (No additional data beyond 208 assessment):
2000W0034M (above confluence w/Blackberry Cr.) SS data ends 6/06/02 - 0 of 10/2004 - 1 of 20; 280.
2000W0034S (above Rt. 832 Bridge) SS data ends 4/23/01 - 0 of 4/2004 - 1 of 11; >800.
2000W0034T (above Westwood Rt. 1226) SS data ends 12/17/01 - 1 of 5; 710/2004 - 6 of 15/range 490 to >800.
Unnamed Tributary (XMI):
2000W0034O (below Westwood Lagoon) SS data ends 6/06/02 - 6 of 10; range 300 to 630/2004 - 12 of 19; range 250 to >800.
2000W0034P (immediately above Westwood Lagoon) SS data ends 6/06/02 - 3 of 10; range 280 to >800/2004 - 7 of 20/range 290 to >800.
2000W0034U (below Westwood Lagoon) SS data ends 6/06/02 - 5 of 10; range 250 to 510/2004 - 9 of 19/range 250 to >800.
2000W0034V (below Westwood Lagoon) SS data ends 6/06/02 - 3 of 10; range 270 to 410/2004 - 8 of 19/range 250 to 780.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L52R_BRY01A00 / Blackberry Creek / Blackberry Creek mainstem from the upper end of the WQS designated public water supply (PWS) section near the American Legion Bridge downstream to the Blackberry Creek mouth on the Smith River.	4A	Escherichia coli	2004	L	0.53
VAW-L52R_BRY02A00 / Blackberry Creek / The Blackberry Creek mainstem from the confluence of Whitt Branch downstream to the end of the WQS public water supply designation near the American Legion Bridge.	4A	Escherichia coli	2004	L	3.72
VAW-L52R_BRY03A00 / Blackberry Creek / Blackberry Creek mainstem from the Sanville Utilities Fairway Acres outfall downstream to Whitt Branch.	4A	Escherichia coli	2004	L	5.54
VAW-L52R_BRY04A02 / Blackberry Creek / Blackberry Creek mainstem from its headwaters downstream to the Sanville Utilities Fairway Acres outfall.	4A	Escherichia coli	2004	L	4.55
VAW-L52R_XMI01A02 / Blackberry Creek, UT (XMI) / An unnamed tributary to Blackberry Creek from its mouth upstream to its headwaters. The mouth of the tributary is located at 36° 44' 38" / 80° 03' 07".	4A	Escherichia coli	2004	L	1.15

Blackberry Creek and Blackberry, UTs	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**15.49**

Sources:

- Municipal (Urbanized High Density Area)
- Municipal Point Source Discharges
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L52R-03-BAC** **Town Creek**

Cause Location: Town Creek from it's confluence on the Smith River upstream to the mouth of Grassy Fork.

City / County: Franklin Co. Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Town Creek Recreational Use impairment is a result of the 2012 assessment. Town Creek is nested within the overall Dan River Bacteria TMDL Watershed U.S. EPA approved on 12/8/2008, Fed ID: 35756 and SWCB approved on 4/28/2009.

4ATWN000.22- (Philpott Drive - Rt. 674 Bridge) Escherichia coli (E.coli) exceed the 235 cfu/100 ml water quality criterion in 4 of 12 samples collected during the 2018 data window. Excursions range from 275 to 15,531 cfu/100 ml. E.coli samples exceed the WQS 235 cfu/100 ml instantaneous criterion in 4 of 12 samples within the 2012 data window. Values in excess of the criterion range from 280 cfu/100 ml to 1300. There are no additional data within the 2014 or 2016 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L52R_TWN01A12 / Town Creek / Town Creek from it's confluence on the Smith River upstream to the mouth of Grassy Fork.	4A	Escherichia coli	2012	L	1.88

Town Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.88**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53L-01-BAC** **Martinsville (Beaver Creek) Reservoir**

Cause Location: Martinsville Reservoir

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. This bacteria impairment is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ABAU005.34 (Martinsville Reservoir at Dam) The 2018 assessment finds Escherichia coli (E.coli) exceeds the WQS instantaneous criterion of 235 cfu/100 ml in 0 of 14 samples, this reservoir is bracketed by impaired stream AUs, therefore the reservoir is going to remain impaired due to the other continuous impairments upstream and downstream. The 2010 assessment finds escherichia coli (E.coli) exceed the WQS instantaneous criterion of 235 cfu/100 ml in 2 of 13 observations. Values in excess of the criterion are 420 and 450 cfu/100 ml. There are no additional data within the 2014 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53L_BAU01A02 / Martinsville (Beaver Creek) Reservoir / Martinsville Reservoir on Beaver Creek from its impounding structure upstream to its backwaters.	4A	Escherichia coli	2010	L	182.28

Martinsville (Beaver Creek) Reservoir **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**182.28**	

Sources:

Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-01-BEN** **Smith River**

Cause Location: Smith River from the mouth of Reed Creek downstream to the backwaters of the Martinsville Dam Power Pool.

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The 2012 Integrated Report (IR) partially delisted the original 4.74 mile General Standard Benthic impairment. The 2014 assessment finds impairment has returned and relists these waters for the General Standard Benthic impairment and extends the impairment upstream 2.25 miles. The extension upstream is due to declining Virginia Stream Condition Index (VSCI) scores at 4ASRE033.19. These waters (4.74 miles) were originally 303(d) Listed in 2008 for contravention of the General Standard and are now nested within the Smith River Benthic Phased TMDL. Phase I U.S. EPA approved 1/13/2011 (Fed IDs: 39703, 39705 (delist), 39706 & 39707).

4ASRE033.19- (Rt. 701 Bridge - Fieldale) Bio 'IM' No additional data since the 2016 assessment recorded 12 VSCI surveys (2009-2014) with an average score of 55.5. Spring bioassessments at this station show a decline since 2009 and Fall bioassessments show a slight improvement since 2009. Overall VSCI scores are declining. This station has been the upstream control site for all Smith River biomonitoring stations and is located approximately 0.65 miles upstream of the Upper Smith River WWTP which is currently off line. Eleven VSCI surveys (2007-2012) with an average 6 year score of 57.6 and 2 year score of 54.0 are recorded within the 2014 assessment. Bioassessments at this station have shown a range of scores between 50 and 63 and a slight decline from the fall of 2007 to the fall of 2012. The river is impacted by the operation of one hydroelectric dam, sediment deposition and urban NPS runoff. Sediment deposition in this reach of the Smith River may negatively affect the benthic community. This is possibly a result of the upstream scouring caused by discharges from Philpott Dam as well as inputs from tributaries.

4ASRE032.38- Bio 'IM' This station initially assessed in 2012 using Best Professional Judgment (BPJ) based on 4ASRE033.19 and 4ASRE0031.00 scoring in the 60s, or fully supporting. This station is re-assessed in 2014 indicating impairment. There are no additional data beyond the 2012 data window. Two 2010 surveys with an average score of 59.7 (spring 56.08; fall 63.48). This station is between the historical biomonitoring stations 4ASRE033.19 and 4ASRE031.00 and is adjacent to the closed Upper Smith River STP. Similar to station 4ASRE033.19 and 4ASRE031.00, this reach of the river appears to be impacted by sediment deposition and urban NPS runoff.

4ASRE031.00- (Behind Church at Kohler) During the 2018 data window, 9 VSCI surveys 12VSCI surveys (2009-2014) find impairment with an average score of 56.7 within the 2016 data window. The Spring average VSCI scores fall below the impairment threshold and the Fall VSCI scores are slightly above the impairment threshold. Both seasons are experiencing a decline in VSCI scores and overall decline to present. The 2014 assessment reports 9 Virginia Stream Condition Index (VSCI) surveys (2008 - 2012) with an average 6 year score of 59.2 and a 2 year average score of 54.10. These scores show impairment and result in the re-listing of this portion of the Smith River. The 2012 assessment de-listed these waters with a 6 year average score of 61.8 and a 2 year average of 64.8. Five VSCI surveys (2003 - 2008) within the 2010 data window report an average score of 52.6. Note: 2008 assessment (4 surveys 2003-2006) score 51.6. Compared to the upstream control site, there is a difference in the average Stream Condition Index (SCI) score (51.6 at this station versus 60.1 at 4ASRE033.19). The benthic community typically has fewer total taxa and fewer sensitive taxa than the reference site. The station is approximately 1.54 miles below the former Upper Smith River WWTP. Similar to the reference station, this reach of the river appears to be impacted by sediment deposition and urban NPS runoff. The WWTP ceased discharge November 11, 2003 and the VPDES permit terminated in June 2004. Benthic community scores declined between 2000 and 2004 and increased between 2005 and 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_SRE01B06 / Smith River / Smith River mainstem from the former E. I. duPont outfall upstream to the E. I. duPont water intake on the Smith River (RD24).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	0.49
VAW-L53R_SRE02A00 / Smith River / Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall (RD24).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.25

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

VAW-L53R_SRE03A00 / Smith River / Smith River mainstem from the former Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek (RD24).	A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.25

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.99**

Sources:

Municipal (Urbanized High Density Area)	Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-01-TEMP** **Smith River**

Cause Location: Smith River mainstem from the mouth of Reed Creek downstream to the E.I. DuPont Intake (RD24).

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

The 2016 Integrated Report (IR) is the initial 303(d) listing for Aquatic Life Use due to temperature impairment.

4ASRE033.19 - (Rt. 701 in Fieldale) A continuous temperature monitoring device was placed at the station during the critical time period of August 4th to September 2nd 2014. The device recorded temperature every 30 minutes for 30 days. The 2016 assessment reveals 20% of the days exceeded the max daily temperature at least 10.5% of the day for the Class VI Natural Trout criterion of 20°C. The rate of temperature change (0.5°C per hour) was exceeded 72.4% of the days the temperature sensor was deployed. These temperature exceedances are believed the result of the hydroelectric operations and flow release patterns from the Philpott Dam.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_SRE02A00 / Smith River / Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall (RD24).	5A	Temperature, water	2016	L	4.25
VAW-L53R_SRE03A00 / Smith River / Smith River mainstem from the former Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek (RD24).	5A	Temperature, water	2016	L	2.25

Smith River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.50**

Sources:

Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-02-BAC** **Jordan Creek**

Cause Location: The mainstem waters of Jordan Creek from its headwaters to its mouth on the Smith River.

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2006 303(d) Listed 6.00 mile waters remain impaired for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Jordan Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AJOR000.02- (Rt. 682 Bridge) There are no additional data beyond the 2008 assessment where 7 of 21 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 320 to 1500 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_JOR01A06 / Jordan Creek / The mainstem waters of Jordan Creek (RD24).	4A	Escherichia coli	2006	L	6.00

Jordan Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.00**

Sources:

- Municipal (Urbanized High Density Area)
- Residential Districts
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-03-BAC** **Beaver Creek**

Cause Location: The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir.

City / County: Franklin Co. Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreational Use remains impaired for these 2006 303(d) Listed 5.30 mile waters. The impairment is extended 6.97 miles upstream from inundation of Martinsville Reservoir. Impairment results described below for station 4ABAU011.17 for a total of 12.27 impaired miles. The Dan River Bacteria TMDL is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. This bacteria impairment is nested within the Dan River Bacteria TMDL. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov <http://www.deq.virginia.gov/> .

4ABAU011.17 (Off Rt. 922 upstream of the Rt. 657 crossing) 3 of 3 E.coli samples exceed during the 2018 data window. In 2016, 2 of 2 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml during the 2016 IR. All samples exceed at greater than 800 cfu/100 ml.

4ABAU000.94- (Rt. 220 Business Bridge) There are no additional data within the 2012, 2014 or 2016 data windows. Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 10 of 24 samples within the 2012 data window. Exceeding values range from 250 to greater than 2000 cfu/100 ml. The 2008 and 2010 assessments find E.coli exceeds the instantaneous criterion in 13 of 21 samples. Exceeding values range from 380 to greater than 2000 cfu/100 ml.

4ABAU000.25- (Off Koehler Rd.) E.coli bacteria exceed the instantaneous criterion in 3 of 12 observations within the 2016 data window. Values in excess of the criterion range from 250 cfu/100 ml to greater than 2000.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_BAU01A06 / Beaver Creek / The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir (RD24).	4A	Escherichia coli	2006	L	5.30
VAW-L53R_BAU02A06 / Beaver Creek / Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir (RD24).	4A	Escherichia coli	2016	L	6.97

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.27**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-03-BEN** **Beaver Creek**

Cause Location: Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir.

City / County: Franklin Co. Henry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 IR reports the Aquatic Life Use impaired for 6.97 miles due to contravention of the General Standard.

4ABAU011.17- (Off Rt. 922 upstream of Rt. 657 crossing) The 2018 IR adds 2 additional VSCI surveys (2015) to the 2016 assessment VSCI surveys (2011, 2013) for a total of 6 VSCI scores averaging 37.5. Two 2011 Virginia Stream Condition Index (VSCI) surveys within the 2014 data window find continued impairment with an average score of 38.8. Taxa richness is higher in the fall and the abundance of midges (Chironomidae) higher in the spring. Sediment deposition, bank erosion, bank vegetation, and riparian buffer width scores were low in this reach. Approximately 46% of the riparian land cover in the watershed is agricultural. The benthic community is dominated by pollution tolerant organisms and appears to be affected by habitat impacts. There are no additional data within the 2010 or 2012 data windows. The 2008 Integrated Report (IR) finds the benthic community impaired from 2 2004 VSCI surveys with an average score of 51.2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_BAU02A06 / Beaver Creek / Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir (RD24).	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	6.97

Beaver Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.97**

Sources:

Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-04-BAC** **Reed Creek**

Cause Location: Reed Creek mainstem from its mouth on the Smith River upstream approximately one mile above the Rt. 609 crossing.

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This 2008 303(d) Listed water extends 4.13 miles resulting in non-support for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Reed Creek as it lies within the TMDL Watershed. Reed Creek is nested within the Dan River Bacteria TMDL. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AREE000.80 (Rt. 993 Bridge upstream of Rt. 57 Bridge) There are no additional data beyond the 2014 Integrated Report (IR). Three of 12 Escherichia coli (E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 325 to 925 cfu/100 ml within the 2014 data window. There are no additional data within the 2012 Integrated Report (IR). Four escherichia coli (E.coli) samples of 21 exceed the instantaneous criterion in both the 2008 and 2010 assessments. Exceeding values range from 300 to greater than 2000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_REE01A00 / Reed Creek / Reed Creek mainstem from its mouth on the Smith River upstream approximately one mile above the Rt. 609 crossing (RD23).	4A	Escherichia coli	2008	L	4.13

Reed Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.13**

Sources:

- Municipal (Urbanized High Density Area)
- Residential Districts
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-04-BEN** **Jones Creek, UT (XMP)**

Cause Location: Unnamed tributary (XMP) to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek.

City / County: Franklin Co. Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2006 303(d) Listed 2.04 mile Aquatic Life Use impairment remains due to contravention of the General Standard. There are no additional data beyond the 2008 assessment.

4AXMP001.85- (directly below Henry County Landfill) Bio 'IM' A single 2003 Virginia Stream Condition Index (VSCI) survey scoring spring 2003 47.1. Analysis of the benthic community data with VSCI metrics displays a difference between the benthic communities above and below the landfill. The community at the reference site (4AXMP002.21, VSCI avg.=72.8) was very diverse in pollution sensitive organisms and approximated what would be considered Ecoregion reference quality for a first order stream in the Piedmont area. Two metrics that show the difference in pollution sensitivity of the communities are the Taxa Richness and EPT metrics. EPT represents the sensitive Mayflies, Stoneflies, and Caddisflies. The reference site also had a much higher number of organisms present (159) in a similar amount of habitat sampled relative to the impact site (34).

The main physical difference between the 2 stations is the presence of large growths of sphaerotilus bacteria at the downstream site. The bacteria covered practically every part of the stream substrate including the mineral sand, gravel and cobble bottom of the stream as well as the woody debris and leaf packs in stream. This covering ranged in thickness from about 1 inch in high velocity areas to approximately 1 foot in pool habitats. This bacterium typically thrives in waters impacted by organic effluents and is often referred to as "sewage fungus." This bacterium was not observed at the reference site. Such a large presence of this bacterium indicates a pollution impact. More recent investigations have found that sphaerotilus bacteria is common in waters impacted by landfill leachate indicating that excessive growths are related to volatile organic chemicals. The bacterial growth has an impact on the abundance of benthic organisms.

4AXMP001.26- 1 fall 2006 survey scoring 57.4. Several metrics indicated a substantial difference in the pollution sensitivity of the communities at this station versus the upstream site. This sample also required 3.5 times more effort than the upstream site to collect an equivalent number of organisms, displaying a large difference in macro invertebrate abundance.

4AXMP000.44 4AXMP000.44 (Dwnstr. of Henry Co. Landfill off Rt. 663; Clearview Dr.) Bio 'J' 4 VSCI surveys (2013-2014) with an average score of 52.3. This stream begins upslope of the Martinsville Sanitary Landfill then flows through a pipe that is buried below the landfill. In 2003 the stream appeared to be impacted by landfill leachate. Volatile organic chemicals (VOCs) were found in both groundwater and surface water samples collected down gradient of the landfill.

This new station was sampled to determine the status of the benthic community at a location well beyond the landfill boundary and above the confluence with Jones Creek as well as to validate the assessment of upstream station (4AXMP001.26) sampled in the fall of 2006. The VSCI scores from 2014 were much better than those from 2013 but the 2 year average is below 60. DEQ is going to reserve judgment at this time and plans to sample this site in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_XMP01A06 / Jones Creek, UT (XMP) / Unnamed tributary to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek (RD24).	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	2.00

Jones Creek, UT (XMP)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.00**

Sources:

Landfills

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-05-BAC** **Daniels Creek**

Cause Location: Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

This initial 2016 Recreational Use impairment is a result of escherichia coli (E.coli) excursions of the WQS instantaneous criterion. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Daniels Creek bacteria impairment is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ADEL001.35 (Off Rt. 619 (Daniels Cr. Rd) on Miles Rd.) No new data beyond the 2016 data window where 6 of 6 E.coli samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. Excursions range from 1,625 cfu/100 ml to 24,196.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_DEL01A10 / Daniels Creek / Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).	4A	Escherichia coli	2016	L	3.99

Daniels Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.99**

Sources:

Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Unspecified Urban Stormwater
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-05-BEN** **Beaver Creek**

Cause Location: The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir (RD24).

City / County: Henry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2016 Integrated Report finds the benthic community impaired due to contravention of the WQS General Standard. The Virginia Stream Condition Index (VSCI) is a multi-metric statewide stream index of biotic integrity based on data collected from minimally impacted reference sites throughout Virginia. This index shows that an VSCI score of 60.0 is the lower limit for unimpaired conditions in a benthic community.

4ABAU000.25 (Off Koehler Rd.) Bio 'IM' 6 Virginia Stream Condition Index (VSCI) surveys (2013-2015) with an average score of 34.3. The benthic community consisted of more pollution tolerant taxa and less diversity in the Spring surveys. Total Habitat Scores were in the Marginal to low Sub-Optimal range. Embeddedness and Substrate scores were the lowest ranging from marginal to poor and are likely the dominant factors in the negative effect on the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_BAU01A06 / Beaver Creek / The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir (RD24).	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	5.30

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.30**

Sources:

Clean Sediments	Sediment Resuspension (Clean Sediment)	Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-06-BAC** **Jones Creek, UT (XMP)**

Cause Location: Unnamed tributary to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek (RD24).

City / County: Franklin Co. Henry Co. Martinsville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2016 Listed water extends 2.00 miles resulting in non-support for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Jones Creek unnamed tributary (XMP) as it lies within the TMDL Watershed. The Jones Creek unnamed tributary (XMP) is nested within the Dan River Bacteria TMDL. The TMDL and allocations can be viewed at http://www.deq.virginia.gov

4AXMP000.44 (Dwnstr. Of Henry Co. Landfill off Rt. 663; Clearview Dr.) 5 of 11 E.coli samples exceed the instantaneous criterion within the 2016 data window. Values in excess of the 235 cfu/10 ml criterion range from 300 to greater than 2000 cfu/10 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_XMP01A06 / Jones Creek, UT (XMP) / Unnamed tributary to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek (RD24).	4A	Escherichia coli	2016	L	2.00

Jones Creek, UT (XMP)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.00**

Sources:

- Municipal (Urbanized High Density Area)
- Residential Districts
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-06-BEN** **Daniels Creek**

Cause Location: Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).

City / County: Henry Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to contravention of the WQS General Standard. The Virginia Stream Condition Index (VSCI) is a multi-metric statewide stream index of biotic integrity based on data collected from minimally impacted reference sites throughout Virginia. This index shows that an VSCI score of 60.0 is the lower limit for unimpaired conditions in a benthic community.

4ADEL001.35 (Off Rt. 619 (Daniels Cr. Rd) on Miles Rd.) The 2016 assessment finds the benthic community impaired from 4 of 4 Virginia Stream Condition Index (VSCI) surveys with an average score of 18.6. Habitat survey scores were low in this reach due to urban impacts to the watershed. The benthic community is dominated by pollution tolerant organisms. Pollution sensitive organisms were not present in some samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_DEL01A10 / Daniels Creek / Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	3.99

Daniels Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.99**

Sources:

Municipal (Urbanized High Density Area)	Streambank Modifications/destabilization	Unspecified Urban Stormwater	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L53R-07-BEN** **Jones Creek**

Cause Location: Jones Creek mainstem upstream to XMP confluence (RD24).

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This 2016 initial macroinvertebrate impaired water is Listed for contravention of the WQS Aquatic Life Use General Standard. The Virginia Stream Condition Index (VSCI) is a multi-metric statewide stream index of biotic integrity based on data collected from minimally impacted reference sites throughout Virginia. This index shows that an VSCI score of 60.0 is the lower limit for unimpaired conditions in a benthic community.

4AJCR000.42 (Upstream of Rt. 220 Business) There is no additional data beyond the 2016 data window where Bio 'IM' The benthic community is impaired based on 4 Virginia Stream Condition Index (VSCI) (2013-2014) with an average score of 29.2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_JCR01A16 / Jones Creek / Jones Creek mainstem upstream to XMP confluence (RD24).	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.36

Jones Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.36**

Sources:

Municipal (Urbanized High Density Area)	Unspecified Urban Stormwater	Wet Weather Discharges (Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L54R-01-BAC** **Smith River**

Cause Location: The bacteria impairment begins at the Martinsville Dam (Martinsville West Quad) and extends downstream to the VA/NC State Line on the Northwest Eden Quad.

City / County: Henry Co. Martinsville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the Smith River as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Station 4ASRE022.71 is a 1999 Federal Consent Decree Attachment B station and was not 2002 listed as impaired for fecal coliform (FC) bacteria. Only 4 of 59 samples exceeded the former 1000 cfu/100 ml instantaneous criterion for an exceedance rate of 6 percent in 2002. The 2002 303(d) Listing for 10.06 miles has been extended upstream 3.65 miles (2004 Integrated Report (IR)) and downstream 6.30 miles (2006 IR) for a total of 20.01 miles thru the 2008 Assessment.

4ASRE026.27- There are no additional data beyond the 2008 assessment where 2 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion from 21 total samples. The E.coli data indicate this station would meet delisting guidance however the range of exceeding values is from 600 to 1060 cfu/100 ml. Due to the magnitude of the exceedances and the downstream exceedances the waters remain impaired for the Recreational Use.

4ASRE022.71- (Footbridge above the Martinsville STP) There are no additional data beyond the 2004 IR where 8 of 41 FC samples exceed the former 400 cfu/100 ml instantaneous criterion. Exceeding values range from 500 to greater than 8000 cfu/100 ml. The 2004 IR 303(d) Listing extends the 2002 bacteria impairment 3.59 miles upstream from the original 303(d) Listing. Data within the 2006 data window find 3 of 17 samples in excess of the criterion with exceeding values ranging from 600 to 900 cfu/100 ml.

4ASRE021.58 (Rt. 58 Bypass Bridge, Henry Co.) There are no additional E.coli data beyond the 2008 assessment where E.coli excursions range from 300 to 1400 cfu/100 ml in 4 of 9 samples. Each exceedance is in excess of the 235 cfu/100 ml instantaneous criterion. The 2006 data window produces 3 of 17 FC samples in excess of the former 400 cfu/100 ml instantaneous criterion ranging from 1100 to greater than 8000 cfu/100 ml. The 2004 IR reports 6 of 35 FC observations exceed the instantaneous criterion. The exceeding values range from 600 to greater than 8000 cfu/100 ml.

4ASRE019.00- Both the 2010 and 2008 assessments find 6 of 20 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion within their respective data windows. Exceeding values range from 250 to 1060 cfu/100 ml. Two of 6 geometric mean calculations exceed the former (2 samples/calendar month) 126 cfu/100 ml criterion at 150 and 235. There are no additional data beyond the 2008 assessment.

4ASRE015.43 (Rt. 636 Bridge) There are no additional E.coli data beyond the 2008 assessment. Both the 2010 and 2008 assessments find E.coli exceed the instantaneous criterion in 4 of 20 samples. The range of exceedance is from 250 to 990 cfu/100 ml in each respective data window. One of 6 geometric mean calculations exceeds the former (2 samples/calendar month) 126 cfu/100 ml criterion at 306 in 2008. One excursion of the instantaneous criterion is found from 17 observations within the 2006 data window. The single exceedance is 1100 cfu/100 ml. 2004 IR findings are FC exceeds the former 400 cfu/100 ml criterion in 6 of 35 samples. Exceeding values range from 500 to 1300 cfu/100 ml.

4ASRE007.90(Rt. 622 Bridge, Morgan Ford Bridge) The 2018 IR finds 9 of 47 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions range from 241 to 1,850 cfu/100 ml. Seven of 48 escherichia coli (E.coli) exceed the WQS instantaneous criterion of 235 cfu/100 ml. Values in excess of the criterion range from 325 to 1850 cfu/100 ml. 2014 cycle data produce 5 of 36 E.coli observations exceeding the WQS instantaneous criterion. Excessive values range from 350 to 1850 cfu/10 ml. E.coli exceedances of the WQS instantaneous criterion range from 250 to 1500 cfu/100 ml from 7 of 36 samples within the 2012 data window. The 2010 data window finds 8 of 33 E.coli samples exceed the instantaneous criterion. Values in excess of the criterion range from 250 to 1700 cfu/100 ml. 2008 E.coli exceedances of the instantaneous criterion range from 250 to 600 cfu/100 ml from 6 of 21 samples. The 2006 IR reports 6 of 48 FC samples exceed the former WQS 400 cfu/100 ml instantaneous criterion with exceedances ranging from 600 to 950 cfu/100 ml.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_SRE01A00 / Smith River / Smith River mainstem from the Home Creek mouth downstream to VA/NC State Line (RD30).	4A	Escherichia coli	2008	L	3.19
VAW-L54R_SRE02A00 / Smith River / The mainstem Smith River located between the Turkeypen Branch mouth downstream to the Home Creek mouth (RD30).	4A	Escherichia coli	2008	L	3.11
VAW-L54R_SRE03A00 / Smith River / Smith River mainstem from the Leatherwood Creek mouth downstream to the confluence of Turkeypen Branch (RD30).	4A	Escherichia coli	2008	L	4.67
VAW-L54R_SRE03A02 / Smith River / Smith River mainstem from the Marrowbone Creek mouth downstream to the confluence of Leatherwood Creek (RD26).	4A	Escherichia coli	2008	L	1.74
VAW-L54R_SRE04A00 / Smith River / The mainstem Smith River located between the HCPSA Lower Smith River STP and the confluence of Marrowbone Creek (RD26).	4A	Escherichia coli	2008	L	0.39
VAW-L54R_SRE05A00 / Smith River / The mainstem Smith River located between the Martinsville City STP outfall downstream to the Henry County PSA Lower Smith STP outfall (RD26).	4A	Escherichia coli	2008	L	3.27
VAW-L54R_SRE06A00 / Smith River / The mainstem Smith River located between the Martinsville Dam downstream to Martinsville City STP outfall (RD26).	4A	Escherichia coli	2008	L	3.65

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**20.02**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L54R-01-BEN** **Smith River**

Cause Location: The benthic impairment begins near the Martinsville Dam and extends downstream to the mouth of Turkeypen Creek.

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Smith River General Standard - Benthic TMDL received U.S. EPA approval on 1/13/2011 for a phased approach. Federal IDs are 39703, 39705, 39706 and 39707. Phase I seeks to define and identify stressors to the benthic community beyond general identification. The 2012 assessment delisted the benthic impairment for 3.59 miles (Assessment Unit VAW-L54R_SRE06A00/Fed ID 39705). The former delisting is based on Virginia Stream Condition Index (VSCI) surveys from stations 4ASRE024.30 and 4ASRE022.90 upstream of the Martinsville STP. Benthic data from station 4ASRE024.30 show a decline during the 2016 data window and result in the return of 3.65 miles to impaired status. The increase of 0.06 miles from 2012 are due to the 2014 cycle GIS mapping conversion of the National Hydrography Dataset (NHD) from 1:100K scale to 1:24K scale.

The 1998 Aquatic Life Use impairment remains for these 13.71 mile waters. Two municipal facilities have closed as a result of industrial plant closings in the Martinsville/Henry County area. Greatly reduced influent chloride levels from industrial inputs to the Martinsville STP are a result. An earlier 1998 Corbicula study indicates chlorides may have impacted the benthos. However, the benthic community impairment remains. Stations listed below are downstream of 2 hydroelectric dams resulting in daily fluctuations of stream flow and temperature.

4ASRE024.30 (Off Frith Rd. downstream of railroad trestle) Bio 'IM' 12VSCI surveys (2009-2014). The Spring seasonal averages scored an average of 17 points below the impairment threshold of VSCI <60 while the Fall seasonal averages scored an average of 8 points above the impairment threshold. Overall, there is a decline in the VSCI scores within the 2016 data window. Given the range of variability between seasonal scores and the decline in scores during this assessment period, this station is assessed Impaired. Recent emergency sewer repairs upstream of this site may contribute to improved conditions in the future.

4ASRE022.90 (Downstream of Machine Br. mouth) 11 VSCI surveys show non-impaired conditions with an average score of 62.4. The fall 2013 score (55.90) and 2014 spring score (36.50) indicate a slight decline in the benthic community and recovery with a 2014 fall score of 63.0. However with the most recent decline of scores at 4ASRE024.30 these waters return to impaired status as well.

4ASRE022.30 (below the Martinsville STP) Bio 'IM' No additional VSCI samples within the 2018 IR data window. Ten VSCI surveys spanning the 2016 data window (2009-2014) find benthic impairment with an average score of 58.6. Eleven VSCI surveys (2007 thru 2012; 2014 data window) with an average 6 year score of 57.3 and 2 year score of 63.9. Bio 'IM' 2012 benthic collections find impairment from 7 VSCI surveys (2005 thru 2010) 6 of which scored less than the 60 threshold with an average 6 year score of 53.52 and 2 year score of 56.47. Seven VSCI surveys (2003 thru 2008 - 2010 data window) score an average of 52.0 and 2001 thru 2006 - 2008 data window) of 51.3.

Historical data show the VSCI scores over the past 6 years (2016 data window) are higher in the spring than in the fall. In the last 2 years, the Fall scores have been slightly higher than the Spring scores. The Fall 2011 and Spring 2012 scores (75.29 and 68.66, respectively) indicate the best water quality (Non-Impaired or >60 VSCI score) at this station since it was established in 1997. The historical data show a slight improvement in VSCI scores. Similar to other stations on the Smith River, these data indicate improvements and declines during the assessment period. However, the data indicate a decline in Fall 2012 to an impaired VSCI score of 52.63. Historical data also show that the benthic community at this site typically consisted of more pollution tolerant taxa in the spring. Point and non-point source pollution (sediment) appear to affect the river. Previous assessments find this station shows the least improvement of the stations sampled for the Smith River TMDL. The 2008 samples show an improvement in the community from the sample collected in 2007. The fall 2005 survey indicates a community dominated by the moderately tolerant caddisfly (Hydropsychidae) an indication of organic and nutrient pollution. Improvement in the operation of the Martinsville WWTP may be responsible for the increasing assessment scores since 2001.

4ASRE019.00 (above the Marrowbone Creek mouth) Bio 'IM' The 2016 Integrated Report (IR) finds 11 VSCI surveys (2009-2014) with an average 6 year score of 54.9 and 2 year score of 53.5. In the Spring of 2012, the highest VSCI score (68.59) was recorded, since then scores have declined. Eleven VSCI surveys (2007-2012; 2014 data window) with an average 6 year score of 54.3 and 2 year score of 61.2. Nine VSCI surveys (2005-2010; 2012 data window) with an average 6 year score of

49.58 and 2 year score of 49.71. Seven VSCI surveys score an average (2003 thru 2008 - 2010 data window) of 46.8 and (2001 thru 2006 5 surveys 2008 data window) score an average 42.4.

Point and non-point source pollution (sediment) from land use conversion throughout the watershed also appear to affect the river. The dominant family observed has typically been the moderately tolerant caddisfly Hydropsychidae (an indication of organic and nutrient pollution). In the most recent surveys, Hydropsychidae and Simuliidae dominated the samples. The numbers of these individuals per sample appears to be declining. The Fall 2009 non-impaired sample had the largest percentage (27.84%) of mayflies (VSCI=62.0). The fall 2008 VSCI score (58.22) had 13.22% mayflies. In the fall 2001 survey, the numbers of sensitive insects in the orders Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies) decreased and the number of pollution tolerant organisms increased relative to earlier surveys. The 2007 and 2008 surveys report Hydropsychidae and other nutrient/organic pollution tolerant families dominate the samples. This station is downstream of the Martinsville and former Lower Smith River (Henry County PSA) WWTPs. The closure of the Lower Smith River Wastewater Treatment Plant (just upstream of this station) in November 2005 did not appear to have a significant affect on the benthic community.

4ASRE015.43 (Rt. 636 Bridge) Bio 'IM' 9 (2011-2014, 2016) VSCI surveys during the 2018 data window average 59.7. The 2016 data window reports 11 VSCI surveys (2009-2014) with a 6 year average score of 58.0 and 2 year score of 55.7. The benthic macroinvertebrate community indicates a water quality pattern of recovery followed by years of decline. Overall water quality at this site remains impaired. Recent surveys also show that the benthic community is dominated by the tolerant organisms (Hydropsychidae, Chironomidae, Pleuroceridae and Simulidae) a possible indication of organic and nutrient pollution. The 2014 assessment reports 11 VSCI surveys (2007-2012) with an average 6 year score of 54.9 and 2 year score of 55.5. Benthic collections within the 2012 data window report 9 VSCI surveys (2005-2010) with an average 6 year score of 54.9 and 2 year score (2009-2010) of 55.5. Seven VSCI surveys (2003 thru 2008 are within the 2010 data window) scoring an average of 52.4 and (2001 thru 2006 5 surveys 2008 data window) score an average of 52.1.

This station is the furthest downstream biological monitoring site and the first site where the benthic community historically showed signs of recovery. This site has shown improvement in the fall scores since fall 2006, but a decline in the fall 2010 sample followed by a large improvement in 2011 and another decline in 2012. Non-point source urban runoff and sediment appear to affect the river. The station is located downstream of Leatherwood Creek which may be a significant source of sediment. Recent surveys show that the benthic community is dominated by the moderately tolerant caddisfly Hydropsychidae as well as Chironomidae, Pleuroceridae and Simulidae, an indication of organic and nutrient pollution. There was some improvement in the benthic community between Fall 2006 and 2009. The same affect was found with improvement in the benthic community scores between 1999 and 2001 as well (2008 data window). Improved water quality may have been the result of operational improvements at the Martinsville WWTP. However, the decline in benthic community scores in spring 2008-2010 and Fall 2008, 2010 and 2012 indicates that water quality at this site is still degraded.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_SRE03A00 / Smith River / Smith River mainstem from the Leatherwood Creek mouth downstream to the confluence of Turkeypen Branch (RD30).	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.67
VAW-L54R_SRE03A02 / Smith River / Smith River mainstem from the Marrowbone Creek mouth downstream to the confluence of Leatherwood Creek (RD26).	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	1.74
VAW-L54R_SRE04A00 / Smith River / The mainstem Smith River located between the HCPSA Lower Smith River STP and the confluence of Marrowbone Creek (RD26).	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	0.39
VAW-L54R_SRE05A00 / Smith River / The mainstem Smith River located between the Martinsville City STP outfall downstream to the Henry County PSA Lower Smith STP outfall (RD26).	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	3.27
VAW-L54R_SRE06A00 / Smith River / The mainstem Smith River located between the Martinsville Dam downstream to Martinsville City STP outfall (RD26).	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	3.65

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.72**

Sources:

- Dam or Impoundment
- Municipal (Urbanized High Density Area)
- Sediment Resuspension (Clean Sediment)
- Silviculture Harvesting

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L54R-02-BAC** **Mulberry Creek**

Cause Location: Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36°40'03"/79°50'00").

City / County: Henry Co. Martinsville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35748] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Mulberry Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMBY001.51 (Sam Lions Trail/Country Club Dr. Crossing) There is no additional data beyond the 2016 Integrated report (IR) which found the initial bacteria Listing from 4 of 12 escherichia coli (E.coli) samples in excess of the WQS instantaneous criterion of 235 cfu/100 ml. The range of exceeding values is from 275 to 500 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MBY01A10 / Mulberry Creek / Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36°40'03"/79°50'00") (RD26).	4A	Escherichia coli	2016	L	2.60

Mulberry Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.60**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L54R-02-BEN** **Machine Branch**

Cause Location: Machine Branch from its mouth on the Smith River upstream to its headwaters.

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AMCH000.53 (Clover Rd - Rt. 976 Bridge) Bio 'IM' The 2016 & 2018 Integrated Reports (IRs) find continued impaired benthic community impairment. Five Virginia Stream Condition Index (VSCI) surveys (2009-2014) report an average score of 21.9. The 2014 (IR) finds Aquatic Life Use impairment from 3 VSCI (2008-2009) surveys. The average score is 24.0. The original 2010 303(d) Listing is based on the single 2008 survey scoring 30.7. The surveys find a stressed community with low taxonomic diversity dominated by pollution-tolerant organisms. Habitat surveys indicate a stream section with substrates impacted by excessive fine sediments, severely eroded stream banks, and impacted riparian buffer strips.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MCH01A10 / Machine Branch / Machine Branch from its mouth on the Smith River upstream to its headwaters (RD26).	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.68

Machine Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.68**

Sources:

Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L54R-03-BAC** **Machine Branch**

Cause Location: Machine Branch from its mouth on the Smith River upstream to its headwaters.

City / County: Henry Co. Martinsville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Machine Branch as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMCH000.53 (Clover Rd - Rt. 976 Bridge) 4 of 13 escherichia coli samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. This initial 2016 listing of the waters shows a range of exceeding values from 259 to 591 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MCH01A10 / Machine Branch / Machine Branch from its mouth on the Smith River upstream to its headwaters (RD26).	4A	Escherichia coli	2016	L	0.68

Machine Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.68**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L54R-03-BEN** **Mulberry Creek**

Cause Location: Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36°40'03"/79°50'00").

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired as determined by the 2010 assessment.

4AMBY001.51 (Sam Lions Trail/Country Club Dr. Crossing) Bio 'IM' There are no additional data beyond the 2016 Integrated Report (IR) which found impairment from 4 Virginia Stream Condition Index (VSCI) surveys (2013-2014). The average score is 45.9. The samples are dominated by pollution tolerant organisms and show variability in the total number of taxa observed. Habitat surveys indicated the stream is impacted by eroded banks and sediment.

4AMBY001.33- Bio 'IM' A 2008 probabilistic site. Two 2008 Virginia Stream Condition Index (VSCI) surveys with an average score of 46.8 find a stressed benthic community dominated by pollution tolerant organisms. Habitat surveys indicate the stream is impacted by eroded banks, sediment deposition and a riparian zone that has almost no vegetation. There are no additional data within the 2012 or 2014 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MBY01A10 / Mulberry Creek / Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36°40'03"/79°50'00") (RD26).	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.60

Mulberry Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.60**

Sources:

- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L55R-01-BAC** **Marrowbone Creek**

Cause Location: The bacteria impairment begins at the former Henry County PSA Water Treatment Plant on Marrowbone Creek and extends downstream to Marrowbone Creek's mouth on the Smith River (Northwest Eden Quad).

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Marrowbone Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Station 4AMRR000.02 is a 1999 Federal Consent Decree Attachment B station. The 2002 impairment remains for the Recreational Use.

4AMRR000.02 (Rt. 642 Bridge) There are no additional data beyond the 2014 data window. Seven of 24 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. Exceedances range from 250 cfu/100 ml to 850 causing non-support of the Recreational Use. The 2010 and 2012 data windows report 8 of 23 E.coli samples in excess of the 235 cfu/100 ml instantaneous criterion. The 8 exceeding values range from 250 to 1410 cfu/100 ml. The 2008 assessment finds 3 of 11 E.coli exceedances ranging from 270 cfu/100 ml to 1410.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L55R_MRR01A00 / Marrowbone Creek / Marrowbone Creek mainstem from its mouth on the Smith River upstream to the Henry County PSA Water Treatment Plant (RD25).	4A	Escherichia coli	2008	L	4.47

Marrowbone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.47**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L56R-01-BAC** **Leatherwood Creek and Headwater Tributaries**

Cause Location: This bacteria impairment begins in the headwater tributaries and mainstem of Leatherwood Creek, excluding the West Fork of Leatherwood Creek, on downstream to its mouth on the Smith River (Martinsville East and Northwest Eden Quads).

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Leatherwood Creek as it lies within the TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Station 4ALWD002.54 is a 1999 Federal Consent Decree Attachment B station. The waters are 2002 303(d) Listed for fecal coliform bacteria where 3 of 23 samples exceed the former 1000 cfu/100 ml instantaneous criterion (1996 to 2000 data window). The 2002 original 8.45 mile 303(d) Listing is extended 25.30 miles with the 2006 Integrated Report (IR) based on results from station 4ALWD011.03. Bacteria impaired waters now total 33.75 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ALWD011.03 (Rt. 648 Bridge) There is no additional data beyond the 2014 IR which found 6 of 12 escherichia coli (E.coli) samples are in excess of the WQS 235 cfu/100 ml instantaneous criterion. Excessive values range from 350 to 850 cfu/100 ml. There are no additional data within the 2010 or 2012 data windows. The 2008 assessment finds 8 of 21 E.coli samples exceed the 235 cfu/100 ml criterion. Values in excess of the criterion range from 250 to 1600 cfu/100 ml. Two of 5 geometric mean calculations exceed the former (2 samples/calendar month) 126 cfu/100 ml criterion at 188 and 704 cfu/100 ml. 2006 E.coli results extended the bacteria impairment on the mainstem of Leatherwood upstream to include headwater tributaries (excluding the West Fork) for a total of 15.95 miles.

4ALWD002.54 (Rt. 650 Bridge) There is no new data since the 2016 data window. The 2016 assessment finds 4 of 12 E.coli samples exceed the WQS instantaneous criterion with values ranging from 250 to 450 cfu/100 ml. There are no additional data beyond the 2008 assessment where 8 of 31 E.coli samples exceed the 235 cfu/100 ml criterion. Values in excess of the criterion range from 250 to 1600 cfu/100 ml. Two of 5 geometric mean calculations exceed the former (2 samples/calendar month) 126 cfu/100 ml criterion at 188 and 704 cfu/100 ml

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L56R_LWD01A00 / Leatherwood Creek / Leatherwood Creek mainstem from its mouth on the Smith River upstream to an unnamed tributary's confluence with Leatherwood approximately 0.1 miles upstream of the Rt. 620 crossing (RD29).	4A	Escherichia coli	2008	L	5.44
VAW-L56R_LWD02A00 / Leatherwood Creek / Leatherwood Creek mainstem from an unnamed tributary's confluence with Leatherwood approximately 0.1 miles upstream of the Rt. 620 crossing on upstream to the Martinsville City water intake (RD29).	4A	Escherichia coli	2008	L	3.01
VAW-L56R_LWD02B14 / Leatherwood Creek / Leatherwood Creek from the Martinsville City intake upstream to West Fork Leatherwood Creek confluence and tributaries to points 5 miles upstream (RD29).	4A	Escherichia coli	2006	L	0.03
VAW-L56R_LWD03A00 / Leatherwood Creek / Leatherwood Creek mainstem and tributaries from the mouth of West Fork Leatherwood Creek to points 5 miles upstream Class III sec. 4c PWS (RD27).	4A	Escherichia coli	2006	L	25.30

Leatherwood Creek and Headwater Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**33.78**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L56R-02-BAC** **West Fork Leatherwood Creek**

Cause Location: West Fork of Leatherwood Creek mainstem and tributaries from its mouth on Leatherwood Creek upstream to the end of WQS PWS section waters.

City / County: Henry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35752] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the West Fork Leatherwood Creek as it lies within the TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. The 2012 assessment initially finds the Recreational Use impaired due to escherichia coli (E.coli) exceedances.

4ALWF004.32 (Rt. 57 Bridge) The 2018 data window finds 3 of 11 samples exceed the 235 cfu/100 ml instantaneous E.coli criterion. Excursions range from 292-528 cfu/100 ml. The 2012 IR finds escherichia coli (E.coli) exceed the WQS 235 cfu/100 ml instantaneous criterion in 6 of 12 samples. Values in excess of the criterion range from 380 to 550 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L56R_LWF01A00 / West Fork Leatherwood Creek & Tributaries / West Fork of Leatherwood Creek mainstem and tributaries from its mouth on Leatherwood Creek to points 5 miles upstream from the Martinsville City intake on Leatherwood Creek (RD28).	4A	Escherichia coli	2012	L	23.45

West Fork Leatherwood Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.45**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L57R-01-BAC** **Dan River**

Cause Location: Dan River mainstem from the downstream most Virginia/North Carolina State Line (exiting Virginia) in Watershed L57R upstream to the Rt. 880 crossing (Virginia/North Carolina State Line entering Virginia).

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 7.38 miles of impaired waters. 4ADAN075.22 (Ambient)(Route 880 Bridge at State Line)

4ADAN075.22 (Ambient)(Route 880 Bridge at State Line) Six 37 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN04A00 / Dan River / Dan River mainstem from the downstream most Virginia/North Carolina State Line (exiting Virginia) in Watershed L57R upstream to the Rt. 880 crossing (Virginia/North Carolina State Line entering Virginia).	4A	Escherichia coli	2006	L	7.36

Dan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.36**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L57R-04-BAC** **Cascade Creek**

Cause Location: Cascade Creek mainstem from the VA/NC State Line upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 11.79 miles of impaired waters. 4ACAS001.92 (Ambient)(Route 860- near State Line)

4ACAS001.92 (Ambient) (Route 860 - near State Line) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_CAS01A00 / Cascade Creek / Cascade Creek mainstem from the VA/NC State Line upstream to its headwaters.	4A	Escherichia coli	2006	L	11.81

Cascade Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.81**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L58R-01-BAC** **Sandy River**

Cause Location: Sandy River mainstem from the Hickory Forest Creek mouth downstream to the Sandy River confluence on the Dan River.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 7.23 miles of impaired waters. 4ASRV000.20 (Ambient, TMDL Monitoring)(Route 58 Bridge)

4ASRV000.20 (Ambient, TMDL Monitoring)(Route 58 Bridge) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SRV01A00 / Sandy River / Sandy River mainstem from the Hickory Forest Creek mouth downstream to the Sandy River confluence on the Dan River.	4A	Escherichia coli	2010	L	7.22

Sandy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.22**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L58R-02-BAC** **Tanyard Creek**

Cause Location: Tanyard Creek from the confluence of Glady Fork to South Prong Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35759, 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 2.86 miles of impaired waters. 4ATRD000.04 (Ambient) (Route 855 in Soap Stone)

4ATRD000.04 (Ambient) (Route 855 in Soap Stone) two of 11 samples in excess of the instantaneous criterion.

Was listed in 2008 as Tardy Creek - correct name is Tanyard Creek

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_TRD01A06 / Tanyard Creek / From the confluence of Glady Fork to South Prong Sandy River	4A	Escherichia coli	2006	L	2.85

Tanyard Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.85**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L58R-04-BAC** **Sandy River**

Cause Location: Sandy River from its headwaters to its confluence with Bawley Branch.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

Two stations are located within the 10.79 miles of impaired waters. 4ASRV022.99 (Ambient)(Sandy River @ Wyatt Farm Road RT. 612) and 4ASRV025.40 (Ambient)(2018)(Sandy River @ Mapleton Rd.)

4ASRV022.99 (Ambient)(Sandy River @ Wyatt Farm Road RT. 612) Three of 12 samples in excess of the instantaneous criterion.

4ASRV025.40 (Ambient)(2018)(Sandy River @ Mapleton Rd.) Six of 12 samples in excess of the instantaneous criterion..

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SRV04A06 / Sandy River / From its headwaters to its confluence with Bawley Branch	4A	Escherichia coli	2006	L	10.78

Sandy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.78**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L58R-05-BAC** **Sugartree Creek**

Cause Location: Sugartree Creek from its headwaters to its mouth on Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35759, 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 6.97 miles of impaired waters. 4ASUT000.89 (Ambient)(2018)(Sugartree @ Inman Rd)

4ASUT000.89 (Ambient)(2018)(Sugartree @ Inman Rd) Three of 10 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SUT01A08 / Sugartree Creek / Sugartree Creek from its headwaters to its mouth on Sandy River	4A	Escherichia coli	2008	L	6.96

Sugartree Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.96**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L58R-06-BAC** **Stewart Creek**

Cause Location: Stewart Creek from its headwaters to its mouth on Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35759, 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 7.34 miles of impaired waters. 4ASWA002.97 (TMDL Monitoring)(Route 882)

4ASWA002.97 (TMDL Monitoring)(Route 882) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SWA01A08 / Stewart Creek / Stewart Creek from its headwaters to its mouth on Sandy River	4A	Escherichia coli	2008	L	7.34

Stewart Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.34**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L58R-07-BAC** **South Prong Sandy River**

Cause Location: South Prong Sandy River from its headwaters to the confluence with Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2018: 35759, EPA Approved 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 13.22 miles of impaired waters. 4ASSP002.44 (Rt. 841, Whispering Pines Rd.)

4ASSP002.44 (Rt. 841, Whispering Pines Rd.) - The 2018 data window finds six of 10 Escherichia coli (E.coli) samples in excess of the 235 cfu/100 ml instantaneous criterion. Excursions range from 246 to 1850 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SSP01A06 / South Prong Sandy River / From its headwaters to the confluence with Sandy River	4A	Escherichia coli	2018	L	13.22

South Prong Sandy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.22**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L59R-01-BAC** **Sandy Creek**

Cause Location: Sandy Creek mainstem from near its headwaters downstream to the confluence of Little Sandy Creek.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Sandy Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID 35758] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35758, 12/8/2008

One station is located within the 9.49 miles of impaired waters. 4ASCR007.06 (Ambient, TMDL Monitoring)(Route 746 Bridge)

4ASCR007.06 (Ambient, TMDL Monitoring)(Route 746 Bridge) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L59R_SCR02A02 / Sandy Creek / Sandy Creek mainstem from near its headwaters downstream to the confluence of Little Sandy Creek.	4A	Escherichia coli	2008	L	9.48

Sandy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.48**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-01-BAC** **Dan River**

Cause Location: Dan River from the VA/NC State Line to its confluence with Peter Creek.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

Three stations are located within the 36.91 miles of impaired waters. 4ADAN042.80 (Ambient)(2018)(Route 62 at VA/NC State Line), 4ADAN028.90 (Ambient)(Route 658 at Paces), and 4ADAN015.30 (Ambient)(Route 501 below South Boston)

4ADAN042.80 (Ambient)(2018)(Route 62 at VA/NC State Line) Three of 12 samples in excess of the instantaneous criterion.

4ADAN028.90 (Ambient) (Route 658 at Paces)11 of 36 samples in excess of the instantaneous criterion.

4ADAN015.30 (Ambient)(Route 501 below South Boston)6 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_DAN01A00 / Dan River / Dan River mainstem from VA/NC State Line downstream to watershed L60R/L62R boundary downstream of the mouth of Mineral Springs Branch.	4A	Escherichia coli	2004	L	1.83
VAW-L62R_DAN02A98 / Dan River / Mineral Springs Branch to Route 658 bridge.	4A	Escherichia coli	1998	L	11.86
VAW-L62R_DAN03A98 / Dan River / Route 658 bridge to Birch Creek.	4A	Escherichia coli	1998	L	2.80
VAW-L64R_DAN04A98 / Dan River / Birch Creek to South Boston raw water intake location.	4A	Escherichia coli	1998	L	10.56
VAW-L64R_DAN05A98 / Dan River / South Boston raw water intake location to Banister River.	4A	Escherichia coli	1998	L	6.58
VAW-L73R_DAN06A98 / Dan River / Dan River from the Banister River (watershed boundary) to the Peter Creek confluence (Kerr Reservoir)	4A	Escherichia coli	1998	L	3.30

Dan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**36.93**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-01-HG** **Dan River, Banister River and Hyco River**

Cause Location: Dan River within the state of Virginia from Schoolfield Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 bridge and Banister River up to the Banister Dam.

City / County: Danville City Halifax Co. Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov for VDH Advisories or Bans.

4ADAN054.03 [Route 265 Bridge]- The initial 303(d) Listing is based on 2007 fish tissue analysis where mercury (Hg) is found in Hg 4 Species; smallmouth bass at 0.71 ppm, flathead catfish at 0.90 ppm and 0.78 ppm and 0.38 ppm, channel catfish at 0.31 ppm, and quillback carpsucker 0.39 ppm ; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 data windows. Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.3 ppm is found in 1 species in the 2015 FT Sample collections; flathead catfish at 0.34 ppm and 4 species in the 2016 FT Sample collections; flathead catfish at 0.84 ppm and 0.64 ppm, striped bass at 0.74 ppm, 0.62 ppm, and 0.31 ppm, largemouth bass at 0.31 ppm, and smallmouth bass at 0.30 ppm

4ABAN000.50 (2007 FT/Sed)[upstream of the pipeline]- The initial 303(d) Listing is based on 2007 fish tissue analysis where mercury (Hg) is found in two species; longnose gar at 1.03ppm, 0.83ppm, and 1.09 ppm and blue catfish at 0.72 ppm, 0.83 ppm, 0.39 ppm, 0.37 ppm, 0.36 ppm, and 0.32; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 or 2018 data windows.

4ABAN008.30 (2007 FT/Sed)[near Route 614 bridge]- The initial 303(d) Listing is based on 2007 fish tissue analysis where mercury (Hg) is found in one species; blue catfish at 0.52 ppm and 0.51 ppm; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 or 2018 data windows.

4ADAN001.18 [Dan River/Kerr Reservoir near State Park] - The initial 303(d) Listing is based on 2007 fish tissue analysis where mercury (Hg) is found in three species; white crappie at 0.42 ppm and 0.39 ppm, largemouth bass at 0.36 ppm and 0.43 ppm, and flathead catfish at 0.37 ppm; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 windows. Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.3 ppm is found in 1 species in the 2015 FT Sample collections; blue catfish at 0.38 ppm and 2 species in the 2016 FT sample collections; golden redhorse sucker at 0.34 ppm and 0.32 ppm; and largemouth bass at 0.55 ppm, 0.31 ppm, and 0.30 ppm

4AHYC002.70 (2007 FT/Sed)[Hyco River near Route 58] - The initial 303(d) Listing is based on 2007 fish tissue analysis where mercury (Hg) is found in three species; largemouth bass at 1.28 ppm, 0.73 ppm, and 0.48 ppm
bowfin at 0.47 ppm, and blue catfish at 0.45 ppm and 0.44 ppm; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 or 2018 data windows.

VDH Fish Advisory - PCBs: Issued 10/27/99, revised 12/31/04 & Mercury: Issued 8/31/07
Dan River within the state of Virginia from the Brantley Steam Plant Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 bridge and Banister River up to the Banister Dam. These river segments comprise ~67 miles.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN01A00 / Dan River / Dan River mainstem from the mouth of Sandy River upstream to the Schoolfield Dam.	5A	Mercury in Fish Tissue	2010	L	1.17
VAW-L60R_DAN01A00 / Dan River / Dan River mainstem from VA/NC State Line downstream to watershed L60R/L62R boundary	5A	Mercury in Fish Tissue	2008	L	1.83

downstream of the mouth of Mineral Springs Branch.

VAW-L60R_DAN02A00 / Dan River / Dan River mainstem from Danville Northside POTW downstream to VA/NC State Line (exiting Virginia).	5A	Mercury in Fish Tissue	2008	L	2.02
VAW-L60R_DAN03A02 / Dan River / Dan River mainstem from the Brantley Steam Plant Dam downstream to the Danville Northside POTW.	5A	Mercury in Fish Tissue	2008	L	0.37
VAW-L60R_DAN04A06 / Dan River / From its confluence with Sandy River to Brantley Steam Plant Dam	5A	Mercury in Fish Tissue	2010	L	4.27
VAW-L62R_DAN02A98 / Dan River / Mineral Springs Branch to Route 658 bridge.	5A	Mercury in Fish Tissue	2008	L	11.86
VAW-L62R_DAN03A98 / Dan River / Route 658 bridge to Birch Creek.	5A	Mercury in Fish Tissue	2008	L	2.80
VAW-L64R_DAN04A98 / Dan River / Birch Creek to South Boston raw water intake location.	5A	Mercury in Fish Tissue	2008	L	10.56
VAW-L64R_DAN05A98 / Dan River / South Boston raw water intake location to Banister River.	5A	Mercury in Fish Tissue	2008	L	6.58
VAW-L71R_BAN04A00 / Banister River / Banister Lake to Burlington Industries raw water intake 2000' downstream of Route 360 bridge.	5A	Mercury in Fish Tissue	2008	L	1.39
VAW-L71R_BAN05A00 / Banister River / 2000' downstream of Rt. 360 bridge (Burlington Industries' raw water intake) to its confluence with Wolf Trap Creek.	5A	Mercury in Fish Tissue	2008	L	8.25
VAW-L71R_BAN06A08 / Banister River / Confluence of Wolf Trap Creek to its mouth on the Dan River.	5A	Mercury in Fish Tissue	2008	L	2.33
VAW-L73L_DAN07A04 / Dan River / Peter Creek Confluence to Roanoke River Confluence (Kerr Reservoir)	5A	Mercury in Fish Tissue	2008	L	######
VAW-L73R_DAN06A98 / Dan River / Dan River from the Banister River (watershed boundary) to the Peter Creek confluence (Kerr Reservoir)	5A	Mercury in Fish Tissue	2008	L	3.30
VAW-L74R_HYC01A00 / Hyco River / Route 738 Bridge to Dan River.	5A	Mercury in Fish Tissue	2008	L	6.12

Dan River, Banister River and Hyco River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,655.18**	**62.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-01-PCB** **Dan River, Banister River and Hyco River**

Cause Location: Dan River within the state of Virginia from Schoolfield Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to the VA/NC State Line and Banister River up to the Banister Dam.

City / County: Danville City Halifax Co. Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

Fish tissue data are reviewed by the VDH in making an advisory determination. A complete listing of fish tissue collection sites and associated fish tissue data are available at http://www.deq.virginia.gov. A more detailed presentation of the data can also be found using an interactive mapping application at http://www.deq.virginia.gov. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov. 2018 data window addition extends the impairment upstream on Hyco River by 17.48 miles.

4ADAN054.03 (FT/Sed)(Route 265 Bridge-downstream of Danville) 2013 four species analyzed - Flathead catfish exceeds WQS TV of 20 ppb at 235.05 ppb. Remaining species analyzed Carp at 58.81 ppb and 76.6 ppb; Blue catfish at 91.57 ppb; and Golden redhorse sucker at 42.590ppb.
2007 four species analyzed - Flathead catfish exceeds WQS TV of 20 ppb at 222.30 ppb, 130.18 ppb, and 33.24 ppb. Remaining species analyzed Channel catfish at 32.20 ppb and 38.37 ppb; Redhorse sucker at 29.85 ppb; and Carp at 20.65 ppb and 27.66 ppb.

4ADAN028.90 (FT/Sed) (near Route 658 Bridge near Paces) 2013 four species analyzed - Flathead catfish exceeds WQS TV of 20 ppb; at 283.76 ppb and 68.92 ppb. Remaining species analyzed Carp at 45.77 ppb and 69.326 ppb; Blue catfish at 55.42 ppb and 27.79 ppb; and Channel catfish at 33.926 ppb.

4ADAN015.30 (2013 FT/Sed)(near Route 501 below South Boston) 2013 three species analyzed - Blue catfish exceeds WQS TV of 20 ppb; at 118.84 ppb, 268.04 ppb and 44.04 ppb. Remaining species analyzed Carp at 71.31 ppb; Flathead catfish at 724.49 ppb and 602.72 ppb.

4ABAN000.50 (FT/Sed)(upstream of the pipeline) 2013 three species analyzed - Blue catfish exceeds WQS TV of 20 ppb; at 32.91 ppb. Remaining species analyzed Flathead catfish at 225.11 ppb; and Carp at 32.19 ppb and 54.88 ppb. 2007 three species analyzed - Longnose gar exceeds WQS TV of 20 ppb; at 172.08 ppb, 686.90 ppb, and 254.03 ppb. Remaining species analyzed Blue catfish at 115.07 ppb, 180.97 ppb, 62.57 ppb, 70.64 ppb, 87.68 ppb, 82.28 ppb, and 40.18 ppb; and Carp at 97.04 ppb, 76.16 ppb, 40.53 ppb, 27.50 ppb, and 37.69 ppb

4ABAN008.30 (FT/Sed)(near Route 614 bridge) 2013 –PCB No exceedances. 2007 three species analyzed - Flathead catfish exceeds WQS TV of 20 ppb; at 222.46 ppb. Remaining species analyzed Channel catfish at 99.31 ppb and 28.23 ppb; and Blue catfish at 199.72 ppb and 48.23 ppb

4ADAN009.93 (FT/Sed)(at mouth of Grassy Creek) 2013 four species analyzed - Flathead catfish exceeds WQS TV of 20 ppb; at 480.96 ppb and 535.55 ppb. Remaining species analyzed Carp at 50.73 ppb and 87.03 ppb; Blue catfish at 84.23 ppb and 30.06 ppb; and Golden redhorse sucker at 39.84 ppb.

4ADAN001.18 (2007 FT/Sed)(near Staunton River State Park) 2007 three species analyzed - Flathead catfish exceeds WQS TV of 20 ppb; at 357.84 ppb. Remaining species analyzed Channel catfish at 21.28 ppb, 20.95 ppb, and 51.00 ppb; and Carp at 61.70 ppb, 158.54 ppb, and 20.33 ppb.

4AHYC010.76 (Near Rt. 744 Bridge) 2013 fish tissue data finds two Channel Catfish PCB concentrations greater than DEQ's screening value of 20 ppb at 29.4 ppb and 28.1 ppb total PCB.

4AHYC002.70 (FT/Sed)(near Route 58 bridge) 2013 two species analyzed - Flathead catfish exceeds WQS TV of 20 ppb; at 77.40 ppb. Remaining species analyzed Carp at 36.12 ppb and 71.07 ppb. 2007 species analyzed - Channel catfish exceeds WQS TV of 20 ppb; at 28.88 ppb. Remaining species analyzed Blue catfish at 43.16 ppb and 51.89 ppb; and Carp at 36.80 ppb, 21.49 ppb, 23.20 ppb, 27.61 ppb, and 23.02 ppb.

VDH Fish Advisory - PCBs: Issued 10/27/99, revised 12/31/04 & Mercury: Issued 8/31/07
Dan River within the state of Virginia from the Brantley Steam Plant Dam in Danville downstream to the confluence with

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 bridge and Banister River up to the Banister Dam. These river segments comprise ~67 miles.
VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.
Eat fewer or smaller servings of fish.
Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).
Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:
Remove the skin, the fat from the belly and top and internal organs before cooking the fish.
Bake, broil or grill on an open rack to allow fats to drain away from the meat.
Discard the fats that cook out of the fish.
Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.
Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.
For more information about fish consumption advisories, including frequently asked questions go to http://www.vdh.virginia.gov/environmental-epidemiology/public-health-toxicology/fish-consumption-advisories/.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN01A00 / Dan River / Dan River mainstem from the mouth of Sandy River upstream to the Schoolfield Dam.	5A	PCB in Fish Tissue	2010	L	1.17
VAW-L60R_DAN01A00 / Dan River / Dan River mainstem from VA/NC State Line downstream to watershed L60R/L62R boundary downstream of the mouth of Mineral Springs Branch.	5A	PCB in Fish Tissue	2002	L	1.83
VAW-L60R_DAN02A00 / Dan River / Dan River mainstem from Danville Northside POTW downstream to VA/NC State Line (exiting Virginia).	5A	PCB in Fish Tissue	2006	L	2.02
VAW-L60R_DAN03A02 / Dan River / Dan River mainstem from the Brantley Steam Plant Dam downstream to the Danville Northside POTW.	5A	PCB in Fish Tissue	2006	L	0.37
VAW-L60R_DAN04A06 / Dan River / From its confluence with Sandy River to Brantley Steam Plant Dam	5A	PCB in Fish Tissue	2010	L	4.27
VAW-L62R_DAN02A98 / Dan River / Mineral Springs Branch to Route 658 bridge.	5A	PCB in Fish Tissue	2002	L	11.86
VAW-L62R_DAN03A98 / Dan River / Route 658 bridge to Birch Creek.	5A	PCB in Fish Tissue	2004	L	2.80
VAW-L64R_DAN04A98 / Dan River / Birch Creek to South Boston raw water intake location.	5A	PCB in Fish Tissue	2002	L	10.56
VAW-L64R_DAN05A98 / Dan River / South Boston raw water intake location to Banister River.	5A	PCB in Fish Tissue	2002	L	6.58
VAW-L71R_BAN04A00 / Banister River / Banister Lake to Burlington Industries raw water intake 2000' downstream of Route 360 bridge.	5A	PCB in Fish Tissue	2004	L	1.39
VAW-L71R_BAN05A00 / Banister River / 2000' downstream of Rt. 360 bridge (Burlington Industries' raw water intake) to its confluence with Wolf Trap Creek.	5A	PCB in Fish Tissue	2004	L	8.25
VAW-L71R_BAN06A08 / Banister River / Confluence of Wolf Trap Creek to its mouth on the Dan River.	5A	PCB in Fish Tissue	2004	L	2.33
VAW-L73L_DAN07A04 / Dan River / Peter Creek Confluence to Roanoke River Confluence (Kerr Reservoir)	5A	PCB in Fish Tissue	2002	L	######
VAW-L73R_DAN06A98 / Dan River / Dan River from the Banister	5A	PCB in Fish Tissue	2002	L	3.30

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

River (watershed boundary) to the Peter Creek confluence (Kerr Reservoir)

VAW-L74R_HYC01A00 / Hyco River / Route 738 Bridge to Dan River.	5A	PCB in Fish Tissue	2006	L	6.12
VAW-L74R_HYC02A06 / Hyco River / From the VA/NC State Line downstream to the Route 738 Bridge	5A	PCB in Fish Tissue	2018	L	17.48

Dan River, Banister River and Hyco River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		**1,655.18**	**80.33**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-02-BAC** **Pumpkin Creek**

Cause Location: Pumpkin Creek from the VA/NC line to the mouth on the Dan River.

City / County: Danville City Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 4.28 miles of impaired waters. 4APKP002.31 (Ambient)(Old Route 86)

4APKP002.31 (Ambient) (Old Route 86) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_PKP01A06 / Pumpkin Creek / From the VA/NC line to the mouth on the Dan River	4A	Escherichia coli	2006	L	4.28

Pumpkin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.28**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-02-BEN** **Pumpkin Creek**

Cause Location: From the VA/NC line to the mouth on the Dan River

City / County: Danville City Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4APKP002.46 (2009/2015 Bio) (Pumpkin Creek at College Park Road) The 2018 data window finds Bio 'IM' from two 2015 VSCI surveys: Spring 26.5, Fall 57.7. 2012 data window: Bio IM. Sampling station is in an urban watershed with abundant impervious surfaces. Flow regime and sedimentation seem to be affecting the benthic community negatively.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_PKP01A06 / Pumpkin Creek / From the VA/NC line to the mouth on the Dan River	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.28

Pumpkin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-03-BAC** **Cane Creek**

Cause Location: Cane Creek mainstem from its headwaters downstream to the VA/NC State Line.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 12.25 miles of impaired waters. 4ACAN000.80 (Ambient)(2018)(Cane Cr. @ Cedar Rd (NC Route 1530))

4ACAN000.80 (Ambient)(2018) (Cane Cr. @ Cedar Rd (NC Route 1530)) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_CAN1A02 / Cane Creek / Cane Creek mainstem from its headwaters downstream to the VA/NC State Line.	4A	Escherichia coli	2008	L	12.25

Cane Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.25**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-03-BEN** **Cane Creek**

Cause Location: Cane Creek mainstem from its headwaters downstream to the VA/NC State Line.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ACAN000.80 (2009/2016 Bio)(Cane Cr. @ Cedar Rd (NC Route 1530)) The 2018 data window finds Bio 'IM' from two 2016 VSCI surveys: Spring 43.7, Fall 74.0. Bank scour and sedimentation are negatively affecting the site. The fall 2015 VSCI is very promising and could indicate recovery; therefore this stream will be monitored in the future to document any improvements.

2012 data window: Bio 'IM' - Bank scour and sedimentation are negatively affecting the site.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_CAN1A02 / Cane Creek / Cane Creek mainstem from its headwaters downstream to the VA/NC State Line.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	12.25

Cane Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.25**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-04-BEN** **Rutledge Creek**

Cause Location: Rutledge Creek from its headwaters to the mouth on Pumpkin Creek

City / County: Danville City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ARUT000.45 (2009 & 2011 Bio) (Rutledge Cr @ Edmunds St, Danville) No new data since the 2016 data window:
IM - 4ARUT000.45 is located in an older suburban watershed with abundant impervious surfaces. An historic pollution event at an up gradient industrial facility may be affecting the benthic community as well.
4ARUT002.04 (2009/2014 Bio) No new data since the 2016 data window:
J - 4ARUT002.04 is located in an older suburban watershed with abundant impervious surfaces. An historic pollution event at an up gradient industrial facility may be affecting the benthic community as well. Significant seasonal variability and a single score near the impairment cutoff of 60 warrants further sampling at 4ARUT002.04

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_RUT01A12 / Rutledge Creek / Rutledge Creek from its headwaters to the mouth on Pumpkin Creek	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.37

Rutledge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.37**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L60R-05-BAC** **Dan River**

Cause Location: Dan River from its confluence with Sandy River downstream to the Danville Northside POTW

City / County: Danville City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for the original 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008. The 2018 303(d) listed waters are nested in the Dan River Bacteria TMDL.

4ADAN053.40 (Bridge located near Danville STP) The 2018 data window finds four of 11 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_DAN03A02 / Dan River / Dan River mainstem from the Brantley Steam Plant Dam downstream to the Danville Northside POTW.	4A	Escherichia coli	2018	L	0.37
VAW-L60R_DAN04A06 / Dan River / From its confluence with Sandy River to Brantley Steam Plant Dam	4A	Escherichia coli	2018	L	4.27

Dan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.64**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L61R-01-BAC** **Fall Creek**

Cause Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Fall Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID 35751] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35751, 12/8/2008

Three stations are located within the 11.97 miles of impaired waters. 4AFAL001.58 (Ambient, TMDL Monitoring)(Route 730), 4AFAL005.42 (TMDL)(Fall Cr @ Twin Arch Dr (Rt 695)), and 4AFAL006.58 (ProbAmbient)(2018)(in stream)

4AFAL001.58 (Ambient, TMDL Monitoring)(Route 730) Three of 24 samples in excess of the instantaneous criterion.

4AFAL005.42 (TMDL)(Fall Cr @ Twin Arch Dr (Rt 695)) Five of 12 samples in excess of the instantaneous criterion.

4AFAL006.58 (ProbAmbient)(2018)(in stream) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_FAL01A00 / Fall Creek / Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.	4A	Escherichia coli	2008	L	11.97

Fall Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.97**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L61R-01-BEN** **Fall Creek**

Cause Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AFAL000.92 (2007-2008, 2011-2012 Bio)(Fall Creek near E. Thomas St. (Rt. 655))
IM - AFAL000.92 exhibits significant seasonal variation. Additional data must be collected to accurately characterize the status of the stream community. VSCI scores from 2011 and 2012 indicate an unbalanced community with tolerant taxa dominating the samples. Sediment and nutrient enrichment are probable stressors to this reach.
4AFAL006.61 (2014 Probmon/2016) The 2018 data window finds Bio 'IM' from four VSCI surveys (2014, 2016) with an average score of 48.3.
IM - Bank scour and slight sedimentation were observed. Originally a PROBMON station, accessible from Rt 29 in Danville.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_FAL01A00 / Fall Creek / Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	11.97

Fall Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L61R-01-HG** **Fall Creek**

Cause Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station ID:
4AFAL000.92 (2007 FT Sampling)(Fall Creek near E. Thomas St. (Rt. 655))
Hg 2 Species

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_FAL01A00 / Fall Creek / Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.	5A	Mercury in Fish Tissue	2010	L	11.97

Fall Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**11.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L61R-02-BAC** **Lawless Creek**

Cause Location: Lawless Creek from its headwaters to its mouth at Fall Creek.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35751

The Dan River Bacteria TMDL Study (Fall Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID 35751] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35751, 12/8/2008

One station is located within the 4.72 miles of impaired waters. 4ALAW002.43 (Ambient)(2018)(Lawless Creek @ Lawless Creek Rd)

4ALAW002.43 (Ambient)(2018)(Lawless Creek @ Lawless Creek Rd) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_LAW01A04 / Lawless Creek / Lawless Creek from its headwaters to its mouth at Fall Creek.	4A	Escherichia coli	2014	L	4.71

Lawless Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.71**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L61R-02-BEN** **Lawless Creek**

Cause Location: Lawless Creek from its headwaters to its mouth at Fall Creek.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This initial 2018 Aquatic Life Use impairment listing is based on Virginia Stream Condition Index (VSCI) surveys collected at two stations on Lawless Creek.

4ALAW002.43 (Above Lawless Creek Rd.) - The 2018 data window finds Bio 'IM' from four (2013, 2015) VSCI surveys with an average score of 46.2, which is below the impairment threshold of VSCI = 60.

4ALAW002.33 (40 meters downstream of Lawless Creek Rd. bridge) - The 2018 data window finds Bio 'IM' from five VSCI surveys (2013-2015) with an average VSCI score of 50.8.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_LAW01A04 / Lawless Creek / Lawless Creek from its headwaters to its mouth at Fall Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	4.71

Lawless Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.71**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-03-BAC** **Double Creek**

Cause Location: Double Creek from its headwaters to its mouth on the Dan River.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Double Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID 35942] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35942, 12/8/2008

One station is located within the 8.89 miles of impaired waters. 4ADBC002.19 (Ambient, TMDL)

4ADBC002.19 (Ambient, TMDL) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_DBC01A98 / Double Creek / Headwaters to Dan River	4A	Escherichia coli	2008	L	8.88

Double Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.88**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-04-BAC** **Byrds Branch**

Cause Location: Byrds Branch from its headwaters to the mouth at the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Dan River Bacteria TMDL Study (Byrds Branch) received U.S. EPA approval on 12/8/2008 [Fed. ID 35750] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35750, 12/8/2008

Two stations are located within the 3.76 miles of impaired waters. 4ABYR000.80 (Hog Farm Special Study Station & Follow-up) and 4ABYR002.13 (Hog Farm Special Study Station & Follow-up)(2018)

4ABYR000.80 (Hog Farm Special Study Station & Follow-up) Two of 6 samples in excess of the instantaneous criterion.

4ABYR002.13 (Hog Farm Special Study Station & Follow-up)(2018) Three of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_BYR01A04 / Byrds Branch / Byrds Branch from its headwaters to the mouth at the Dan River	4A	Escherichia coli	2008	L	3.76

Byrds Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.76**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-05-BAC** **Big Toby Creek**

Cause Location: Big Toby Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 7.57 miles of impaired waters. 4ABTC000.60 (Ambient)(2018)

4ABTC000.60 (Ambient)(2018) Six of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_BTC01A08 / Big Toby Creek / Big Toby Creek from its headwaters to its mouth on the Dan River	4A	Escherichia coli	2008	L	7.56

Big Toby Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.56**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-06-BAC** **Powells Creek**

Cause Location: Powells Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 4.63 miles of impaired waters. 4APOW000.69 (Ambient)(2018)

4APOW000.69 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_POW01A08 / Powells Creek / Powells Creek from its headwaters to its mouth on the Dan River	4A	Escherichia coli	2008	L	4.63

Powells Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.63**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-07-BEN** **Wolfe Creek**

Cause Location: Wolfe Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AWFE000.60 (2012 Bio)
J - This stream had marginal bank stability and increased sedimentation as well as marginal habitat.
4AWFE001.57 (2006-2007 FPM)
IM - scored close to the VSCI impairment cutoff score of 60. Habitat seemed suitable in Wolfe Creek; nutrient levels may be shifting the stream community towards more tolerant taxa. Access to the site is limited by private landowners and additional sampling will be difficult.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_WFE01A08 / Wolfe Creek / Wolfe Creek from its headwaters to its mouth on the Dan River	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.86

Wolfe Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.86**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-08-BAC** **Sandy Creek**

Cause Location: Sandy Creek from its headwaters to the mouth at the Dan River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 9.41 miles of impaired waters.
4ASLC002.75 (Ambient)(2018)

4ASLC002.75 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_SLC01A04 / Sandy Creek / Sandy Creek from its headwaters to the mouth at the Dan River	4A	Escherichia coli	2012	L	9.41

Sandy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.41**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-09-BAC** **Winns Creek**

Cause Location: Winns Creek from its headwaters to the Dan River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 7.12 miles of impaired waters. 4AWNS004.02 (Ambient)(2018)

4AWNS004.02 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_WNS01A04 / Winns Creek / Winns Creek from its headwaters to the mouth at the Dan River	4A	Escherichia coli	2016	L	7.11

Winns Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.11**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-10-BAC** **Sandy Creek, Unnamed Tributary**

Cause Location: Unnamed Tributary of Sandy Creek from its headwaters to the mouth.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 2.3 miles of impaired waters. 4AXVQ000.97 (Prob Ambient)(2018)

4AXVQ000.97 (Prob Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_XVQ01A16 / Sandy Creek, Unnamed Tributary / Unnamed Tributary of Sandy Creek from its headwaters to the mouth.	4A	Escherichia coli	2016	L	2.29

Sandy Creek, Unnamed Tributary **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.29**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L62R-10-BEN** **Sandy Creek, Unnamed Tributary**

Cause Location: Unnamed Tributary of Sandy Creek from its headwaters to the mouth.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AXVQ000.77 (2013 FPM)
IM - 4AXVQ000.77 is a small stream within the PROBMON program. Access to the site is limited by private landowners and additional sampling will not be possible.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_XVQ01A16 / Sandy Creek, Unnamed Tributary / Unnamed Tributary of Sandy Creek from its headwaters to the mouth.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.29

Sandy Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L63R-01-BAC** **Birch Creek**

Cause Location: Birch Creek from its headwaters to the mouth on the Dan River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Birch Creek Bacteria TMDL Study received U.S. EPA approval on 5/26/2004 [Fed. ID 23317] and SWCB approval on 8/31/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23317, 5/26/2004

Five stations are located within the 20.14 miles of impaired waters. 4ABIR001.00 (Ambient & Birch Creek TMDL), 4ABIR004.22 (Birch Creek TMDL), 4ABIR005.34 (Birch Creek TMDL), 4ABIR011.55 (Birch Creek TMDL & Ambient)(2018), and 4ABIR014.28 (Birch Creek TMDL)

4ABIR001.00 (Ambient & Birch Creek TMDL) Six of 11 samples in excess of the instantaneous criterion.

4ABIR004.22 (Birch Creek TMDL) Five of 11 samples in excess of the instantaneous criterion.

4ABIR005.34 (Birch Creek TMDL) Six of 11 samples in excess of the instantaneous criterion.

4ABIR011.55 (Birch Creek TMDL & Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

4ABIR014.28 (Birch Creek TMDL) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_BIR01A98 / Birch Creek / From its headwaters to its mouth on the Dan River	4A	Escherichia coli	2004	L	20.15

Birch Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.15**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L63R-01-BEN** **Birch Creek**

Cause Location: Birch Creek from its headwaters to the mouth on the Dan River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABIR011.55 (2013 Bio)
IM - Unbalanced benthic community. A breached mill dam is present upstream which may negatively affect the flow regime. Moderate algae production and embeddedness indicate nutrient enrichment and sedimentation are also likely stressors.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_BIR01A98 / Birch Creek / From its headwaters to its mouth on the Dan River	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	20.15

Birch Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**20.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L63R-02-BAC** **Unnamed Tributary to Birch Creek**

Cause Location: Unnamed Tributary to Birch Creek from its headwaters to its mouth on Birch Creek

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 23317

The Birch Creek Bacteria TMDL Study received U.S. EPA approval on 5/26/2004 [Fed. ID 23317] and SWCB approval on 8/31/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23317, 5/26/2004

One station is located within the 5.35 miles of impaired waters. 4AXDK000.94 (TMDL Monitoring)

4AXDK000.94 (TMDL Monitoring) Four of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_XDK01A06 / Birch Creek, Unnamed Tributary / From its headwaters to the mouth on Birch Creek	4A	Escherichia coli	2006	L	5.35

Unnamed Tributary to Birch Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.35**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L63R-03-BAC** **Germy Creek**

Cause Location: Germy Creek from its headwaters to its mouth on Birch Creek

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 23317

The Birch Creek Bacteria TMDL Study received U.S. EPA approval on 5/26/2004 [Fed. ID 23317] and SWCB approval on 8/31/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23317, 5/26/2004

One station is located within the 5.37 miles of impaired waters. 4AGER001.17 (Ambient)(2018)

4AGER001.17 (Ambient)(2018) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_GER01A08 / Germy Creek / Germy Creek from its headwaters to its mouth on Birch Creek	4A	Escherichia coli	2014	L	5.36

Germy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.36**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L64R-01-BAC** **Lawsons Creek**

Cause Location: Lawsons Creek from its headwaters to the mouth on the Dan River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 15.54 miles of impaired waters. 4ALSN007.45 (Ambient, TMDL Monitoring)

4ALSN007.45 (Ambient, TMDL Monitoring) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_LSN01A98 / Lawsons Creek / Headwaters to Jerimy Creek	4A	Escherichia coli	2008	L	8.26
VAW-L64R_LSN02A02 / Lawsons Creek / Jerimy Creek to Dan River	4A	Escherichia coli	2012	L	7.27

Lawsons Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.53**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L64R-01-DO** **Lawsons Creek**

Cause Location: Lawsons Creek from its headwaters to its confluence with Jerimy Creek.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4ALSN007.45 (Ambient) No new data since 2010 data window:
DO - 2/12 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_LSN01A98 / Lawsons Creek / Headwaters to Jerimy Creek	5A	Oxygen, Dissolved	2010	L	8.26

Lawsons Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.26**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L64R-02-BAC** **Miry Creek**

Cause Location: Miry Creek from the Mikes Creek confluence to the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 1.12 miles of impaired waters. 4AMRY000.82 (Ambient)

4AMRY000.82 (Ambient) Six of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_MRY01A04 / Miry Creek / Miry Creek from the Mikes Creek confluence to the Dan River	4A	Escherichia coli	2006	L	1.11

Miry Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.11**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L64R-03-BEN** **Grassy Creek**

Cause Location: Grassy Creek from its headwaters to the Route 744 crossing

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AGSY004.98 (2006 FPM)
IM - Headwater stream which flows through an active cattle pasture. The stream community may be negatively impacted from sedimentation and excess nutrients. Additional monitoring needed to accurately delineate impairment.

4AGSY004.60 (2010/2014 Bio) Bio 'IM' from two 2014 VSCI surveys: Spring 23.5, Fall 46.1. IM - Significant seasonal variability and a VSCI score close to the impairment cutoff of 60. Very low flows are characteristic of this waterbody. Further sampling is required to accurately assess this waterbody. 4AGSY004.60 was sampled in response to a J assessment of an upstream PROBMON station (4AGSY004.98).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_GSY01A08 / Grassy Creek / Grassy Creek from its headwaters to the Route 744 crossing	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	0.83

Grassy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L64R-04-BEN** **Poplar Creek**

Cause Location: Poplar Creek from its headwaters to its mouth on the Dan River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4APDA000.35 (2008/2012 Bio)
Bio 'IM' from four VSCI surveys with an avg score of 41.2. Flow regime related sedimentation seems to be negatively affecting the stream community. 4APDA000.35 is located in a highly urban/industrial watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_PDA01A10 / Poplar Creek / Poplar Creek from its headwaters to its mouth on the Dan River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	4.04

Poplar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.04**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L64R-05-BEN** **Reedy Creek**

Cause Location: Reedy Creek from its headwaters to the confluence of Woods Creek.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ARAC000.92 (2008/2012 Bio)
IM - 4ARAC000.92 is located in an older suburban watershed with abundant impervious surfaces which negatively affects flows and sedimentation. There is also an unlined municipal landfill in the watershed which has historical leachate issues.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_RAC01A04 / Reedy Creek / Reedy Creek from its headwaters to the confluence of Woods Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	2.92

Reedy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.92**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L64R-06-BAC** **Stokes Creek**

Cause Location: Stokes Creek from its headwaters to its mouth on Lawsons Creek.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 2.3 miles of impaired waters. 4ASKS002.80 (Ambient)(2018)

4ASKS002.80 (Ambient)(2018) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_SKS01A08 / Stokes Creek / Stokes Creek from its headwaters to its mouth on Lawsons Creek	4A	Escherichia coli	2014	L	6.35

Stokes Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.35**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L65R-01-BAC** **Banister River**

Cause Location: Banister River from its headwaters to its confluence with Bearskin Creek.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID 33820] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33820, 11/04/2007

Two stations are located within the 11.88 miles of impaired waters. 4ABAN070.20 (Ambient & Banister River TMDL Study)(2018) and 4ABAN074.58 (TMDL Monitoring)

4ABAN070.20 (Ambient & Banister River TMDL Study)(2018) Six of 12 samples in excess of the instantaneous criterion.

4ABAN074.58 (TMDL Monitoring) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_BAN03A00 / Banister River / Banister River mainstem from the mouth of Bearskin Creek upstream to the mouth of Wet Sleeve Creek.	4A	Escherichia coli	2010	L	5.09
VAW-L65R_BAN04A00 / Banister River / Banister River mainstem from the mouth of Wet Sleeve Creek upstream to its headwaters.	4A	Escherichia coli	2008	L	6.79

Banister River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.88**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L65R-02-BAC** **Bearskin Creek**

Cause Location: Bearskin Creek from its mouth on the Banister River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33820

The Banister River Bacteria TMDL Study (Bearskin Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 34104] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34104, 11/04/2007

One station is located within the 9.57 of impaired waters. 4ABKN002.47 (Banister River TMDL Study)

4ABKN002.47 (Banister River TMDL Study) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_BKN01A00 / Bearskin Creek / Bearskin Creek from its mouth on the Banister River upstream to its headwaters.	4A	Escherichia coli	2006	L	9.57

Bearskin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.57**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L65R-02-BEN** **Bearskin Creek**

Cause Location: Bearskin Creek from its mouth on the Banister River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABKN000.52 (Ambient, Bio)
2008/2011/2012/2014 Bio -2016 data window finds five VSCI surveys with average score: 59.3. IM - Sediment and flow regime seem to affect the stream community negatively. Showing improvement in 2012 and 2014. Sedimentation still seems to be the main stressor. However, when in-stream snag habitat is present a fairly diverse benthic community is supported.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_BKN01A00 / Bearskin Creek / Bearskin Creek from its mouth on the Banister River upstream to its headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	9.57

Bearskin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.57**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L65R-03-BAC** **White Oak Creek**

Cause Location: White Oak Creek from its headwaters to its mouth.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33820

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID 33820] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33820, 11/04/2007

One station is located within the 6.37 miles of impaired waters.
4AWOA002.43 (Ambient)(2018)

4AWOA002.43 (Ambient)(2018) 10 of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_WOA01A10 / White Oak Creek / White Oak Creek from its headwaters to its mouth.	4A	Escherichia coli	2010	L	6.36

White Oak Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.36**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L65R-04-BEN** **Strawberry Creek**

Cause Location: Strawberry Creek from its headwaters to its mouth on the Banister River.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ASRW002.32 (2011 Bio)
IM - Habitat scores and taxa lists indicate sedimentation as a stressor causing an unbalanced community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_SRW02A08 / Strawberry Creek / Strawberry Creek from its headwaters to its mouth on the Banister River	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	5.96

Strawberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.96**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L66L-01-DO** **Cherrystone Reservoir**

Cause Location: Cherrystone Reservoir

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4ACRR008.32 (Lake Station)
Dissolved Oxygen - 8 / 37 Exceedance Rate
Chlorophyll a - 0/2 Samples (90% Calculated over 1 Sample Yr)
No Total Phos assessed since lake has not been treated with algaecide

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66L_CRR01A02 / Cherrystone Reservoir / Cherrystone Reservoir from its impounding structure upstream to its backwaters.	5A	Oxygen, Dissolved	2010	L	104.27

Cherrystone Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**104.27**	

Sources:

Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L66L-02-DO** **Roaring Fork Reservoir**

Cause Location: Roaring Fork Reservoir

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4ARFK000.20 (Lake Station)
Dissolve Oxygen - 3/23 Exceedance Rate
Chlorophyll a - 0/2 Samples (90% Calculated over 1 Sample Yr)
No Total Phos assessed since no algaecide used in lake.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66L_RFK01A06 / Roaring Fork Reservoir / From its headwaters to its impounding structure	5A	Oxygen, Dissolved	2008	L	19.58

Roaring Fork Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**19.58**	

Sources:

Dam or Impoundment

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L66L-02-PH** **Roaring Fork Reservoir**

Cause Location: Roaring Fork Reservoir

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Station ID:
4ARFK000.20 (Lake Station)
pH - 5/36 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66L_RFK01A06 / Roaring Fork Reservoir / From its headwaters to its impounding structure	5A	pH	2016	L	19.58

Roaring Fork Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**19.58**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L66R-01-BAC** **Cherrystone Creek**

Cause Location: Cherrystone Creek from the Cherrystone Creek Reservoir Dam to the Chatham STP outfall.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Cherrystone Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 33823] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33823, 11/04/2007

One station is located within the 5.97 miles of impaired waters. 4ACRR003.56 (Ambient)

4ACRR003.56 (Ambient) 9 of 12 samples in excess of the instantaneous criterion.
Station ID:

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66R_CRR02A00 / Cherrystone Creek / Cherrystone Creek mainstem from the Chatham STP outfall upstream to Chatham's water intake.	4A	Escherichia coli	2008	L	3.48
VAW-L66R_CRR03A00 / Cherrystone Creek / Cherrystone Creek from the town of Chatham water intake upstream to the Cherrystone Creek Dam.	4A	Escherichia coli	2008	L	2.48

Cherrystone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.96**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L66R-02-BAC** **Little Cherrystone Creek**

Cause Location: Little Cherrystone Creek from its headwaters to its mouth on Cherrystone Creek

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33823

The Banister River Bacteria TMDL Study (Cherrystone Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 33823] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33823, 11/04/2007

One station is located within the 4.84 miles of impaired waters. 4ALCC000.59 (Ambient)(2018)

4ALCC000.59 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66R_LCC01A08 / Little Cherrystone Creek / Little Cherrystone Creek from its headwaters to its mouth on Cherrystone Creek	4A	Escherichia coli	2008	L	4.83

Little Cherrystone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.83**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L66R-03-BAC** **Pole Bridge Branch**

Cause Location: Pole Bridge Branch from its headwaters to its mouth.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33823

The Banister River Bacteria TMDL Study (Cherrystone Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 33823] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33823, 11/04/2007

One station is located within the 5.02 miles of impaired waters. 4APDE002.12 (Ambient)

4APDE002.12 (Ambient) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66R_PDE01A10 / Pole Bridge Branch / Pole Bridge Branch from its headwaters to its mouth.	4A	Escherichia coli	2010	L	5.01

Pole Bridge Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.01**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L67R-01-BAC** **Banister River**

Cause Location: Banister River from its confluence with Cherrystone Creek to the backwaters of Banister Lake.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID 34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

Four stations are located within the 39.29 miles of impaired waters. 4ABAN023.28 (Ambient), 4ABAN029.81 (TMDL Monitoring), 4ABAN039.76 (Ambient)(2018), and 4ABAN053.77 (Ambient)(2018)

4ABAN023.28 (Ambient) Three of 12 samples in excess of the instantaneous criterion.

4ABAN029.81 (TMDL Monitoring) Three of 12 samples in excess of the instantaneous criterion.

4ABAN039.76 (Ambient)(2018) 7 of 35 samples in excess of the instantaneous criterion.

4ABAN053.77 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BAN01A98 / Banister River / Elkhorn Creek to Sandy Creek	4A	Escherichia coli	2004	L	8.60
VAW-L67R_BAN02A04 / Banister River / Banister River from the Pittsylvania/Halifax County line downstream to the Elkhorn Creek confluence.	4A	Escherichia coli	2012	L	1.83
VAW-L67R_BAN03A04 / Banister River / Banister River from the Stinking River confluence downstream to the Pittsylvania/Halifax County line.	4A	Escherichia coli	2012	L	7.47
VAW-L67R_BAN04A08 / Banister River / Banister River from its confluence with Cherrystone Creek to its confluence with Stinking River	4A	Escherichia coli	2016	L	16.87
VAW-L71R_BAN02A98 / Banister River / Sandy Creek to Banister Lake	4A	Escherichia coli	2004	L	4.49

Banister River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**39.26**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L67R-02-BAC** **Allen Creek**

Cause Location: Allen Creek from its headwaters to its mouth on the Banister River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID 34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

One station is located within the 5.45 miles of impaired waters. 4AALL001.13 (Ambient)

4AALL001.13 (Ambient) 8 of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_ALL01A08 / Allen Creek / Allen Creek from its headwaters to its mouth on the Banister River	4A	Escherichia coli	2008	L	6.02

Allen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.02**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L67R-03-BEN** **Elkhorn Creek**

Cause Location: Elkhorn Creek from its headwaters to its mouth.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AEKH003.18 (2001 Probabilistic Monitoring)
4AEKH003.68 (Bio)
2008/2012 Bio - IM
4AEKH003.68 was sampled to replace 4AEKH003.18. Bio 'IM' from four VSCI surveys (2012, 2015). VSCI scores average 45.7.
4AEKH003.18 was a probabilistic monitoring station located on private property. The final assessment of 4AEKH003.18 was “J”, meaning more information was needed for an accurate assessment. The remoteness of this site makes future sampling at 4AEKH003.18 unlikely.
The proximity of station 4AEKH003.68 to 4AEKH003.18 makes it a suitable surrogate for the assessment of both stations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_EKH01A04 / Elkhorn Creek / Elkhorn Creek from the Pittsylvania/Halifax County line downstream to the Banister River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	3.00
VAW-L67R_EKH02A10 / Elkhorn Creek / Elkhorn Creek from the Pittsylvania/Halifax County line upstream to its headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	9.90

Elkhorn Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L67R-04-BAC** **Bradley Creek**

Cause Location: Bradley Creek from its headwaters to its mouth on the Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID 34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

One station is located within the 6.47 miles of impaired waters. 4ABDB000.75 (Ambient)(2018)

4ABDB000.75 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BDB01A08 / Bradley Creek / Bradley Creek from its headwaters to its mouth on the Banister River	4A	Escherichia coli	2014	L	6.46

Bradley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.46**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L67R-04-BEN** **Bradley Creek**

Cause Location: Bradley Creek from its headwaters to its mouth on the Banister River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABDB000.75 (2010/2014 Bio)
IM - VSCI scores continually close to the impairment cutoff score of 60. Additional sampling yielded lower scores. Loose, soft sand/sediment dominated stream bottom and banks.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BDB01A08 / Bradley Creek / Bradley Creek from its headwaters to its mouth on the Banister River	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	6.46

Bradley Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.46**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L67R-05-BAC** **Bye Creek**

Cause Location: Bye Creek from its headwaters to its mouth on the Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID 34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

One station is located within the 7.3 miles of impaired waters. 4ABYE000.85 (Ambient)(2018)

4ABYE000.85 (Ambient)(2018) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BYE01A08 / Bye Creek / Bye Creek from its headwaters to its mouth on the Banister River	4A	Escherichia coli	2014	L	7.29

Bye Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.29**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L68R-01-BAC** **Whitehorn Creek**

Cause Location: Whitehorn Creek mainstem from its mouth upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Whitehorn Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 33819] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33819, 11/04/2007

Two stations are located within the 15.89 miles of impaired waters. 4AWRN000.43 (Ambient, TMDL Monitoring)(2018) and 4AWRN000.43 (Ambient, TMDL Monitoring)(2018)

4AWRN000.43 (Ambient, TMDL Monitoring)(2018) Five of 11 samples in excess of the instantaneous criterion.

4AWRN000.43 (Ambient, TMDL Monitoring)(2018) Six of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L68R_WRN01A00 / Whitehorn Creek / Whitehorn Creek mainstem from its mouth upstream to the confluence with Georges Creek	4A	Escherichia coli	2006	L	0.78
VAW-L68R_WRN02A06 / Whitehorn Creek / From its headwaters to the confluence with Georges Creek	4A	Escherichia coli	2006	L	15.10

Whitehorn Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.88**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L68R-01-BEN** **Whitehorn Creek**

Cause Location: Whitehorn Creek mainstem from its confluence with Georges Creek upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AWRN005.50 (2009/2013/2016 Bio) 2008 data window finds Bio 'IM' from four VSCI surveys (2013, 2016) averaging 51.1. Exhibits significant seasonal variation. Additional data were collected to accurately characterize the stream community. 2013 data are dominated by tolerant Chironomidae taxa and may indicate sediment as a probable stressor.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L68R_WRN02A06 / Whitehorn Creek / From its headwaters to the confluence with Georges Creek	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	15.10

Whitehorn Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L69R-01-BAC** **Stinking River**

Cause Location: Stinking River mainstem from its mouth on the Banister River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Stinking Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 33822] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33822, 11/04/2007

Two stations are located within the 14.15 miles of impaired waters. 4ASNE005.30 (Ambient, TMDL Monitoring)(2018) and 4ASNE010.46 (TMDL Monitoring)

4ASNE005.30 (Ambient, TMDL Monitoring)(2018) One of 12 samples in excess of the instantaneous criterion.

4ASNE010.46 (TMDL Monitoring) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L69R_SNE01A00 / Stinking River / Stinking River mainstem from its mouth on the Banister River upstream to its headwaters.	4A	Escherichia coli	2008	L	14.15

Stinking River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.15**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L70R-01-BAC** **Sandy Creek**

Cause Location: Sandy Creek from its confluence with Pine Creek to its mouth on the Banister River.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Sandy Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID 33821] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33821, 11/04/2007

Two stations are located within the 20.47 miles of impaired waters. 4ASNA000.20 (Ambient)(2018) and 4ASNA015.30 (Ambient)

4ASNA000.20 (Ambient)(2018) Five of 17 samples in excess of the instantaneous criterion.

4ASNA015.30 (Ambient) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_SNA01A00 / Sandy Creek / Near the Pittsylvania/Halifax County line to mouth on Banister River	4A	Escherichia coli	2014	L	14.56
VAW-L70R_SNA01B10 / Sandy Creek / Sandy Creek from its confluence with Pine Creek to near the Halifax/Pittsylvania County line.	4A	Escherichia coli	2010	L	5.89

Sandy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.45**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Upstream Impoundments (e.g., PI-566 NRCS Structures)
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L70R-02-BEN** **Sweden Fork**

Cause Location: Sweden Fork from its headwaters to the mouth.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ASDE004.07
Bio 'IM' from two 2014 VSCI surveys averaging 52.6.

4ASDE002.18 (2012 FPM/2014)
No additional data since the 2016 data window: Bio 'IM' from three VSCI surveys (2012, 2014) averaging 38.9. This site is on private property and was sampled as part of the Probabilistic Monitoring program, therefore it will not be revisited. The stream had relatively unstable banks and increased sediment deposition. There was a large beaver dam just downstream of the reach in fall 2012 in addition to several smaller beaver dams throughout the sampling reach.

4ASDE002.65 (2010 FPM)
J - VSCI scores close to the impairment cutoff of 60. Further sampling is required to accurately assess this waterbody.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_SDE01A12 / Sweden Fork / From its headwaters to the mouth	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	8.63

Sweden Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.63**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L70R-03-BEN** **Bar Branch**

Cause Location: Bar Branch from its headwaters to its mouth.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABAR000.32 (2012/2014 Bio) No additional data beyond the 2016 data window:
IM - 4ABAR000.32 exhibits great seasonal variability with the fall sample scoring near the impairment threshold of 60. Habitat scores indicate sediment may be a stressor on the system. Additional sampling is required to accurately assess water quality within this reach.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_BAR01A06 / Bar Branch / From its headwaters to the mouth	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.03

Bar Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.03**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L70R-04-BAC** **Lick Branch**

Cause Location: Lick Branch mainstem from its mouth on Sandy Cr. to the confluence of two unnamed tributaries (RD63).

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 2018 initial Recreational Use listing of Lick Branch is Nested in the Banister River Bacteria TMDL Study (Sandy Creek) which received U.S. EPA approval on 11/4/2007 [Fed. ID 33821] and SWCB approval on 7/31/2008. The TMDL addressed 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33821, 11/04/2007

4ALBR000.37 (Route 662 / Randolph Road) The 2018 data window finds an E.coli exceedance rate of 5/12 with excursions ranging from 246 to greater than 1,000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_LBR01A18 / Lick Branch / Lick Branch mainstem from its mouth on Sandy Cr. to the confluence of two unnamed tributaries (RD63).	4A	Escherichia coli	2018	L	3.00

Lick Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.00**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L71L-01-DO** **Banister Lake**

Cause Location: Banister Lake

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

Station ID:
4ABAN012.46 (Lake)
Dissolve Oxygen - 7/52 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71L_BAN03L00 / Banister Lake / From its impounding structure to its backwaters on the Banister River	4C	Oxygen, Dissolved			351.84

Banister Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**351.84**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L71R-04-BAC** **Banister River**

Cause Location: Banister River from Banister Lake Dam to its mouth on the Dan River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 7/8/2013 [Fed. ID 52942] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52942, 7/8/2013

Two stations are located within the 11.99 miles of impaired waters. 4ABAN005.58 (Ambient)(2018) and 4ABAN001.86 (Ambient)

4ABAN005.58 (Ambient)(2018) 12 of 36 samples in excess of the instantaneous criterion.

4ABAN001.86 (Ambient) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_BAN04A00 / Banister River / Banister Lake to Burlington Industries raw water intake 2000' downstream of Route 360 bridge.	4A	Escherichia coli	2012	L	1.39
VAW-L71R_BAN05A00 / Banister River / 2000' downstream of Rt. 360 bridge (Burlington Industries' raw water intake) to its confluence with Wolf Trap Creek.	4A	Escherichia coli	2012	L	8.25
VAW-L71R_BAN06A08 / Banister River / Confluence of Wolf Trap Creek to its mouth on the Dan River.	4A	Escherichia coli	2008	L	2.33

Banister River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.97**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L71R-05-BAC** **Polecat Creek**

Cause Location: Polecat Creek from its headwaters to the mouth at the Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID 34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/4/2007

Two stations are located within the 9.7 miles of impaired waters. 4APEC002.42 (Ambient)(2018) and 4APEC006.49 (Ambient)

4APEC002.42 (Ambient)(2018) Three of 12 samples in excess of the instantaneous criterion.

4APEC006.49 (Ambient) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_PEC01A04 / Polecat Creek / Polecat Creek from its headwaters to the mouth at the Banister River	4A	Escherichia coli	2010	L	9.70

Polecat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.70**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L71R-05-BEN** **Polecat Creek**

Cause Location: Polecat Creek from its headwaters to the mouth at the Banister River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4APEC002.42 (2009 & 2013 Bio) 2018 data window:
Bio 'IM' from four VSCI surveys (2013, 2016) with an average score of 49.1.
IM - 4APEC002.42 exhibits seasonal variability. Spring scores are very low. Sedimentation is a likely stressor due to high embeddedness scores.
4APEC006.49 (2009/2013/2016 Bio) 2018 data window:
Bio 'IM' from four VSCI surveys (2013, 2016) averaging 43.8. IM - 4APEC006.49 has fall VSCI scores very close to the impairment cutoff score of 60. Spring scores are very low. Sedimentation is a likely stressor due to high embeddedness scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_PEC01A04 / Polecat Creek / Polecat Creek from its headwaters to the mouth at the Banister River	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	9.70

Polecat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.70**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L71R-06-BAC** **Winn Creek**

Cause Location: Winn Creek from its headwaters to the mouth on the Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Winn Creek) received U.S. EPA approval on 7/8/2013 [Fed. ID 52941] and SWCB approval on 74/4/2014 for these 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52941, 7/8/2013

One station is located within the 7.09 miles of impaired waters. 4AWNN000.99 (Ambient)

4AWNN000.99 (Ambient) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_WNN01A06 / Winn Creek / From its headwaters to the mouth on the Banister River	4A	Escherichia coli	2008	L	7.09

Winn Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.09**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L71R-07-BAC** **Gibson Creek**

Cause Location: Gibson Creek from its headwaters to its mouth on the Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 52942

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 7/8/2013[Fed. ID 52942] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52942, 7/8/2013

One station is located within the 5.26 miles of impaired waters. 4AGIB000.66 (Ambient)(2018)

4AGIB000.66 (Ambient)(2018) Two of 6 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_GIB01A08 / Gibson Creek / Gibson Creek from its headwaters to its mouth on the Banister River	4A	Escherichia coli	2014	L	5.38

Gibson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.38**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L71R-08-BAC** **Kents Creek**

Cause Location: Kents Creek from its backwaters on Banister Lake to its headwaters (RD65).

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 7/8/2013 [Fed. ID 52942] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52942, 7/8/2013. The Unnamed Tributary to Kents Creek (XVY) is nested within the Banister River TMDL Study.

4AXVY000.00 (Off Ball Park Loop) - The 2018 data window finds E.coli exceeds the 235 cfu/100 ml instantaneous criterion in five of 12 samples with excursions ranging from 243 to greater than 11,000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_KTS01A18 / Kents Creek / Kents Creek from its backwaters on Banister Lake to its headwaters (RD65).	4A	Escherichia coli	2018	L	1.89

Kents Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.89**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L72R-01-BAC** **Terrible Creek**

Cause Location: Terrible Creek from Little Terrible Creek to its mouth on Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ATRR001.92 (Ambient/Bio)(2018)
E. coli - 4/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L72R_TRR01A00 / Terrible Creek / Little Terrible Creek to Banister River	5A	Escherichia coli	2014	L	4.82

Terrible Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.82**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L72R-01-BEN** **Terrible Creek**

Cause Location: Terrible Creek from Little Terrible Creek to its mouth on Banister River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ATRR001.92 (Ambient/Bio) - The 2018 data window finds Aquatic Life Use impairment based on six VSCI surveys (2011-2012, 2016) with an average score of 55.1. 4ATRR001.92 exhibits some seasonal variability near the assessment threshold of 60. The community depends greatly on snag habitat which is limited by scoured banks and sandy bottoms. Sampling was moved downstream of the bridge in fall 2016 due to a massive beaver dam under the bridge. Beaver activity in the area may be affecting the flow regime of the stream and consequently the benthic community. Benthic macroinvertebrate community data was also collected: 2005-2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L72R_TRR01A00 / Terrible Creek / Little Terrible Creek to Banister River	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	4.82

Terrible Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.82**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L73R-01-BAC** **Aarons Creek**

Cause Location: Aarons Creek from its headwaters to the first unnamed tributary downstream of White House Road.

City / County: Halifax Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2016: 64072
The Hyco River Bacteria TMDL Study (Aarons Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID 64072] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64072, 2/3/2015

One station is located within the 9.41 miles of impaired waters. 4AAAR006.20 (Ambient)(2018)

4AAAR006.20 (Ambient)(2018) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73R_AAR02A10 / Aarons Creek / Aarons Creek from the VA/NC border to the confluence with Big Branch located downstream of White House Road.	4A	Escherichia coli	2016	L	9.40

Aarons Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.40**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L73R-02-BAC** **North Fork Aarons Creek**

Cause Location: From its headwaters to the mouth on Aarons Creek

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2016: 64072
The Hyco River Bacteria TMDL Study (Aarons Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID 64072] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64072, 2/3/2015

One station is located within the 9.75 miles of impaired waters. 4ANFA000.35 (Ambient)

4ANFA000.35 (Ambient) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73R_NFA01A06 / North Fork Aarons Creek / From its headwaters to the mouth on Aarons Creek	4A	Escherichia coli	2012	L	9.75

North Fork Aarons Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.75**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L73R-03-BAC** **Peter Creek**

Cause Location: Peter Creek from its headwaters to its confluence with the Dan River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2016: 35748
The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID 35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 6.6 miles of impaired waters. 4APET004.35 (Ambient)(2018)

4APET004.35 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73R_PET01A16 / Peter Creek / From its headwaters to its confluence with the Dan River	4A	Escherichia coli	2016	L	6.61

Peter Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.61**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L73R-03-DO** **Peter Creek**

Cause Location: Peter Creek from its headwaters to its confluence with the Dan River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4APET004.35 (Ambient) No new data since the 2016 data window:
Dissolved Oxygen - 3/12 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73R_PET01A16 / Peter Creek / From its headwaters to its confluence with the Dan River	5A	Oxygen, Dissolved	2016	L	6.61

Peter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.61**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-01-BAC** **Hyco River**

Cause Location: Hyco River from the VA/NC state line to its mouth on the Dan River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID 64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

One station is located within the 23.57 miles of impaired waters. 4AHYC016.70 (Ambient)(2018)

4AHYC016.70 (Ambient)(2018) Four of 36 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_HYC01A00 / Hyco River / Route 738 Bridge to Dan River.	4A	Escherichia coli	2008	L	6.12
VAW-L74R_HYC02A06 / Hyco River / From the VA/NC State Line downstream to the Route 738 Bridge	4A	Escherichia coli	2006	L	17.48

Hyco River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**23.60**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-03-BAC** **Coleman Creek**

Cause Location: Coleman Creek from its headwaters to its mouth on the Hyco River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID 64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

Two stations are located within the 8.49 miles of impaired waters. 4ACLB005.17 (Hog Farm Special Study & Follow-up)(2018) and 4ACLB007.78 (Hog Farm Special Study & Follow-up)

4ACLB005.17 (Hog Farm Special Study & Follow-up)(2018) One of 6 samples in excess of the instantaneous criterion.

4ACLB007.78 (Hog Farm Special Study & Follow-up) Three of 6 Insufficient Data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_CLB01A06 / Coleman Creek / From its headwaters to its mouth on the Hyco River	4A	Escherichia coli	2008	L	8.48

Coleman Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.48**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-03-BEN** **Coleman Creek**

Cause Location: Coleman Creek from its headwaters to its mouth on the Hyco River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Coleman Creek Sediment TMDL for a Benthic Impairment received U.S. EPA approval on 2/3/2015 [Fed. ID 63928] and SWCB approval on 12/11/2014 for this 2008 303(d) Listed impairment to the benthic community.

Station IDs:
4ACLB001.90 (2006 Probmon) No new data since 2008 data window:
Impaired Benthic Assessment - Lack of suitable habitat is negatively affecting the stream community.
4ACLB004.14 (2012 Bio) No new data since 2014 data window:
IM - Beaver dam downstream. Very slow-moving water. Habitat rather lacking and livestock have access upstream of bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_CLB01A06 / Coleman Creek / From its headwaters to its mouth on the Hyco River	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	8.48

Coleman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.48**

Sources:

Clean Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-03-DO** **Coleman Creek**

Cause Location: Coleman Creek from its headwaters to its mouth on the Hyco River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station IDs:
4ACLB001.90 (FPM/TMDL) No new data since 2014 data window:
DO - 5/12 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_CLB01A06 / Coleman Creek / From its headwaters to its mouth on the Hyco River	5A	Oxygen, Dissolved	2014	L	8.48

Coleman Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-04-BAC** **Big Bluewing Creek**

Cause Location: Big Bluewing Creek from the VA/NC state line to its mouth on the Hyco River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2016: 64076

The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID 64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

One station is located within the 11.24 miles of impaired waters. 4ABLU002.02 (Ambient)(2018)

4ABLU002.02 (Ambient)(2018) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_BLU01A08 / Big Bluewing Creek / Big Bluewing Creek from the VA/NC state line to its mouth on the Hyco River	4A	Escherichia coli	2008	L	11.23

Big Bluewing Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.23**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-04-DO** **Big Bluewing Creek**

Cause Location: Big Bluewing Creek from the VA/NC state line to its mouth on the Hyco River

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4ABLU002.02 (Ambient) No new data since the 2014 data window:
Dissolved Oxygen - 2/11 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_BLU01A08 / Big Bluewing Creek / Big Bluewing Creek from the VA/NC state line to its mouth on the Hyco River	5A	Oxygen, Dissolved	2008	L	11.23

Big Bluewing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**11.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-05-BEN** **Bowes Branch**

Cause Location: Bowes Branch from the VA/NC State Line to its confluence with the Hyco River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABOS000.13 (2004 FPM)
IM - Segment affected by beaver activity. Suitable habitat was limited for the maintenance of an adequate stream community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_BOS01A06 / Bowes Branch / From the VA/NC State Line to its confluence with the Hyco River	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.44

Bowes Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.44**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-06-BAC** **Mayo Creek**

Cause Location: Mayo Creek from the VA/NC border to its confluence with Hyco River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2016: 64076
The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID 64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

One station is located within the 4.93 miles of impaired waters. 4AMYO001.48 (Ambient)(2018)

4AMYO001.48 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_MYO01A04 / Mayo Creek / Mayo Creek from the VA/NC border to its confluence with Hyco River	4A	Escherichia coli	2016	L	4.93

Mayo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.93**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-07-BAC** **Powells Creek**

Cause Location: Powells Creek from its headwaters to the confluence with an unnamed tributary upstream of NC Route 1325. (Virginia Portion of Powells Creek)

City / County: Halifax Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2016: 64076
The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID 64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

One station is located within the 4.65 miles of impaired waters. 4APWL001.11 (Ambient)(2018)

4APWL001.11 (Ambient)(2018) Three of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_PWL01A10 / Powells Creek / Powells Creek from its headwaters to the confluence with an unnamed tributary upstream of NC Route 1325.	4A	Escherichia coli	2016	L	4.65

Powells Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.65**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L74R-08-BEN** **Little Bluewing Creek**

Cause Location: Little Bluewing Creek mainstem from its mouth on Big Bluewing Cr. to its headwaters in Halifax Co.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2018 data window produces this initial Aquatic Life Use listing for Little Bluewing Creek.

4ALWN000.08 (Rt. 740/Wilson Rd) Bio 'IM' from two 2015 VSCI surveys: Spring 41.5, Fall 50.6. The high numbers of Chironomids (blackfly larvae) and Chuematopsyche (netspinning caddisfly larvae) in spring indicate a nutrient or organic pollution problem.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_LWN01A18 / Little Bluewing Creek / Little Bluewing Creek mainstem from its mouth on Big Bluewing Cr. to its headwaters in Halifax Co. (RD73).	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	7.92

Little Bluewing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.92**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L75L-01-PCB** **Kerr Reservoir**

Cause Location: Kerr Reservoir from the John H. Kerr dam to its backwaters, excluding the Dan River portion.

City / County: Halifax Co. Mecklenburg Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

VDH Fish Advisory - PCBs: Issued 7/24/98 , revised 8/31/07 & Mercury: Issued 8/31/07
Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Creek up to Rough Creek Road (State Route 695) near Rough Creek.
VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.
Eat fewer or smaller servings of fish.
Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).
Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:
Remove the skin, the fat from the belly and top and internal organs before cooking the fish.
Bake, broil or grill on an open rack to allow fats to drain away from the meat.
Discard the fats that cook out of the fish.
Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.
Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.
For more information about fish consumption advisories, including frequently asked questions go to http://www.vdh.virginia.gov/environmental-epidemiology/public-health-toxicology/fish-consumption-advisories/.

4AROA129.95 (near Bus Route 29 Bridge near Altavista Gage) 2013 three species exceeded VDH lower level of concern (50 ppb); Flathead catfish, channel catfish, and Carp. 2006 one species exceeded VDH upper level of concern (500 ppb); carp. 2006 six species exceeded VDH lower level of concern (50 ppb); Smallmouth bass, Rock bass, Redbreast sunfish, Channel catfish, Carp, Redhorse sucker.

4AROA108.09 (near Long Island) 2013 one species exceeded VDH upper level of concern (500 ppb); Flathead catfish. Four species exceeded VDH lower level of concern (50 ppb); Channel catfish, Carp, Shorthead redhorse sucker, and gizzard shad. 2006 one species exceeded VDH upper level of concern (500 ppb); carp. Three species exceeded VDH lower level of concern (50 ppb); Smallmouth bass, Channel catfish, Carp, Redhorse sucker.

4AROA097.07 (Route 501 at Brookneal) -2013 two species exceeded VDH upper level of concern (500 ppb); Blue catfish and Flathead catfish. Four species exceeded VDH lower level of concern (50 ppb; striped bass, Blue catfish, carp, and Channel catfish. 2006 one species exceeded VDH upper level of concern (500 ppb); Striped bass. Five species exceeded VDH lower level of concern (50 ppb); Striped bass, Black crappie, Channel catfish, Carp, and Redhorse sucker.

4AROA067.91 (Route 746 Bridge) - 2006 two species exceeded VDH upper level of concern (500 ppb); Walleye, and Carp. Five species exceeded VDH lower level of concern (50 ppb); Blue catfish, Channel catfish, carp, Golden redhorse sucker, and Gizzard shad.

4AROA059.12 (Route 360 Bridge, east of Clover) - 2006 two species exceeded VDH upper level of concern (500 ppb); Striped bass and Carp. Seven species exceeded VDH lower level of concern (50 ppb); Striped bass, White bass, Largemouth bass, walleye, Channel catfish, carp, and Redhorse sucker.

4AROA036.59 (Station #B Buoy 18 Kerr Reservoir) - 2006 two species exceeded VDH lower level of concern (50 ppb); Carp and golden redhorse sucker.

4AROA028.04 (Station #B-9 Kerr Reservoir - Buoy 9) - 2006 two species exceeded VDH lower level of concern (50 ppb); Largemouth bass and Longnose gar.

4AROA004.54 (Lake Gaston near state line) - 2006 one species exceeded VDH lower level of concern (50 ppb); carp

4ACUB010.96 (near Route 40 Gaging Station) – 2006 one species exceeded VDH upper level of concern (500 ppb); carp.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

Three species exceeded VDH lower level of concern (50 ppb); channel catfish, carp, and Redhorse sucker

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75L_ROA05L98 / Kerr Reservoir / Kerr Reservoir from the John H. Kerr dam to its backwaters, excluding the Dan River portion, Bluestone Creek and Buffalo Creek.	5A	PCB in Fish Tissue	2002	L	######
VAW-L76L_BMA01A06 / Buffalo Creek / Buffalo Creek and Tribs included in the boundaries of Kerr Reservoir	5A	PCB in Fish Tissue	2002	L	358.96
VAW-L77L_BST01A06 / Bluestone Creek / Bluestone Creek and Tribs included in the boundaries of Kerr Reservoir	5A	PCB in Fish Tissue	2002	L	860.21

Kerr Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**31,884.59**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L75R-03-BAC** **Beech Creek**

Cause Location: Beech Creek from its headwaters to the VA/NC state line.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hyco River Bacteria TMDL Study (Beech Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID 64066] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64066, 2/3/2015

One station is located within the 4.7 miles of impaired waters. 4ABEE000.80 (Ambient)(2018)

4ABEE000.80 (Ambient)(2018) Four of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75R_BEE01A98 / Beech Creek / Headwaters to North Carolina Border.	4A	Escherichia coli	2008	L	4.69

Beech Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.69**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L75R-03-BEN** **Beech Creek**

Cause Location: Beech Creek from its headwaters to the VA/NC state line.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABEE000.80 (Ambient) 2018 data window finds Bio 'IM' from four VSCI surveys (2014, 2016) averaging 52.5. 2010/2014 Bio - IM - Site exhibits seasonal variability. Further sampling indicates an unbalanced benthos community. Sedimentation and nutrient enrichment are probable stressors.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75R_BEE01A98 / Beech Creek / Headwaters to North Carolina Border.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	4.69

Beech Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L76R-01-BAC** **Little Buffalo Creek**

Cause Location: Little Buffalo Creek from its headwaters to its mouth on Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Hyco River Bacteria TMDL Study (Little Buffalo Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID 64074] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for E.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64074, 2/3/2015

One station is located within the 2.51 miles of impaired waters. 4ALFF001.85 (Ambient)(2018)

4ALFF001.85 (Ambient)(2018) Six of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_LFF01A00 / Little Buffalo Creek / Headwaters to Kerr Reservoir.	4A	Escherichia coli	2004	L	2.51

Little Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.51**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L76R-01-BEN** **Little Buffalo Creek**

Cause Location: Little Buffalo Creek from its headwaters to its mouth on Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ALFF001.85 (Bio) 2018 data window finds Bio 'IM' from two 2015 VSCI surveys greater than 60.0: Spring 30.0, Fall 38.7.
2010 Bio - IM - Sedimentation and STP effluent have negatively affected the benthic community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_LFF01A00 / Little Buffalo Creek / Headwaters to Kerr Reservoir.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.51

Little Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.51**

Sources:

Municipal Point Source Discharges

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L76R-02-BAC** **Buffalo Creek**

Cause Location: Buffalo Creek from its headwaters to the backwaters of Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID: 4ABMA002.00 - The 2018 data window finds four of 36 Escherichia coli (E.coli) samples in excess of the 235 cfu/100 ml instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_BMA01A06 / Buffalo Creek / From its headwaters to the backwaters of Kerr Reservoir	5A	Escherichia coli	2018	L	5.68

Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.68**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L76R-02-BEN** **Buffalo Creek**

Cause Location: Buffalo Creek from its headwaters to the backwaters of Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4ABMA005.64 - The 2018 data window finds Aquatic Life Use impairment from two 2015 VSCI surveys: Spring 27.8 and Fall 57.1. There was a large beaver dam just upstream of the sampling reach, which may have affected the benthic community. Further sampling is required to accurately assess the waterbody.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_BMA01A06 / Buffalo Creek / From its headwaters to the backwaters of Kerr Reservoir	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	5.68

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.68**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L77R-01-BAC** **Little Bluestone Creek**

Cause Location: Little Bluestone Creek from a fork upstream of Route 696 to Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ALNE006.56 (Ambient)(2018)
E. coli - 7/35 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_LNE01A98 / Little Bluestone Creek / Fork upstream of Route 696 to Kerr Reservoir.	5A	Escherichia coli	2006	L	9.38

Little Bluestone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L77R-02-BAC** **Bluestone Creek**

Cause Location: Bluestone Creek from its headwaters to its confluence with Moody Creek.

City / County: Charlotte Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ABST017.09 (Ambient)(2018)
E. coli - 5/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_BST02A06 / Bluestone Creek / From its headwaters to Moody Creek	5A	Escherichia coli	2006	L	8.25

Bluestone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.25**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L77R-02-BEN** **Bluestone Creek**

Cause Location: Bluestone Creek from its confluence with Moody Creek to the backwaters of Kerr Reservoir.

City / County: Charlotte Co. Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABST013.64 (2012/2015 Bio) Bio 'IM' from four VSCI surveys with an average score of 43.3.
IM - 4ABST013.64 has limited habitat due to scour and sedimentation. Riparian vegetation was suitable but bank scour was evident. Spring taxa list was dominated by Simuliidae and Chironomidae, bringing VSCI scores well below the impairment threshold.
4ABST014.94 (2007 FPM)
J Benthic Assessment - 4ABST014.94 exhibits significant seasonal variation. Additional data must be collected to accurately characterize the status of the stream community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_BST01A98 / Bluestone Creek / Moody Creek to the backwaters of Kerr Reservoir	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	13.73

Bluestone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.73**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-02-BAC** **Unnamed Tributary to Allen Creek**

Cause Location: Entire tributary located just south of the intersection of Redlawn and Baskerville Roads in Mecklenburg County.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

Station ID:
4AXUQ000.00 (Hog Farm SS)
Total Fecal Coliform - 2/4 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_XUQ01A04 / Allen Creek, Unnamed Tributary / Entire tributary located just south of the intersection of Redlawn and Baskerville Roads in Mecklenburg County.	5A	Fecal Coliform	2004	L	1.27

Unnamed Tributary to Allen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**1.27**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-03-BAC** **Allen Creek**

Cause Location: Allen Creek from its headwaters to Cox Creek.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4AALN009.12 (Ambient)(2018)
E. coli - 7/36 Exceedance Rate
4AALN016.38 (Ambient)(2018)
E. coli - 3/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_ALN03A04 / Allen Creek / Layton Creek downstream to Cox Creek	5A	Escherichia coli	2006	L	8.97
VAW-L78R_ALN04A06 / Allen Creek / From its headwaters to Layton Creek	5A	Escherichia coli	2012	L	15.27

Allen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**24.24**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-03-BEN** **Allen Creek**

Cause Location: Allen Creek from its headwaters to Layton Creek.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4AALN016.38 (Ambient/2013 Bio)
J - 4AALN016.38 exhibits significant seasonal variability. Sedimentation is a potential stressor. Additional data needed to accurately characterize the benthic community
4AALN020.60 (2013 Bio)
IM - Sedimentation is a probable stressor to the benthic community. Silviculture is taking place within the nearby watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_ALN04A06 / Allen Creek / From its headwaters to Layton Creek	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	15.27

Allen Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.27**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-04-BEN** **Cox Creek**

Cause Location: Cox Creek from its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ACOX007.73 (2005 Probmon)
IM - Lack of suitable habitat is negatively affecting the stream community. Beaver activity has made the reach unwadeable. Accurate assessment depends on locating a suitably accessible site.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_COX01A04 / Cox Creek / Cox Creek from its headwaters to its confluence with Allen Creek	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	10.80

Cox Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-04-DO** **Cox Creek**

Cause Location: Cox Creek from its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4ACOX000.38 (Ambient) No new data since 2006 data window:
Dissolved Oxygen - 3/11 Violation Rate
4ACOX003.23 (Ambient) No new data since 2010 data window:
Dissolved Oxygen - 4/12 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_COX01A04 / Cox Creek / Cox Creek from its headwaters to its confluence with Allen Creek	5A	Oxygen, Dissolved	2004	M	10.80

Cox Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-04-PH** **Cox Creek**

Cause Location: Cox Creek from its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Station ID:
4ACOX000.38 (Ambient) No new data since 2006 data window:
pH - 2/11 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_COX01A04 / Cox Creek / Cox Creek from its headwaters to its confluence with Allen Creek	5A	pH	2006	M	10.80

Cox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**10.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-05-BAC** **Cotton Creek**

Cause Location: Cotton Creek from its headwaters to its mouth on the Roanoke River

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ACTT000.70 (Ambient)(2018)
E. coli - 8/24 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_CTT01A08 / Cotton Creek / Cotton Creek from its headwaters to its mouth on the Roanoke River	5A	Escherichia coli	2008	L	4.39

Cotton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.39**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-06-BAC** **Layton Creek**

Cause Location: Form its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ALYT003.77 (Ambient)(2018)
E. coli - 11/36 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_LYT01A06 / Layton Creek / Form its headwaters to its confluence with Allen Creek	5A	Escherichia coli	2012	L	8.64

Layton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.64**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-06-BEN** **Layton Creek**

Cause Location: Form its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ALYT003.77 (Bio)
IM - 2005-2012/2014 Bio
4ALYT003.77 was negatively affected by drought in 2007-2008, with periods of very low flow. Logging in the up gradient watershed appears to have negatively affected the benthic community with sedimentation. Current monitoring (2014) has yielded similar results.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_LYT01A06 / Layton Creek / Form its headwaters to its confluence with Allen Creek	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	8.64

Layton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.64**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-07-BAC** **Kettles Creek**

Cause Location: Kettles Creek from its headwaters to the mouth

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4AKTT001.15 (Ambient)(2018)
E. coli - 1/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_KTT01A12 / Kettles Creek / Kettles Creek from its headwaters to the mouth	5A	Escherichia coli	2012	L	5.48

Kettles Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L78R-07-DO** **Kettles Creek**

Cause Location: Kettles Creek from its headwaters to the mouth

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4AKTT001.15 (Ambient) No new data beyond 2016 data window:
DO - 9/22 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_KTT01A12 / Kettles Creek / Kettles Creek from its headwaters to the mouth	5A	Oxygen, Dissolved	2012	M	5.48

Kettles Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79L-02-CHLA** **Lake Gordon**

Cause Location: Lake Gordon

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

Station ID:
4AMES007.54 (2013-2014 Lake Gordon)
Dissolved Oxygen - 3/22 Exceedance Rate Violation Rate
Chlorophyll a - 2/2 Samples (90% Calculated over 1 Sample Yr)
No Total Phos assessed since lake has not been treated with algaecide

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79L_MES01L00 / Lake Gordon / On Miles Creek.	5A	Chlorophyll-a	2016	L	107.48

Lake Gordon **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**107.48**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79L-02-DO** **Lake Gordon**

Cause Location: Lake Gordon

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4AMES007.54 (2013-2014 Lake Gordon)
Dissolved Oxygen - 3/22 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79L_MES01L00 / Lake Gordon / On Miles Creek.	5A	Oxygen, Dissolved	2018	L	107.48

Lake Gordon **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**107.48**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79L-02-HG** **Lake Gordon**

Cause Location: Lake Gordon

City / County: Mecklenburg Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station ID:
4AMES007.54 (2006 FT/Sed)
Hg 2 Species

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79L_MES01L00 / Lake Gordon / On Miles Creek.	5A	Mercury in Fish Tissue	2010	L	107.48

Lake Gordon **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**107.48**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79R-01-BAC** **Flat Creek**

Cause Location: Flat Creek from its headwaters to its mouth on the Roanoke River.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station ID:
4AFLT009.17 (Benthic & 2004 Flat Creek TMDL)
E. coli - 3/7 Exceedance Rate
4AFLT008.80 (2004 Flat Creek TMDL)
E. coli - 3/6 Exceedance Rate
4AFLT008.79 (Ambient, Benthic, 2002 FT/Sed, Flat Creek TMDL Station)
E. coli - 1/7 Exceedance Rate (No New Bacteria Data for 2010)
4AFLT002.60 (Ambient)(2018)
E. coli - 5/36 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_FLT01A00 / Flat Creek / Upstream of the South Hill STP discharge to its headwaters.	4A	Escherichia coli	2006	L	1.69
VAW-L79R_FLT02A96 / Flat Creek / From the South Hill STP discharge to the Belfield Road crossing.	4A	Escherichia coli	2006	L	6.23
VAW-L79R_FLT03A08 / Flat Creek / From the Belfield Road crossing to its mouth on the Roanoke River	4A	Escherichia coli	2016	L	1.42

Flat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.34**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79R-01-BEN** **Flat Creek**

Cause Location: Flat Creek from its headwaters to its mouth on the Roanoke River.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Station ID:
4AFLT009.17 (Benthic & 2004 Flat Creek TMDL)
The benthic TMDL completed in 2004 identified sediment as the stressor to the benthic community.
2008/2010-2011 Bio
IM - 4AFLT009.17 is in the headwater segment of Flat Creek with several small channels.
Flow regime related sedimentation seems to be negatively affecting the stream community.
4AFLT008.79 (Ambient, Benthic, 2002 FT/Sed, Flat Creek TMDL Station)
The benthic TMDL completed in 2004 identified sediment as the stressor to the benthic community.
2008 Bio
IM - 4AFLT008.79 has sparse habitat, effluent affected flow, and is subject to occasionally significant storm flows.
4AFLT002.60 (Ambient, Bio)
2008/2010-2011 Bio
IM - Flat Creek is a very slow moving stream at river mile 2.60. Habitat was adequate with abundant leaf packs. Field measurements indicate a slight depression of dissolved oxygen in the warmest summer months. August dissolved oxygen values around 6 mg/L since 2003. No DO measurements exceeded the standard of 4 mg/L.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_FLT01A00 / Flat Creek / Upstream of the South Hill STP discharge to its headwaters.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.69
VAW-L79R_FLT02A96 / Flat Creek / From the South Hill STP discharge to the Belfield Road crossing.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	6.23
VAW-L79R_FLT03A08 / Flat Creek / From the Belfield Road crossing to its mouth on the Roanoke River	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.42

Flat Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.34**

Sources:

Clean Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79R-01-DO** **Flat Creek**

Cause Location: Flat Creek from upstream of the South Hill STP discharge to its headwaters.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
4AFLT009.17 (Benthic & 2004 Flat Creek TMDL)
Dissolved Oxygen - 2/8 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_FLT01A00 / Flat Creek / Upstream of the South Hill STP discharge to its headwaters.	5A	Oxygen, Dissolved	2006	L	1.69

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79R-02-BAC** **Smith Creek**

Cause Location: Smith Creek from the VA/NC state line to its mouth on Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ASMI003.58 (Ambient)(2018)
E. coli - 4/24 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_SMI01A08 / Smith Creek / Smith Creek from the VA/NC state line to its mouth	5A	Escherichia coli	2008	L	1.90

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L79R-03-BAC** **Miles Creek**

Cause Location: Lake Gordon to the Roanoke River.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4AMES004.78 (Ambient)(2018)
E coli - 2/11 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_MES01A98 / Miles Creek / Lake Gordon to the Roanoke River.	5A	Escherichia coli	2016	L	5.97

Miles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.97**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L80L-01-PCB** **Lake Gaston**

Cause Location: Roanoke River from the John H. Kerr Dam into Lake Gaston within Virginia.

City / County: Mecklenburg Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

Fish tissue data are reviewed by the VDH in making an advisory determination. A complete listing of fish tissue collection sites and associated fish tissue data are available at http://www.deq.virginia.gov. A more detailed presentation of the data can also be found using an interactive mapping application at http://www.deq.virginia.gov. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov.

4AROA004.54 (near NC-VA State line) – 2006 one species exceeded VDH lower level of concern (50 ppb); carp.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_ROA06A98 / Roanoke River / Kerr Dam to Route 1 bridge.	5A	PCB in Fish Tissue	2004	L	5.69
VAW-L79L_ROA07A98 / Roanoke River / Upper portion of Lake Gaston - Route 1 to the confluence of Smith Creek.	5A	PCB in Fish Tissue	2004	L	######
VAW-L80L_ROA08A04 / Lake Gaston / Lower Portion of Lake Gaston on the Roanoke River- Smith Creek confluence downstream to the VA/NC State Line, including coves that enter the mainstem within VA.	5A	PCB in Fish Tissue	2004	L	######

Lake Gaston **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**4,440.93**	**5.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L80R-01-BAC** **Great Creek**

Cause Location: Great Creek from its headwaters to Lake Gaston.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Great Creek Bacteria TMDL Study received U.S. EPA approval on 9/20/2007 [Fed. ID 33313] and SWCB approval on 7/31/2008 for this 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33313, 9/20/2007

Three stations are located within the 6.69 miles of impaired waters. 4AGRT003.82 (Ambient/Bio)(2018), 4AGRT004.70 (Great Creek Bacteria TMDL), and 4AGRT008.49 (Great Creek Bacteria TMDL)

4AGRT003.82 (Ambient/Bio)(2018) Three of 12 samples in excess of the instantaneous criterion.

4AGRT004.70 (Great Creek Bacteria TMDL) 7 of 9 samples in excess of the instantaneous criterion.

4AGRT008.49 (Great Creek Bacteria TMDL) Two of 9 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L80R_GRT01A00 / Great Creek / Headwaters to Lake Gaston.	4A	Escherichia coli	2006	L	6.68

Great Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.68**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L80R-02-BAC** **Hagood Creek**

Cause Location: Hagood Creek from its headwaters to its mouth on Great Creek.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33313
The Great Creek Bacteria TMDL Study received U.S. EPA approval on 9/20/2007 [Fed. ID 33313] and SWCB approval on 7/31/2008 for this 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33313, 9/20/2007

One station is located within the 6.8 miles of impaired waters. 4AHAG002.95 (TMDL Monitoring)

4AHAG002.95 (TMDL Monitoring) Three of 9 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L80R_HAG01A06 / Hagood Creek / From its headwaters to the mouth on Great Creek	4A	Escherichia coli	2008	L	6.80

Hagood Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.80**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L80R-03-BAC** **Long Branch**

Cause Location: Long Branch from its headwaters to its mouth on Great Creek.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 33313
The Great Creek Bacteria TMDL Study received U.S. EPA approval on 9/20/2007 [Fed. ID 33313] and SWCB approval on 7/31/2008 for this 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33313, 9/20/2007

One station is located within the 2.08 miles of impaired waters. 4ALYA000.60 (TMDL Monitoring)

4ALYA000.60 (TMDL Monitoring) Five of 9 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L80R_LYA01A06 / Long Branch / From its headwaters to the mouth on Great Creek	4A	Escherichia coli	2008	L	2.08

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.08**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L81R-02-BAC** **Lizard Creek**

Cause Location: Lizard Creek from its headwaters to Lake Gaston.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ALIZ003.42 (Ambient)(2018)
E. coli - 4/12 Exceedance Rate

*Segment was shortened in 2014 to only include VA Portion of Lizard Creek

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L81R_LIZ01A10 / Lizard Creek / Lizard Creek from its headwaters to Lake Gaston.	5A	Escherichia coli	2010	L	2.73

Lizard Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.73**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L81R-03-BAC** **Little Poplar Creek**

Cause Location: Little Poplar Creek from its headwaters to its mouth on Poplar Creek.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4ALPP002.66 (ProbAmbient)
E coli - 2/12 Exceedance Rate
4ALPP004.46 (2013 ProbAmbient)(2018)
E coli - 2/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L81R_LPP01A16 / Little Poplar Creek / Little Poplar Creek from its headwaters to its mouth on Poplar Creek.	5A	Escherichia coli	2016	L	6.51

Little Poplar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.51**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* L82R-01-BAC** **Pea Hill Creek**

Cause Location: Pea Hill Creek from its headwaters to Lake Gaston.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID:
4APHC006.38 (Ambient)(2018)
E coli - 4/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L82R_PHC01A00 / Pea Hill Creek / Headwaters to Lake Gaston.	5A	Escherichia coli	2016	L	4.86

Pea Hill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.86**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02L-01-DDD** **Lovills Creek Lake**

Cause Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) / VA Category: DDD / 5A

Fish tissue samples collected on 8/8/2007 at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02L_LOV01B10 / Lovills Creek Lake / Lovills Creek flood control impoundment east of Cana; completed in 1990 and owned by Carroll County, WQS Section 1.	5A	DDD	2010	L	42.46

Lovills Creek Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDD - Total Impaired Size by Water Type:		**42.46**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02L-01-DDE** **Lovills Creek Lake**

Cause Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) / VA Category: DDE / 5A

Fish tissue samples collected on 8/8/2007 at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02L_LOV01B10 / Lovills Creek Lake / Lovills Creek flood control impoundment east of Cana; completed in 1990 and owned by Carroll County, WQS Section 1.	5A	DDE	2010	L	42.46

Lovills Creek Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDE - Total Impaired Size by Water Type:		**42.46**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02L-01-DDT** **Lovills Creek Lake**

Cause Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) / VA Category: DDT in Fish Tissue / 5A

Fish tissue samples collected on 8/8/2007 at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02L_LOV01B10 / Lovills Creek Lake / Lovills Creek flood control impoundment east of Cana; completed in 1990 and owned by Carroll County, WQS Section 1.	5A	DDT in Fish Tissue	2010	L	42.46

Lovills Creek Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDT in Fish Tissue - Total Impaired Size by Water Type:		**42.46**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02L-01-HG** **Lovills Creek Lake**

Cause Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Fish tissue samples collected at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value. The Virginia Department of Health recommends no more than two meals per month of largemouth bass.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02L_LOV01B10 / Lovills Creek Lake / Lovills Creek flood control impoundment east of Cana; completed in 1990 and owned by Carroll County, WQS Section 1.	5A	Mercury in Fish Tissue	2010	L	42.46

Lovills Creek Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**42.46**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02R-01-BAC** **Lovills Creek**

Cause Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing. This segment also includes Stewarts Creek from the North Carolina state line upstream near Route 696 at Lambsburg.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The ambient water quality monitoring station 4BLOV007.92 had a 58% exceedance of the E.coli water quality standard. Station 4BSTE007.99 had a 22% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02R_LOV01A02 / Lovills Creek / YA05: Lovills Creek mainstem southeast of Cana, from the NC state line upstream to Lovills Lake dam, WQS Section 1.	5A	Escherichia coli	2008	M	2.15

Lovills Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.15**

Sources:

Source Unknown Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02R-01-DDE** **Lovills Creek**

Cause Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) / VA Category: DDE / 5A

Fish tissue samples at station 4BLOV007.92 exceeded DEQ's screening value for DDE.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02R_LOV01A02 / Lovills Creek / YA05: Lovills Creek mainstem southeast of Cana, from the NC state line upstream to Lovills Lake dam, WQS Section 1.	5A	DDE	2010	L	2.15

Lovills Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDE - Total Impaired Size by Water Type:			**2.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02R-01-DDT** **Lovills Creek**

Cause Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) / VA Category: DDT in Fish Tissue / 5A

Fish tissue samples at station 4BLOV007.92 exceeded DEQ's screening value for DDT.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02R_LOV01A02 / Lovills Creek / YA05: Lovills Creek mainstem southeast of Cana, from the NC state line upstream to Lovills Lake dam, WQS Section 1.	5A	DDT in Fish Tissue	2010	L	2.15

Lovills Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDT in Fish Tissue - Total Impaired Size by Water Type:			**2.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M02R-01-TEMP** **Lovills Creek and Stewarts Creek**

Cause Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing. This segment also includes Stewarts Creek from the North Carolina state line upstream near Route 696 at Lambsburg.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

The ambient water quality monitoring station 4BLOV007.92 had a 33% exceedance of the Class V, 21°C stockable trout water criterion. Exceeding temperature values up to 25°C occurred from August 2005 to August 2006. In addition, 4BSTE007.99 had a 33% exceedence of temperature values.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02R_LOV01A02 / Lovills Creek / YA05: Lovills Creek mainstem southeast of Cana, from the NC state line upstream to Lovills Lake dam, WQS Section 1.	5A	Temperature, water	2008	M	2.15
VAS-M02R_STE01A02 / Stewarts Creek / YA06: Stewarts Creek mainstem from the VA / NC state line upstream to near Rt. 696 south of Lambsburg, WQS Section 1.	5A	Temperature, water	2016	M	2.05

Lovills Creek and Stewarts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**4.20**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M03R-01-BAC** **Ararat River**

Cause Location: Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

4BARA035.13 (Rt. 739 Bridge, near VA/NC State Line)- No additional data. The 2008 and 2010 assessments find escherichia coli (E.coli) exceeds the WQS instantaneous criterion of 235 cfu/100 ml in 3 of 9 samples. Exceeding values range from 250 to 950 cfu/100 ml. There are no additional data within the 2012 or 2014 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-M03R_ARA01A00 / Ararat River / Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing Class IV sec. 1 PWS (YA03).	5A	Escherichia coli	2010	H	6.13

Ararat River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.13**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M03R-01-HG** **Ararat River**

Cause Location: Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing.

City / County: Patrick Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards (WQS) effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/info/mercury.html for more information about mercury contamination and http://www.vdh.virginia.gov/environmental-epidemiology/public-health-toxicology/fish-consumption-advisories/ for VDH Advisories or Bans.

4BARA035.07 (Rt. 739 Bridge near VA/NC State Line)- 2007 fish tissue analysis finds mercury (Hg) exceeds the WQS based tissue value (TV) of 0.30 ppm in 3 species; yellow bullhead catfish (1 fish 27.7 cm) at 0.495 ppm; white sucker (4 fish composite 31.0-39.1 cm) at 0.369 ppm; and 2 groups of redhorse sucker (6 fish composite 36.5 - 38.6 cm) at 0.535 ppm and (7 fish composite 28.5 - 34.6 cm) at 0.412 ppm. A 2002 golden redhorse sucker collection (4 fish 25.7-34.3 cm) exceeds the WQS TV at 0.35 ppm.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-M03R_ARA01A00 / Ararat River / Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing Class IV sec. 1 PWS (YA03).	5A	Mercury in Fish Tissue	2010	L	6.13

Ararat River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**6.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M03R-01-TEMP** **Johnson Creek**

Cause Location: Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V.

City / County: Carroll Co. Patrick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

4BJOH004.45 (Rt. 672 Bridge, Johnson Creek Rd.) There are no new data within the 2018 or 2016 data windows. The 2014 assessment finds 2 of 12 temperature measurements exceed the Class V stockable trout criterion of 21°C. Exceedances occur on 6/29/2011 at 21.5°C and 7/31/2012 at 22.3°C. There are no additional data within the 2012 data window. Both the 2008 and 2010 assessments find 2 of 9 temperature measurements exceed the Class V stockable trout criterion of 21°C. Exceedances occur on 8/24/2005 at 21.6°C and 8/30/2006 at 22.8°C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-M03R_JOH01A02 / Johnson Creek / Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V sec. 1 PWS (YA04).	5C	Temperature, water	2008	L	9.15

Johnson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**9.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Roanoke and Yadkin River Basins

***Cause Group Code:* M03R-02-BAC** **Johnson Creek**

Cause Location: Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V.

City / County: Carroll Co. Patrick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This 2014 initial 303(d) Listing results in impairment of the Recreational Use.

4BJOH004.45 (Rt. 672 Bridge, Johnson Creek Rd.) There is no additional data within the 2018 or 2016 data windows. The 2014 assessment finds 2 escherichia coli (E.coli) observations exceed the WQS 235 cfu/100 ml instantaneous criterion from 12 observations at 350 and 475 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-M03R_JOH01A02 / Johnson Creek / Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V sec. 1 PWS (YA04).	5A	Escherichia coli	2014	H	9.15

Johnson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.15**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K01R-01-BAC** **Middle Meherrin River**

Cause Location: Middle Meherrin River from its headwaters to mouth.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Middle Meherrin River from Crupper Run to its mouth was first impaired for the Recreation Use in the 2004 cycle due to a fecal coliform exceedance rate of 2/19 at 5AMMR000.69. It converted to E. coli in the 2010 cycle. The segment was extended upstream during the 2014 cycle due to E. coli exceedance rates of 3/12 at 5AMMR000.69 and 2/12 at 5AMMR008.77.

The impairment was nested in the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 04/12/2010 and by the SWCB on 9/30/2010.

During the 2018 cycle, the exceedance rate at 5AMMR008.77 was 2/12; additional monitoring at 5AMMR015.22 showed an exceedance rate of 4/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K01R_MMR01A98 / Middle Meherrin River / Crupper Run to mouth	4A	Escherichia coli	2010	L	7.15
VAP-K01R_MMR02A08 / Middle Meherrin River / Middle Meherrin River from its headwaters to its confluence with Crupper Run	4A	Escherichia coli	2014	L	11.25

Middle Meherrin River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.40**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K01R-01-BEN** **Middle Meherrin River**

Cause Location: Middle Meherrin River from its headwaters to its confluence with Crupper Run.

City / County: Lunenberg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Middle Meherrin River from its headwaters to Crupper Run was initially impaired of the Aquatic Life Use in the 2014 cycle due to an altered benthic community at freshwater probabilistic monitoring station 5AMMR008.77. The BMI community in this reach is dominated by the filterer FFG which indicates nutrient enrichment. Habitat scores for sediment were also low suggesting another probable stressor.

The station is located on private property; therefore, sampling continued at new station 5AMMR014.21 in the 2018 cycle instead; monitoring there was inconclusive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K01R_MMR02A08 / Middle Meherrin River / Middle Meherrin River from its headwaters to its confluence with Crupper Run	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	11.25

Middle Meherrin River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.25**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K01R-03-BEN** **Finneywood Creek**

Cause Location: Finneywood Creek from its headwaters to its mouth on the South Meherrin River

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Finneywood Creek was impaired of the Aquatic Life Use due to an altered benthic community at 5AFNY004.78, which was a 2005 Probmon site.

The stream runs through a pasture with active cattle access. Flow was minimal, sedimentation was extensive, and organic solids were abundant in channel. Minimal habitat was present.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K01R_FNY01A08 / Finneywood Creek / Finneywood Creek from its headwaters to its mouth on the South Meherrin River	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	5.11

Finneywood Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.11**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K01R-04-BEN** **Blackstone Creek**

Cause Location: Blackstone Creek from its headwaters to its mouth

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Blackstone Creek was impaired of the Aquatic Life Use in the 2018 cycle due to an altered benthic community at 5ABKS001.60.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K01R_BKS01A16 / Blackstone Creek / Blackstone Creek from its headwaters to its mouth	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	4.47

Blackstone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-01-BAC** **North Meherrin River**

Cause Location: North Meherrin River from Couches Creek to Reedy Creek.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, the North Meherrin River from Couches Creek to Reedy Creek was impaired of the Recreation Use due to an E.coli exceedance rate of 2/9 at 5ANMR013.95.

The impairment was addressed in the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

It was delisted in 2012 and relisted in 2014.

The exceedance rate was 5/35 in the 2018 cycle.

The segment was mistakenly listed as nested in previous assessments. This was corrected in the 2018 cycle. The impairment is Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_NMR01A98 / North Meherrin River / Couches Creek to Reedy Creek.	4A	Escherichia coli	2014	L	7.54

North Meherrin River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.54**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal Point Source Discharges
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-01-BEN** **North Meherrin River**

Cause Location: North Meherrin River from Couches Creek to unnamed tributary below unimproved road.

City / County: Lunenberg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

In the 2010 cycle, the North Meherrin River from Couches Creek to Reedy Creek was impaired of the Aquatic Life Use due to an altered benthic community at 5ANMR013.95 during 2008 sampling. This section of the North Meherrin River had incised banks and a high rate of sedimentation. Cobble surfaces in riffles were dominated by periphyton.

The impairment was extended downstream to an unnamed tributary in the 2014 cycle based on additional monitoring at 5ANMR007.90.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_NMR01A98 / North Meherrin River / Couches Creek to Reedy Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	7.54
VAP-K02R_NMR02B04 / North Meherrin River / Confluence with Reedy Creek to unnamed tributary below unimproved road.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.63

North Meherrin River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.17**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-02-BAC** **Big Juniper Creek**

Cause Location: Big Juniper Creek from Little Juniper Creek to the mouth.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 2006 cycle, Big Juniper Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/9 at 5ABJC001.00.

In the 2014 cycle, the impairment was nested in the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

The exceedance rate was 5/12 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_BJC01A98 / Big Juniper Creek / Little Juniper Creek to mouth.	4A	Escherichia coli	2006	L	6.68

Big Juniper Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.68**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-03-BAC** **Kits Creek**

Cause Location: Kits Creek from its headwaters to the mouth

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle, Kits Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/3 at 5AKIT002.65. The exceedance rate at 5AKIT000.67 is acceptable (0/12); therefore, continued monitoring is recommended.

The impairment is proposed for nesting in the North Meherrin River Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_KIT01A06 / Kits Creek / Kits Creek from its headwaters to the mouth	4A	Escherichia coli	2018	L	4.82

Kits Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.82**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-03-BEN** **Kits Creek**

Cause Location: Kits Creek from its headwaters to the mouth

City / County: Lunenberg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Kits Creek was impaired of the Aquatic Life Use in the 2008 cycle due to an altered benthic community at 5AKIT002.65.

Monitoring at station 5AKIT000.67 is inconclusive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_KIT01A06 / Kits Creek / Kits Creek from its headwaters to the mouth	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.82

Kits Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.82**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-04-BAC** **Reedy Creek**

Cause Location: Reedy Creek from its headwaters to its mouth on the North Meherrin River

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Reedy Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/9 at 5ARYK002.34.

The impairment was subsequently nested in the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

The exceedance rate was 2/12 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_RYK01A08 / Reedy Creek / Reedy Creek from its headwaters to its mouth on the North Meherrin River	4A	Escherichia coli	2008	L	10.40

Reedy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.40**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal Point Source Discharges
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-04-BEN** **Couches Creek**

Cause Location: Couches Creek from its headwaters to its mouth on the North Meherrin River

City / County: Lunenberg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Couches Creek has been impaired of the Aquatic Life Use since the 2010 cycle due to altered benthic communities at 5ACHS003.42 and 5ACHS006.33.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_CHS01A08 / Couches Creek / Couches Creek from its headwaters to its mouth on the North Meherrin River	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	7.37

Couches Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.37**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-05-BAC** **Ledbetter Creek**

Cause Location: Ledbetter Creek from its headwaters to its mouth.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 2010 cycle, Ledbetter Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 8/12 at 5ALDB000.03.

The impairment was later nested in the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

The exceedance rate was 8/12 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_LDB01A10 / Ledbetter Creek / Ledbetter Creek from its headwaters to its mouth.	4A	Escherichia coli	2010	L	9.08

Ledbetter Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.08**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K02R-06-BAC** **Couches Creek**

Cause Location: Couches Creek from its headwaters to its mouth on the North Meherrin River.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 2014 cycle, Couches Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 4/12 at 5ACHS003.42.

The impairment was nested in the North Meherrin River Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

The exceedance rate remained 4/12 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K02R_CHS01A08 / Couches Creek / Couches Creek from its headwaters to its mouth on the North Meherrin River	4A	Escherichia coli	2014	L	7.37

Couches Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.37**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal Point Source Discharges
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-01-BAC** **Flat Rock Creek**

Cause Location: Flat Rock from the first confluence downstream of the Route 647 bridge downstream to the mouth.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2002 cycle, Flat Rock Creek from the first confluence downstream of the Route 647 bridge downstream to the mouth was impaired of the Recreation Use due to fecal coliform exceedances at 5AFRC002.98. The impairment converted to E. coli in the 2008 cycle. The Flat Rock Creek and Broad Branch Bacterial TMDL was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

Station 5AFRC007.54 later had E. coli exceedances as well.

The segment extent was mistakenly altered and the downstream most portion was delisted in previous cycles. As of the 2016 cycle, a merged impairment (VAC-K03R-01 and VAC-K03R-02) extended from the headwaters to Kettlesticks Creek. The segmentation was corrected in the 2018 cycle and the applicable portions were nested.

During the 2018 cycle, the E. coli exceedance rate was 2/12 at 5AFRC002.98.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_FRC01A98 / Flat Rock Creek / First confluence downstream of Route 647 to the mouth.	4A	Escherichia coli	2008	L	9.76

Segment extent corrected and merged in the 2018 cycle.

Flat Rock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.76**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-01-BEN** **Flat Rock Creek**

Cause Location: Flat Rock Creek from its headwaters to its mouth.

City / County: Lunenberg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Flat Rock Creek from its headwaters to Kettlesticks Creek was impaired of the Aquatic Life Use in the 2014 cycle due to 2012 monitoring at freshwater probabilistic monitoring station 5AFRC011.93.

Additional monitoring at 5AFRC013.25 in 2015 also indicated impairment.

The segment was extended to the mouth in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_FRC01A98 / Flat Rock Creek / First confluence downstream of Route 647 to the mouth.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	9.76
Segment extent corrected and merged in the 2018 cycle.					
VAP-K03R_FRC01B18 / Flat Rock Creek / Kenbridge WTP intake to the first confluence downstream of the Route 647 bridge	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	4.70
AU split off in the 2018 cycle to correct segmentation.					
Segment extent corrected and merged in the 2018 cycle.					
VAP-K03R_FRC02A06 / Flat Rock Creek / Route 652 to Kenbridge PWS intake.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.73
Segment split in the 2018 cycle.					
VAP-K03R_FRC02B18 / Flat Rock Creek / Headwaters to Route 652.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.89
Segment split in the 2018 cycle.					

Flat Rock Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**20.08**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-02-BAC** **Flat Rock Creek**

Cause Location: Flat Rock Creek from Route 652 downstream to the Kenbridge PWS intake.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Flat Rock Creek from the Route 652 bridge downstream to the Kenbridge WTP intake was impaired of the Recreation Use due to an E. coli exceedance rate of 2/3 at 5AFRC013.25. The Flat Rock Creek and Broad Branch Bacterial TMDL, which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009, addressed the original segment.

Note: In the 2008 cycle, the impairment was extended upstream to the headwaters based on an exceedance rate of 4/12 at 5AFRC014.70. In addition, it was mistakenly merged with the bacterial impairment at the mouth of Flat Rock Creek (K03R-01-BAC). In the 2018 cycle, the segmentation was corrected and the upstream extension was split off and nested in the 2018 cycle because the upstream-most impairment was not specifically addressed in the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_FRC02A06 / Flat Rock Creek / Route 652 to Kenbridge PWS intake.	4A	Escherichia coli	2006	L	1.73

Segment split in the 2018 cycle.

Flat Rock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.73**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-03-BAC** **Broad Branch**

Cause Location: Broad Branch from its headwaters to the mouth.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Broad Branch was initially impaired of the Recreation Use in the 2006 cycle based on an E. coli exceedance rate of 2/3 at 5ABRD002.09.

Additional monitoring was later conducted.

The Flat Rock Creek and Broad Branch Bacterial TMDL was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_BRD01A06 / Broad Branch / From its headwaters to the mouth	4A	Escherichia coli	2006	L	3.53

Broad Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.53**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-04-BAC** **Meherrin River**

Cause Location: Meherrin River from its confluence with the North Meherrin River to its confluence with Flat Rock Creek.

City / County: Lunenberg Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 38419, 4/12/2010

The Meherrin River from Crooked Creek to Flat Rock Creek was impaired of the Recreation Use in the 2008 cycle due to an E. coli exceedance rate of 3/9 at 5AMHN012.61.

The impairment was extended upstream to the confluence with the North Meherrin River in the 2012 cycle (8/12 at 5AMHN102.61 and 3/14 at 5AMHN108.37).

It was nested in the Meherrin River and Tributaries Bacterial TMDL in the 2014 cycle. The TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

In the 2018 cycle, exceedance rates in the segment were:
4/12 at 5AMHN102.61
3/12 at 5AMHN105.36
0/1 at 5AMHN104.32

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_MHN01A00 / Meherrin River / Meherrin River from the South Hill raw water intake to a point 5 miles upstream.	4A	Escherichia coli	2012	L	5.03
VAP-K03R_MHN01B06 / Meherrin River / Meherrin River from the confluence with North Meherrin River to a point 5 miles upstream of the South Hill Intake.	4A	Escherichia coli	2012	L	1.94
VAP-K03R_MHN02A04 / Meherrin River / From South Hill's raw water intake to the confluence with Crooked Creek.	4A	Escherichia coli	2012	L	1.29
VAP-K03R_MHN03A08 / Meherrin River / Meherrin River from its confluence with Crooked Creek to its confluence with Flat Rock Creek.	4A	Escherichia coli	2008	L	3.17

Meherrin River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.43**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal Point Source Discharges
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-05-BAC** **XFH - Flat Rock Creek, UT**

Cause Location: An unnamed tributary to Flat Rock Creek from its headwaters to its mouth.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 36046, 12/29/2008

XFH was impaired of the Recreation Use in the 2008 cycle due to E. coli exceedances at 5AXFH0.74.

In the 2014 cycle, the impairment was nested in the Flat Rock Creek and Broad Branch Bacterial TMDL, which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_XFH01A06 / XFH - Flat Rock Creek, Unnamed Tributary / From its headwaters to the mouth	4A	Escherichia coli	2008	L	3.44

XFH - Flat Rock Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.44**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-06-BEN** **Mason Creek**

Cause Location: Mason Creek from its headwaters to the mouth.

City / County: Lunenberg Co. Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Masons Creek was impaired in the 2014 cycle due to an altered benthic community at 5AMSC002.30.

This reach may be a future delist candidate due to beaver impacts to the 2011 samples. More recent sampling in 2016 indicate betters habitat though slight nutrient and sedimentation stressors are present. Monitoring should continue to accurately characterize the BMI community in this reach.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_MSC01A10 / Mason Creek / Mason Creek from a point 5 miles upstream of PWS intake to its mouth on the Meherrin River.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.85
VAP-K03R_MSC01B14 / Mason Creek / Mason Creek from its headwaters to a point 5 miles upstream of the PWS intake	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	5.98

Segment adjusted in the 2018 cycle.

Mason Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-07-BAC** **Flat Rock Creek**

Cause Location: Flat Rock from the Kenbridge WTP intake downstream to the first confluence below the Route 647 bridge.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2002 cycle, Flat Rock Creek from the first confluence downstream of the Route 647 bridge downstream to the mouth was impaired of the Recreation Use due to fecal coliform exceedances at 5AFRC002.98. The impairment converted to E. coli in the 2008 cycle. The Flat Rock Creek and Broad Branch Bacterial TMDL was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

It was mistakenly extended upstream in the 2008 cycle due to an E. coli exceedance rate of 3/12 at 5AFRC009.53 and merged with the upstream impairment K03R-02-BAC. As this portion was first listed in 2008 cycle, the due date should be 2020. The segmentation was corrected in the 2018 cycle. Since this portion was not specifically addressed in the TMDL, it will be nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_FRC01B18 / Flat Rock Creek / Kenbridge WTP intake to the first confluence downstream of the Route 647 bridge	4A	Escherichia coli	2008	L	4.70

AU split off in the 2018 cycle to correct segmentation.

Segment extent corrected and merged in the 2018 cycle.

Flat Rock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.70**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K03R-08-BAC** **Flat Rock Creek**

Cause Location: Flat Rock Creek from its headwaters to the Route 652 bridge.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Flat Rock Creek from the Route 652 bridge downstream to the Kenbridge WTP intake was impaired of the Recreation Use due to an E. coli exceedance rate of 2/3 at 5AFRC013.25. The Flat Rock Creek and Broad Branch Bacterial TMDL, which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009, addressed the original segment.

Note: In the 2008 cycle, the impairment was extended upstream to the headwaters based on an exceedance rate of 4/12 at 5AFRC014.70. In addition, it was mistakenly merged with the bacterial impairment at the mouth of Flat Rock Creek (K03R-01-BAC). In the 2018 cycle, the segmentation was corrected and the upstream extension was split off and nested in the 2018 cycle because the upstream-most impairment was not specifically addressed in the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K03R_FRC02B18 / Flat Rock Creek / Headwaters to Route 652.	4A	Escherichia coli	2008	L	3.89

Segment split in the 2018 cycle.

Flat Rock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.89**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K04R-01-BAC** **Stony Creek**

Cause Location: Stony Creek from its headwaters to it mouth

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2004 cycle, Stony Creek was assessed not supporting of the Recreation Use support goal based on a fecal coliform violation rate of 3/19 at the Rt. 602 bridge (5ASNY000.65).

Additional monitoring was conducted during the 2010 cycle. Stony Creek remained impaired due to an E. coli violation rate of 3/12 at 5ASNY000.65. The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K04R_SNY01A96 / Stony Creek / Headwaters to mouth.	4A	Escherichia coli	2010	L	14.24

Stony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.24**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K04R-02-BAC** **Shining Creek**

Cause Location: Shining Creek from its headwaters to it mouth

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Shining Creek was assessed not supporting of the Recreation Use support goal based on an E. coli violation rate of 8/32 at the Rt. 637 bridge (5ASHN000.77).

The impairment is within the study area for the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and 9/30/2010. The TMDL states that this segment will be considered nested (Category 4A).

The violation rate was 12/23 during the 2014 cycle, and no new data was collected during the 2016 cycle.

Additional monitoring was conducted at 5AMHN004.25 in the 2018 cycle (4/12.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K04R_SHN01A06 / Shining Creek / The mainstem of Shining Creek	4A	Escherichia coli	2010	L	7.74

Shining Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.74**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K04R-03-BAC** **Taylors Creek**

Cause Location: Taylors Creek from its headwaters to it mouth

City / County: Brunswick Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Taylors Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/12 at the Route 657 bridge (5ATLR001.85).

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K04R_TLR01A10 / Taylors Creek / Headwaters to mouth at the Meherrin River	4A	Escherichia coli	2010	L	10.35

Taylors Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.35**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K04R-04-BAC** **Meherrin River**

Cause Location: The Meherrin River from Stony Creek downstream to Taylors Creek.

City / County: Brunswick Co. Lunenberg Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, the Meherrin River from Stony Creek to Taylors Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 5/12 at 5AMHN093.07, which is located at the Route 1 bridge.

The impairment is within the study area for the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and 9/30/2010. The TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K04R_MHN01B10 / Meherrin River / Stony Creek to Taylors Creek	4A	Escherichia coli	2010	L	6.95

Meherrin River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.95**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-01-BAC** **Genito Creek**

Cause Location: Mainstem from its headwaters to its mouth

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Genito Creek was originally assessed as impaired of the Recreation Use in 2006 due to E. coli exceedances at the Route 623 bridge (5AGTO001.16). During the 2010 cycle the violation rate was 9/23. The impairment was addressed in the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is considered Category 4A.

During the 2016 cycle the segment remained impaired for E.coli with a violation rate of 2/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_GTO01A94 / Genito Creek / Headwaters to mouth.	4A	Escherichia coli	2006	L	8.13

Genito Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.13**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-02-BAC** **Meherrin River**

Cause Location: Meherrin River from Taylors Creek downstream to Reedy Creek

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Meherrin River from Taylors Creek to Reedy Creek was originally considered fully supporting but threatened during the year 1998 cycle, but was downgraded during the 2002 cycle. During the 2006 cycle, the segment was assessed as not supporting of the Recreation Use support goal based on fecal coliform exceedances at 5AMHN068.30, 5AMHN073.98, and 5AMHN082.13 and E. coli exceedances at 5AMHN082.13.

During the 2010 cycle, the E. coli exceedance rate was 13/38 at 5AMHN082.13, 4/11 at 5AMHN075.24, 7/18 at 5AMHN073.98, and 4/18 at 5AMHN068.30. In addition, monitoring at 5AMHN060.95 indicated impairment (3/12 for E. coli); therefore, the segment was extended downstream to Douglas Run. In the 2014 cycle, the exceedance rate was 17/41 at 5AMHN082.13; no additional monitoring was conducted at the other stations.

During the 2012 cycle, the Meherrin River and Tributaries bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010.

Although the upper portion was addressed in the TMDL, the expansion downstream to Douglas Run was not. The original portion of the Meherrin River is considered Category 4A. The extension was split into a separate impairment which will be due in 2022 (see K08R-01-BAC).

During the 2016 cycle the segment was still impaired for E.coli with an exceedance rate of 12/35 at station 5AMHN082.13 and 4/12 at 5AMHN068.30.

The exceedance rate was 8/35 at 5AMHN082.13 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_MHN01B98 / Meherrin River / Taylors Creek to Hicks Creek.	4A	Escherichia coli	2006	L	6.95
VAP-K05R_MHN02B98 / Meherrin River / Hicks Creek to Lawrenceville PWS Intake.	4A	Escherichia coli	2006	L	5.03
VAP-K05R_MHN03B98 / Meherrin River / Lawrenceville PWS intake to Reedy Creek.	4A	Escherichia coli	2006	L	14.22

Meherrin River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**26.20**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-03-BAC** **Briery Branch**

Cause Location: The mainstem of Briery Branch.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Briery Branch was assessed in 2004 as not supporting of the Recreation Use support goal based on a fecal coliform exceedance rate of 4/12 at 5A-PL-GR-B, a Confined Animal Feeding Operation special study station.

Additional monitoring was conducted during the 2010 cycle. The segment remained impaired due to an E. coli exceedance rate of 6/12 at 5ABRY001.88, which was renamed from 5A-PL-GR-B. The impairment converted to E. coli, but the original TMDL due date was maintained.

The Briery Branch impairment was addressed in the Meherrin River and Tributaries Bacterial TMDL, which was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is considered Category 4A.

No new data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_BRY01A02 / Briery Branch / Headwaters to mouth	4A	Escherichia coli	2010	L	4.01

Briery Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.01**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-04-BAC** **Hicks Creek**

Cause Location: Headwaters to mouth at the Meherrin River.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Hicks Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/12 at the Route 623 bridge (5AHIC001.35).

The Meherrin River and Tributaries bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_HIC01A10 / Hicks Creek / Headwaters to mouth at Meherrin River	4A	Escherichia coli	2010	L	7.37

Hicks Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.37**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-05-DO** **Hays Creek**

Cause Location: The mainstem of Hayes Creek.

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Hays Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 5AHAY000.38, which is located at the Route 686 bridge.

During the 2016 cycle, Hays Creek remained impaired due to a dissolved oxygen exceedance rate of 2/12 at 5AHAY000.38. Dissolved oxygen was acceptable at station 5AHAY003.23 (1/12) and 5AHAY004.92 (0/9.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_HAY01A10 / Hays Creek / Headwaters to mouth at Meherrin River	5C	Oxygen, Dissolved	2010	L	6.39

Hays Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.39**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-06-BEN** **Little Genito Creek**

Cause Location: Headwaters to mouth at Genito Creek.

City / County: Brunswick Co. Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle, Little Genito Creek was assessed as not supporting of the Aquatic Life Use due to benthic impairment at 2008 probabilistic monitoring station 5ALTG001.50.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_LTG01A10 / Little Genito Creek / Headwaters to mouth at Genito Creek	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	12.05

Little Genito Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.05**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-07-BAC** **Evans Creek**

Cause Location: Headwaters to mouth at the Meherrin River.

City / County: Brunswick Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Evans Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 4/12 at the Route 623 bridge (5AEVN000.96).

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

During the 2016 cycle, the segment remained impaired for E.coli with an exceedance rate of 2/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_EVN01A10 / Evans Creek / Headwaters to mouth at the Meherrin River.	4A	Escherichia coli	2010	L	11.72

Evans Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.72**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-08-BAC** **Totaro Creek**

Cause Location: Headwaters to mouth at the Meherrin River.

City / County: Brunswick Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Totaro Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 10/12 at the Route 58 bridge (5ATRO002.00).

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_TRO01A10 / Totaro Creek / Start of PWS 5 miles above the Town of Lawrenceville's intake to its mouth at the Meherrin River.	4A	Escherichia coli	2010	L	4.86
VAP-K05R_TRO01B10 / Totaro Creek / Headwaters to start of PWS segment 5 miles above Town of Lawrenceville's intake	4A	Escherichia coli	2010	L	0.47

Totaro Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.33**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K05R-09-BAC** **Allen Creek**

Cause Location: Headwaters to mouth

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, Allen Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 4/23 at 5AALN001.00.

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area so is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K05R_ALN01A08 / Allen Creek / Headwaters to mouth	4A	Escherichia coli	2016	L	6.96

Allen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.96**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K06R-02-BAC** **Great Creek**

Cause Location: The mainstem of Great Creek from Powell Creek downstream to its mouth, excluding Great Creek Reservoir.

City / County: Brunswick Co. Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Portions of Great Creek have been impaired since the 2002 cycle. During the year 2006 cycle, the previous bacteria impairments (VAP-K06R-01, -02, and -03) in Great Creek were combined based on fecal coliform exceedances at 5AXEA000.04, 5A-PL-GR-A, and 5AGTC005.40, and E. coli exceedances at 5AGTC017.75. 5AXEA000.04 and 5A-PL-GR-A are confined animal feeding operation (CAFO) special study stations that were discontinued in 2002.

During the 2008 cycle, the entire mainstem of Great Creek, excluding Great Creek Reservoir, remained impaired and converted to E. coli based on an E. coli exceedance rate of 2/11 at station 5AGTC017.75.

Monitoring was conducted throughout the segment during the 2010 cycle to characterize the extent of the impairment. The upstream and downstream stations had acceptable exceedance rates; therefore the segment was shortened and parts of the creek were partially delisted.

5AGTC025.70 - Rt. 602 - 0/11
5AGTC023.89 - Rt. 617 - 1/11
5AGTC022.59 - Rt. 620 - 0/12
5AGTC020.71 - Rt. 653 - 7/19
5AGTC017.75 - Rt. 644 - 8/19
5AGTC015.20 - Rt. 1 - 1/12
5AGTC013.62 - Rt. 763 - 3/12
5AGTC006.97 - RR bridge - 5/12
5AGTC005.40 - Rt. 713 - 1/18
5AGTC004.82 - opposite Lawrenceville STP - 1/12
5AGTC000.38 - above Buford Branch - 1/12

In the 2018 cycle, the segment from the Lawrenceville PWS intake to the mouth was relisted based on an E. coli exceedance rate of 3/12 at 5AGTC005.40. The impairment is extended to re-incorporate this portion.

The Meherrin River Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The TMDL addressed the entire riverine portion of Great Creek. The segments are considered Category 2C/3A/4A as appropriate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K06R_GTC01C10 / Great Creek / Powell Creek to upstream extent of PWS Section 5a-3b.	4A	Escherichia coli	2006	L	6.44
VAP-K06R_GTC02B00 / Great Creek / Upstream extent of PWS Section 5a-3b to extent of backwater at Great Creek Reservoir.	4A	Escherichia coli	2006	L	2.18
VAP-K06R_GTC04B00 / Great Creek / Great Creek Reservoir dam to the Lawrenceville PWS intake (PWS Section 5a-3b).	4A	Escherichia coli	2008	L	2.75
VAP-K06R_GTC05B00 / Great Creek / Lawrenceville PWS intake to its mouth.	4A	Escherichia coli	2018	L	7.57

Great Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.94**

Fact Sheets for
Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K06R-03-BAC** **Stevens Branch**

Cause Location: The mainstem of Stevens Branch from its headwaters to its mouth at Great Creek.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Stevens Branch was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 5/10 at 5ASTV000.62, which is located at a private road off of Rt. 700.

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K06R_STV01A10 / Stevens Branch / Headwaters to mouth at Great Creek	4A	Escherichia coli	2010	L	4.30

Stevens Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.30**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K06R-04-BAC** **Tea Branch**

Cause Location: The mainstem of Tea Branch from its headwaters to its mouth at Great Creek.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Tea Branch was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 9/11 at 5ATEA001.47, which is located at Rt. 652.

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K06R_TEA01A10 / Tea Branch / Headwaters to mouth at Great Creek	4A	Escherichia coli	2010	L	3.24

Tea Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.24**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K06R-05-BAC** **XHQ - Great Creek, UT**

Cause Location: Headwaters to its mouth at Great Creek.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Tributary XHQ was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/12 at 5AXHQ000.38, which is located at Rt. 603.

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area and the TMDL states that this segment will be considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K06R_XHQ01A10 / XHQ - Great Creek, UT / Headwaters to mouth at Great Creek	4A	Escherichia coli	2010	L	2.12

XHQ - Great Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.12**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K07R-02-BAC** **Roses Creek**

Cause Location: From the Alberta Sewage Treatment Plant discharge to the mouth at Great Creek.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Roses Creek from the Alberta STP discharge downstream to its mouth at Great Creek was previously evaluated not supporting of the Recreation Use support goal based on fecal coliform standard exceedances at the Route 678 bridge (5ARSE001.22). The TMDL was completed for E. coli and was approved by the EPA on 7/6/2004 and by the SWCB on 12/2/04.

During the 2010 cycle, the segment remained impaired with an E. coli violation rate of 13/33 at 5ARSE001.22 and 4/12 at 5ARSE000.23. The violation rate at 5ARSE006.68 was acceptable (1/12).

The violation rate at 5ARSE001.22 was 7/24 during the 2014 cycle. No other additional data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K07R_RSE01A96 / Roses Creek / Alberta STP to mouth at Great Creek	4A	Escherichia coli	2006	L	9.85

Roses Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.85**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K07R-03-BAC** **Rocky Run**

Cause Location: Rocky Run and its tributaries, including Sandy Branch.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Rocky Run was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 4/11 at 5ARYR000.62, which is located at Rt. 642.

Rocky Run drains to Roses Creek, which has a completed bacterial TMDL that was adopted by the EPA on 7/6/2004 and by the SWCB on 12/2/2004. The TMDL requires extensive reductions in the watershed; therefore, this segment is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K07R_RYR01A08 / Rocky Run / Rocky Run and its tributaries downstream to its mouth at Roses Creek.	4A	Escherichia coli	2010	L	21.27

Rocky Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**21.27**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K07R-03-BEN** **Rocky Run**

Cause Location: Rocky Run and its tributaries, including Sandy Branch.

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Rocky Run was assessed as impaired of the Aquatic Life Use due to a benthic impairment at freshwater probabilistic monitoring station 5ARYR001.23.

Additional monitoring occurred during the 2014 cycle, both at station 5ARYR001.23 and at station 5ARYR000.62, which is located at Rt. 642. There is severe impairment at both stations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K07R_RYR01A08 / Rocky Run / Rocky Run and its tributaries downstream to its mouth at Roses Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	21.27

Rocky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**21.27**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K07R-04-BAC** **Roses Creek**

Cause Location: From its headwaters downstream to the Alberta Sewage Treatment Plant discharge.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, the portion of Roses Creek upstream of the sewage treatment plant outfall was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/9 at 5ARSE009.87.

Although this station is upstream of the original impaired segment, it was included in the Roses Creek Bacterial TMDL, which was adopted by the EPA on 7/6/2004 and by the SWCB on 12/2/2004. The TMDL requires extensive reductions in the watershed; therefore, this segment is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K07R_RSE01B10 / Roses Creek / Headwaters to Town of Alberta's STP discharge	4A	Escherichia coli	2010	L	1.95

Roses Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.95**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K07R-05-BAC** **Soloman Creek**

Cause Location: Headwaters to mouth at Roses Creek.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle, Soloman Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/11 at 5ASMN001.97, which is located at Rt. 634.

The creek drains to Roses Creek, which has a completed bacterial TMDL that was adopted by the EPA on 7/6/2004 and by the SWCB on 12/2/2004. The TMDL requires extensive reductions in the watershed; therefore, this segment is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K07R_SMN01A18 / Soloman Creek / Headwaters to mouth at Roses Creek	4A	Escherichia coli	2018	L	4.98

Soloman Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.98**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08L-01-HG** **Emporia Lake (Meherrin Reservoir)**

Cause Location: Emporia Lake

City / County: Greensville Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

In 2007 the lake had fish tissue monitoring with Mercury in 3 species (Chain Pickerel, Largemouth Bass and Redear Sunfish.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08L_MHN02C98 / Emporia Lake (Meherrin Reservoir) / On Meherrin River in Emporia	5A	Mercury in Fish Tissue	2014	L	263.68

Emporia Lake (Meherrin Reservoir)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**263.68**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08L-02-CHLA** **Brunswick Lake**

Cause Location: Brunswick Lake

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

During the 2016 cycle the segment became impaired for Chlorophyll a with 2/3 exceedances.

no new data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08L_RDC01A98 / Brunswick Lake (County Pond) / VDGIF lake on Reedy Creek.	5A	Chlorophyll-a	2016	L	160.33

Brunswick Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chlorophyll-a - Total Impaired Size by Water Type:		**160.33**	

Sources:

Agriculture

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08L-02-DO** **Brunswick Lake**

Cause Location: Brunswick Lake

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

In 2006 Brunswick Lake was assessed as not supporting the Aquatic Life Use due to low dissolved oxygen in bottom waters. The low DO only occurred during periods of stratification, however the TSIs for the lake were above 60:

TSI(TP) = 64
TSI(CA) = 69
TSI(SD) = 66

Therefore the low dissolved oxygen was considered to be exacerbated by excessive nutrients and a TMDL was required. In addition, both total phosphorus and chlorophyll a were considered observed effects b/c of screening level exceedances. The lake should be reevaluated once nutrient criteria are established.

For the 2008 cycle nutrient criteria was developed for lakes and DO was no longer impaired. Only pH was impaired at 5ARDC007.30 with an exceedance rate of 5/36.

In the 2012 cycle the segment was listed as impaired for aquatic life use with a DO exceedance rate of 7/37 at station 5ARDC007.30.

During the 2014 cycle there was no new data so the impairments remain.

During the 2016 cycle the segment was impaired for DO with an exceedance rate of 7/56 at 5ARDC007.30 and 9/47 at 5ARDC008.50.

no new data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08L_RDC01A98 / Brunswick Lake (County Pond) / VDGIF lake on Reedy Creek.	5A	Oxygen, Dissolved	2006	L	160.33

Brunswick Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**160.33**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08R-02-BAC** **Robinson Creek**

Cause Location: Robinson Creek from its headwaters to its mouth.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Robinson Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/11 at 5ARNS000.94, which is located at a private road east of Rt. 670.

The Meherrin River and Tributaries Bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. The impairment is within the study area; therefore, this segment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08R_RNS01A10 / Robinson Creek / Headwaters to mouth at the Meherrin River	4A	Escherichia coli	2010	L	6.07

Robinson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.07**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08R-03-BAC** **Wilson Creek**

Cause Location: Wilson Creek from its beginning at the confluence of Dukes Branch and Huckleberry Branch to its mouth at Brunswick Lake.

City / County: Brunswick Co. Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, Wilson Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5AWIL002.42, which is located at the Route 712 bridge.

The exceedance rate was 5/12 during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08R_WIL01A10 / Wilson Creek / Start of Wilson Creek at the confluence of Dukes Branch and Huckleberry Branch to its mouth at Brunswick Lake	5A	Escherichia coli	2012	L	2.74

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.74**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08R-03-BEN** **Wilson Creek**

Cause Location: Wilson Creek from its beginning at the confluence of Dukes Branch and Huckleberry Branch to its mouth at Brunswick Lake.

City / County: Brunswick Co. Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle, Wilson Creek was assessed as not supporting of the Aquatic Life Use due to impairment of the benthic community at 5AWIL002.42, which is located at Rt. 712. Additional monitoring during the 2014 cycle showed an acceptable benthic community; therefore, the stream was delisted.

During the 2016 cycle, the segment was relisted and impaired for Benthics.

The station has been discontinued due to safety concerns.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08R_WIL01A10 / Wilson Creek / Start of Wilson Creek at the confluence of Dukes Branch and Huckleberry Branch to its mouth at Brunswick Lake	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.74

Wilson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.74**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08R-04-BAC** **XII - UT to Dukes Branch**

Cause Location: Headwaters to the mouth at Dukes Branch

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the segment was impaired of the Recreation use due to an E.coli exceedance rate of 3/10 at 5AXII000.38.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08R_XII01A16 / XII - UT to Dukes Branch / Headwaters to mouth	5A	Escherichia coli	2016	L	1.71

XII - UT to Dukes Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.71**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K08R-05-BAC** **Dukes Branch**

Cause Location: Headwaters to the mouth

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Dukes Branch was impaired of the Recreation use due to an E.coli exceedance rate of 4/12 at 5ADUK001.42.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K08R_DUK01A16 / Dukes Branch / Headwaters to the mouth	5A	Escherichia coli	2016	L	2.58

Dukes Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K09R-01-BAC** **Meherrin River**

Cause Location: The Meherrin River from the Emporia Reservoir Dam to the Route 730 bridge

City / County: Emporia City Greensville Co. Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the Meherrin River from the Emporia Reservoir dam downstream to Route 730 became impaired for the Recreation Use. Station 5AMHN026.54 had a 2/12 exceedance rate and station 5AMHN052.34 had a 4/36 exceedance rate for E.coli.

The E. coli exceedance rate was 5/36 at 5AMHN052.34 during the 2018 cycle. In addition, the impairment was extended downstream to Fontaine Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K09R_MHN01D98 / Meherrin River / Emporia Reservoir Dam to the Route 730 bridge	5A	Escherichia coli	2016	L	26.75
VAP-K09R_MHN02D00 / Meherrin River / Route 730 bridge to Fontaine Creek (CM21/CM29 watershed boundary).	5A	Escherichia coli	2018	L	2.26

Meherrin River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**29.01**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K09R-01-HG** **Meherrin River, Fontaine Creek, Mill Swamp**

Cause Location: Meherrin River below Emporia Reservoir Dam to the state line, including its tributaries Fontaine Creek up to I-95 bridge crossing and Mill Creek up to I-95 bridge crossing

City / County: Emporia City Greensville Co. Southampton Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

On 12/13/2004, the Virginia Department of Health issued a fish consumption advisory due to mercury in gizzard shad. The advisory includes the Meherrin River from below the Emporia dam downstream ~28 miles to the Route 730 bridge. In addition, on 9/16/2008, they issued an advisory for bowfin and largemouth bass from Emporia Reservoir dam to the state line, including the tributaries Fontaine Creek and Mill Swamp up to the I-95 bridge crossings.

The segments will be considered impaired of the Fish Consumption Use. The advisory was based on mercury exceedances at DEQ monitoring stations 5AMHN026.54, 5AMHN051.43, 5AFON006.07, and 5AMLS001.42.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K09R_MHN01D98 / Meherrin River / Emporia Reservoir Dam to the Route 730 bridge	5A	Mercury in Fish Tissue	2010	L	26.75
VAP-K09R_MHN02D00 / Meherrin River / Route 730 bridge to Fontaine Creek (CM21/CM29 watershed boundary).	5A	Mercury in Fish Tissue	2010	L	2.26
VAP-K11R_FON03A98 / Fontaine Creek (aka Fountains Creek) / I-95 bridge to the Route 301 bridge.	5A	Mercury in Fish Tissue	2010	L	7.30
VAP-K11R_FON04A00 / Fontaine Creek (aka Fountains Creek) / Route 301 bridge to the Meherrin River in K12	5A	Mercury in Fish Tissue	2010	L	14.48
VAP-K12R_MLS01A00 / Mill Swamp / I-95 bridge to mouth at Fontaine Creek.	5A	Mercury in Fish Tissue	2010	L	11.53
VAT-K09R_MHN02D08 / Meherrin River / CM21/CM29 watershed boundary at Fountaine Cr to North Carolina border at NC Hwy 186	5A	Mercury in Fish Tissue	2010	L	5.42

Meherrin River, Fontaine Creek, Mill Swamp **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**67.74**

Sources:

Atmospheric Deposition - Toxics Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K09R-01-PCB** **Meherrin River**

Cause Location: The Meherrin River from the Emporia Reservoir Dam to the Route 730 bridge

City / County: Emporia City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

During the 2004 cycle, the Meherrin River from the Emporia Reservoir dam downstream approximately 5 miles was assessed as not supporting the Fish Consumption Use due to PCBs in fish tissue in two samples at station 5AMHN051.43.

During the 2006 cycle, VDH issued a fish consumption advisory for PCBs from the Emporia dam to the Route 730 bridge (12/13/2004). The segment was extended to match the advisory. The TMDL due date for PCBs is 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K09R_MHN01D98 / Meherrin River / Emporia Reservoir Dam to the Route 730 bridge	5A	PCB in Fish Tissue	2004	L	26.75

Meherrin River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**26.75**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-01-DO** **Rattlesnake Creek**

Cause Location: Rattlesnake Creek mainstem from headwaters to its mouth at Fontaine Creek

City / County: Brunswick Co. Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Rattlesnake Creek from Edwards Creek to its mouth was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at several stations in the segment. The impairment was extended upstream in the 2012 cycle. During the 2014 cycle, the exceedance rates were as follows:

1/10 at 5ARSK000.23
4/24 at 5ARSK003.08
6/12 at 5ARSK006.97
4/12 at 5ARSK009.28
2/10 at 5ARSK011.59

During the 2016 cycle the segment remained impaired for Aquatic Life Use due to dissolved oxygen exceedances at stations 5ARSK006.97 and 5ARSK009.28 (3/12 and 4/12, respectively.) Monitoring at station 5ARSK003.08 and 5ARSK011.59 was acceptable.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_RSK01A00 / Rattlesnake Creek / Headwaters to its mouth at Fontaine Creek.	5C	Oxygen, Dissolved	2010	L	17.18

Rattlesnake Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**17.18**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-02-BAC** **Fontaine Creek (Fountains Creek)**

Cause Location: Fontaine Creek mainstem from Quarrel Creek to Rocky Run.

City / County: Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Fontaine Creek from Quarrel Creek to Rocky Run was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 4/24 at 5AFON037.89, which is located at Rt. 603.

The segment is located with the study area for the Fontaine Creek Bacterial TMDL, which was approved by the EPA on 1/13/2011 and by the SWCB on 8/4/2011. All bacterial impairments within the watershed will be addressed during the implementation phase; therefore, the segment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_FON01B10 / Fontaine Creek / Fontaine Creek from the confluence of Quarrel Creek to the end of the watershed at Rocky Run.	4A	Escherichia coli	2010	L	0.56

Fontaine Creek (Fountains Creek) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.56**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-02-DO** **Fontaine Creek (Fountains Creek)**

Cause Location: Fontaine Creek mainstem from Rattlesnake Creek Quarrel Creek and from Rocky Run to the confluence with tributary XGV

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Fontaine Creek from Rattlesnake to the confluence with tributary XGV was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances throughout the segment.

3/9 at 5AFON039.47
3/25 at 5AFON037.89
5/12 at 5AFON033.05
3/12 at 5AFON027.33

During the 2016 cycle, the portion from Rattlesnake Run to Quarrel Creek remained impaired for Aquatic life use due to a DO exceedance rate of 2/12 at station 5AFON039.47. The portion from Quarrel Creek to Rocky Run was partially delisted (1/12 at 5AFON037.89). Rocky Run to XGV also remained listed (3/12 at 5AFON033.05, 0/12 at 5AFON027.33)

No additional monitoring was conducted during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_FON01A04 / Fontaine Creek / Fontaine Creek from the confluence of Rattlesnake Creek to Quarrel Creek.	5C	Oxygen, Dissolved	2010	L	4.60
VAP-K11R_FON01A02 / Fontaine Creek / Rocky Run to tributary XGV	5C	Oxygen, Dissolved	2010	L	12.04

Fontaine Creek (Fountains Creek)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**16.64**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-03-BAC** **Quarrel Creek**

Cause Location: Quarrel Creek mainstem from White Oak Creek to its mouth.

City / County: Brunswick Co. Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, Quarrel Creek became impaired for the Recreation Use due to E.coli exceedances with a violation rate of 3/11 and was nested into the Fontaine Creek Bacteria TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_QRL01A10 / Quarrel Creek / Confluence with White Oak Creek to mouth at Fontaine Creek	4A	Escherichia coli	2016	L	3.34

Quarrel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.34**

Sources:

Agriculture Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-03-DO** **Quarrel Creek**

Cause Location: Quarrel Creek mainstem from White Oak Creek to its mouth.

City / County: Brunswick Co. Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Quarrel Creek from White Oak Creek to its mouth was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at 5AQRL000.54, which is located at Rt. 602. The exceedance rate was 5/12 during the 2012 cycle.

During the 2016 cycle, the segment remained impaired for the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/24 at 5AQRL000.54.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_QRL01A10 / Quarrel Creek / Confluence with White Oak Creek to mouth at Fontaine Creek	5C	Oxygen, Dissolved	2010	L	3.34

Quarrel Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.34**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-03-PH** **Quarrel Creek**

Cause Location: Quarrel Creek mainstem from White Oak Creek to its mouth.

City / County: Brunswick Co. Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2016 cycle, Quarrel Creek from White Oak Creek to its mouth was impaired for the Aquatic Life Use due to a pH exceedance rate of 3/24.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_QRL01A10 / Quarrel Creek / Confluence with White Oak Creek to mouth at Fontaine Creek	5C	pH	2016	L	3.34

Quarrel Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.34**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-04-DO** **Beddingfield Creek**

Cause Location: Beddingfield Creek from Mason Branch to its mouth at Fontaine Creek.

City / County: Brunswick Co. Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Beddingfield Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 5ABDD000.69, which is located at Rt. 600. The violation rate was 5/11 during the 2012 cycle.

During the 2016 cycle, the segment was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 5ABDD000.69 with a violation rate of 5/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_BDD01A10 / Beddingfield Creek / Mason Branch to mouth at Fontaine Creek	5C	Oxygen, Dissolved	2010	L	4.18

Beddingfield Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.18**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K10R-06-PH** **Rocky Run**

Cause Location: Rocky Run from the Doyle Lake dam to its mouth at Fontaine Creek.

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Rocky Run was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a pH exceedance rate of 2/12 at 5ARCY000.90, which is located at Route 604.

During the 2016 cycle, the segment remained impaired for the Aquatic Life Use due to a pH exceedance rate of 2/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K10R_RCY01A10 / Rocky Run / Doyle Lake dam to mouth at Fontaine Creek	5C	pH	2010	L	0.86

Rocky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.86**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K11R-03-BAC** **Cattail Creek**

Cause Location: Cattail Creek upstream of Collier Branch.

City / County: Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Beginning in the 2004 cycle, the segment was assessed as not supporting of the Recreation Use goal based on fecal coliform exceedances at 5ACTT005.89 and 5ACTT002.73. These stations are confined animal feeding operation (CAFO) special study stations and are located at the Route 633 and Route 622 bridges.

Additional monitoring at 5ACTT002.73 was conducted during the 2010 cycle. The bacterial impairment converted to E. coli due to an exceedance rate of 2/12.

The Fontaine Creek Bacterial TMDL was developed during the 2012 cycle. It was approved by the EPA on 1/13/2011 and by the SWCB on 8/4/2011. Cattail Creek is within the study area for the TMDL; therefore, it is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K11R_CTT01A02 / Cattail Creek / Headwaters at Smith Pond dam to Collier Branch	4A	Escherichia coli	2010	L	5.33

Cattail Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.33**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K11R-05-DO** **Beaverpond Creek**

Cause Location: The mainstem of Beaverpond Creek within Virginia.

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Beaverpond Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances. The exceedance rates during the 2012 cycle were as follows:

3/12 at 5ABVC000.48
2/12 at 5ABVC002.31

During the 2016 cycle, the segment remained impaired with a DO exceedance rate of 3/12 at 5ABVC002.31. Monitoring at station 5ABVC000.48 was acceptable (1/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K11R_BVC01A04 / Beaverpond Creek / VA-NC state line to mouth at Fontaine Creek	5C	Oxygen, Dissolved	2010	L	3.35

Beaverpond Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K11R-06-PH** **XGV - Fontaine Creek, UT**

Cause Location: Headwaters to mouth

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

XGV was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a pH exceedance rate of 3/7 at 5AXGV000.92.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K11R_XGV01A10 / XGV - Fontaine Creek, UT / Headwaters to mouth at Fontaine Creek	5C	pH	2010	L	1.95

XGV - Fontaine Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.95**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K11R-08-DO** **XGU - Fontaine Creek, UT**

Cause Location: Headwaters to mouth

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

XGU was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a dissolved oxygen exceedance rate of 9/12 at 5AXGU000.35, which is located at frontage road F-128.

During the 2016 cycle, the segment remained impaired due to a dissolved oxygen exceedance rate of 4/11 at 5AXGU000.35

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K11R_XGU01A10 / XGU - Fontaine Creek, UT / Headwater to mouth at Fontaine Creek	5C	Oxygen, Dissolved	2010	L	1.82

XGU - Fontaine Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.82**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K11R-08-PH** **XGU - Fontaine Creek, UT**

Cause Location: Headwaters to mouth

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

XGU was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a pH exceedance rate of 6/12 at 5AXGU000.35, which is located at frontage road F-128.

During the 2016 cycle, the segment remained impaired due to a pH exceedance rate of 9/11 at 5AXGU000.35.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K11R_XGU01A10 / XGU - Fontaine Creek, UT / Headwater to mouth at Fontaine Creek	5C	pH	2010	L	1.82

XGU - Fontaine Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.82**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K12R-01-BAC** **Fontaine Creek**

Cause Location: From the Route 301 bridge to its mouth at the Meherrin River. Nested within segment VAP-K11R-03.

City / County: Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 2002 the segment of Fontaine Creek from Mill Creek to the Meherrin River was assessed as not supporting of the Recreation Use based on fecal coliform exceedances at the Route 625 bridge (5AFON006.07). During the year 2006 cycle, the segment was amended from the Route 301 bridge to the Meherrin River and E. coli was added as an impairment.

During the 2008 cycle, the segment remained impaired for bacteria due to E. coli exceedances and the impairment converted to E. coli. The violation rates during the 2010 cycle were 3/8 at 5AFON001.46 and 4/23 at 5AFON006.07.

The Fontaine Creek Bacterial TMDL was developed during the 2012 cycle and was approved by the EPA on 1/13/2011 and by the SWCB on 8/4/2011. The impairment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K11R_FON04A00 / Fontaine Creek (aka Fountains Creek) / Route 301 bridge to the Meherrin River in K12	4A	Escherichia coli	2006	L	14.48

Fontaine Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.48**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K13R-01-BAC** **Tarrara Creek**

Cause Location: This cause encompasses the entirety of Tarrara Creek located northeast of Boykins.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired based on the E.coli bacteria data exceeds the swimming criteria indicator with 9 violates/ 34 obs at Station 5ATRR002.50. A TMDL was established for E. Coli on 9/28/2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K13R_TRR01A00 / Tarrara Creek / Located northeast of Boykins. All of Tarrara Creek. Flat, marshy with low flow swamp characteristics.	4A	Escherichia coli	2008	L	14.49

Tarrara Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**14.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K13R-04-BAC** **Flat Swamp**

Cause Location: This cause encompasses the area downstream of the confluence of Bellyache Swamp and Frank's Branch extending downstream to its confluence with Tarrara Creek.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Impairment is retained for Recreational Use based on Fecal Coliform data (3 viol / 11 obs). Recreation Use was first listed as impaired in 2004 for Fecal Coliform. A Bacteria TMDL for Flat Swamp was EPA approved 9/28/2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K13R_FTS01A04 / Flat Swamp / North of White Head Hall. Downstream of the confluence of Bellyache Swamp and Frank's Branch extending downstream to its confluence with Tarrara Creek.	4A	Escherichia coli	2016	L	8.48

Flat Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K14L-02-BAC** **Nottoway Falls Lake**

Cause Location: Nottoway Falls Lake

City / County: Lunenberg Co. Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station ID: 5ANTW143.06 (2007/2011-2012 Nottoway Falls Lake)

During the 2016 cycle the segment was impaired for E. coli - 2/14 exceedance Rate.

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K14L_NTW01L00 / Nottoway Falls Lake / Nottoway River	5A	Escherichia coli	2014	L	32.19

Nottoway Falls Lake **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**32.19**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K14L-02-DO** **Nottoway Falls Lake**

Cause Location: Nottoway Falls Lake

City / County: Lunenberg Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Station ID:
5ANTW143.06 (2007 Nottoway Falls Lake)
During the 2016 cycle the segment was impaired for DO - 7/39 exceedance Rate.
No new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K14L_NTW01L00 / Nottoway Falls Lake / Nottoway River	5A	Oxygen, Dissolved	2004	L	32.19

Nottoway Falls Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**32.19**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K14L-02-HG** **Nottoway Falls Lake**

Cause Location: Nottoway Falls Lake

City / County: Lunenberg Co. Nottoway Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station ID:
5ANTW143.06 (2007 FT Sampling)
During the 2016 Fish tissue monitoring had results of Hg in 2 Species.
During the 2018 cycle it was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K14L_NTW01L00 / Nottoway Falls Lake / Nottoway River	5A	Mercury in Fish Tissue	2010	L	32.19

Nottoway Falls Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**32.19**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K14R-01-BAC** **Nottoway River**

Cause Location: Headwaters to the backwater of Nottoway Falls Lake

City / County: Lunenberg Co. Nottoway Co. Prince Edward Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 1998, Nottoway River from its headwaters to The Falls was assessed as fully supporting but threatened of the Recreation Use due to fecal coliform exceedances at 5ANTW155.06. It was included on EPA's Attachment B "Waters to be Identified to Virginia for Listing Consideration During Development of Next List." It was downgraded to impaired in the 2002 cycle.

It converted to E. coli in the 2006 cycle due to an exceedance rate of 3/21 at 5ANTW155.06.

The Non-Tidal Chowan River Watershed Bacterial TMDL was approved by the EPA on 10/14/2005 and by the SWCB on 9/27/2006.

In the 2018 cycle, the E. coli exceedance rate is 8/36 at DEQ station 5ANTW155.06.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K14R_NTW01A98 / Nottoway River / Headwaters to a point 5 miles upstream of Victoria's PWS intake 200 feet upstream of Route 49.	4A	Escherichia coli	2006	L	13.53
VAP-K14R_NTW02A98 / Nottoway River / From a point 5 miles upstream of Victoria's intake to the backwaters of Nottoway Falls Lake, excluding tributaries.	4A	Escherichia coli	2006	L	4.03

Nottoway River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.56**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K14R-01-BEN** **Nottoway River**

Cause Location: Nottoway River from its confluence with Big Hounds Creek to its confluence with Little Nottoway River.

City / County: Lunenberg Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle, the Nottoway River from Big Hounds Creek to the Little Nottoway River was impaired of the Aquatic Life Use based on 2007 monitoring at freshwater probabilistic monitoring station 5ANTW134.52.

This section of the Nottoway River had very slow-moving water and limited habitat availability, mostly in the form of large woody debris. Sediment deposition in the river was relatively high and banks were marginally stable. The flow was low in the fall due to the drought.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K14R_NTW01C98 / Nottoway River / Big Hounds Creek to a point 5 miles upstream of Fort Pickett's raw water intake.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	6.38
VAP-K14R_NTW01D04 / Nottoway River / Nottoway River from a point five miles upstream of Fort Pickett's raw water intake to the Little Nottoway River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	0.89

Nottoway River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.27**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K14R-02-BAC** **Big Hounds Creek**

Cause Location: Big Hounds Creek from the Lunenburg Lake dam to its mouth on the Nottoway River.

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 1998 cycle, Big Hounds Creek was fully supporting but threatened of the Recreation Use due to a fecal coliform exceedance rate of 4/19 recorded at 5ABHC003.73. It was included on EPA's Attachment B "Waters to be Identified to Virginia for Listing Consideration During Development of Next List." It was downgraded to impaired in the 2002 cycle with a TMDL due date of 2010.

The impairment was addressed in the Non-Tidal Chowan River Bacterial TMDL report, which was approved by the EPA on 10/14/2005 and by the SWCB on 9/27/2006.

It was subsequently shortened to end at the Lunenburg Lake dam.

In the 2014 cycle, the exceedance rate at 5ABHC003.73 was 2/12. Level II citizen monitoring was as follows:
6/34 at 5A-BHC-LUN01-SSWCD
3/36 at 5A-BHC-LUN02-SSWCD
4/36 at 5A-BHC-LUN03-SSWCD

In the 2018 cycle, no additional monitoring has been conducted; therefore, the segment remains impaired (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K14R_BHC01B98 / Big Hounds Creek / From Lunenburg Lake dam to the Nottoway River.	4A	Escherichia coli	2006	L	10.34

Big Hounds Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.34**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal Point Source Discharges
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K14R-03-BAC** **Modest Creek**

Cause Location: Modest Creek Reservoir to the mouth at the Nottoway River

City / County: Lunenberg Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle, Modest Creek below Modest Creek Reservoir was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5AMDT001.20.

The stream is located within the study area for Nottoway River bacterial TMDL, which was part of the Non-Tidal Chowan River Watershed TMDL report. The report was approved by the EPA on 10/14/2005 and by the SWCB on 9/27/2006. The impairment is proposed for nesting (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K14R_MDT01C06 / Modest Creek / Modest Creek from Modest Creek Reservoir to its mouth at the Nottoway River.	4A	Escherichia coli	2018	L	4.86

Modest Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.86**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K15L-01-HG** **Nottoway Pond**

Cause Location: Nottoway Pond

City / County: Nottoway Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station ID:
5ALZT000.12 (2007 FT Sampling)
Hg 2 Species

No new data during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K15L_LZT01L00 / Nottoway Pond / Lazaretto Creek	5A	Mercury in Fish Tissue	2010	L	50.70

Nottoway Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**50.70**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K15R-01-BAC** **Little Nottoway River**

Cause Location: Little Nottoway River from its confluence with Lazaretto Creek to its mouth on the Nottoway River.

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 1998 cycle, the Little Nottoway River below Lazaretto Creek was assessed as fully supporting but threatened for the Recreation Use due to a fecal coliform exceedance rate of 4/20 at 5ALNT004.68. It was included on EPA's Attachment B, the "Waters to be Identified to Virginia for Listing Consideration During Development of Next List." It was downgraded to impaired in the 2002 cycle.

The impairment converted to E. coli in the 2006 cycle.

The TMDL was addressed in the Non-Tidal Chowan River Watershed Bacterial TMDL report, which was approved by the EPA on 10/14/2005 and by the SWCB on 9/27/2006.

In the 2016 cycle, the exceedance rate at upstream station 5ALNT009.80 was also impaired (3/12.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K15R_LNT01A00 / Little Nottoway River / From Lazaretto Creek to a point 5 miles upstream of Fort Pickett's raw water intake.	4A	Escherichia coli	2006	L	9.08
VAP-K15R_LNT02A04 / Little Nottoway River / Little Nottoway River from a point 5 miles upstream from Fort Pickett's raw water intake to its confluence with Nottoway River.	4A	Escherichia coli	2006	L	0.83

Little Nottoway River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.91**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K15R-02-BAC** **Carys Creek**

Cause Location: Carys Creek from its headwaters to the mouth

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2010: 24384, 10/14/2005

During the 2006 cycle, Carys Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5ACRY001.10.

Carys Creek is located within the study area for the Little Nottoway Bacterial TMDL, which was addressed as part of the Non-Tidal Chowan River Watershed Bacterial TMDL report. The TMDL was approved by the EPA on 10/14/2005 and by the SWCB on 9/27/2006. The impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K15R_CRY01A06 / Carys Creek / Carys Creek from its headwaters to the mouth	4A	Escherichia coli	2006	L	6.34

Carys Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.34**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K15R-03-BAC** **Lazaretto Creek**

Cause Location: Lazaretto Creek from its headwaters to the backwater of Crystal Lake.

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2010: 24384, 10/14/2005

During the 2010 cycle, Lazaretto Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at station 5ALZT001.39.

The stream is located within the study area for the Little Nottoway Bacterial TMDL, which was addressed as part of the Non-Tidal Chowan River Watershed Bacterial TMDL report. The TMDL was approved by the EPA on 10/14/2005 and by the SWCB on 9/27/2006. The impairment is considered nested (Category 4A.)

The exceedance rate was 2/12 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K15R_LZT01A10 / Lazaretto Creek / Lazaretto Creek from a point five miles upstream of the Crewe WTP intake to the backwater of Crystal Lake.	4A	Escherichia coli	2010	L	3.91
VAP-K15R_LZT01B18 / Lazaretto Creek / Lazaretto Creek from its headwaters to a point five miles upstream of the Crewe WTP intake.	4A	Escherichia coli	2010	L	1.06

Lazaretto Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.97**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K15R-04-BEN** **Mallorys Creek**

Cause Location: Mallorys Creek from its headwaters to the mouth

City / County: Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2014 cycle, Mallorys Creek was impaired of the Aquatic Life Use based on 2012 freshwater probabilistic monitoring at 5AMLL000.03. Sediment metrics scored moderate to low with the presence of beaver activity and filamentous algae.

Additional monitoring occurred in 2014 at station 5AMLL001.27. This also indicated impairment. This is a small stream with eroded clay banks and excessive sedimentation. There is cattle access downstream of the bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K15R_MLL01A06 / Mallorys Creek / Mallorys Creek from its headwaters to the mouth	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	7.11

Mallorys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.11**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K15R-05-BAC** **Whetstone Creek**

Cause Location: Whetstone Creek from its headwaters to its mouth on the Little Nottoway River.

City / County: Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

NESTED 2014: 24384, 10/14/2005

During the 2014 cycle, Whetstone Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/11 at station 5AWSN000.48.

The stream is located within the study area for the Little Nottoway Bacterial TMDL, which was addressed as part of the Non-Tidal Chowan River Watershed Bacterial TMDL report. The TMDL was approved by the EPA on 10/14/2005 and by the SWCB on 9/27/2006. The impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K15R_WSN01A08 / Whetstone Creek / Whetstone Creek from its headwaters to its mouth on the Little Nottoway River	4A	Escherichia coli	2014	L	8.41

Whetstone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.41**

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K15R-06-BEN** **Little Nottoway River**

Cause Location: Little Nottoway River from its confluence with Lazaretto Creek to 5 miles above the Town of Blackstone's raw water intake.

City / County: Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2018 cycle, this segment of the Little Nottoway River was impaired of the Aquatic Life Use due to a poor benthic community during 2013 monitoring at 5ALNT009.80, which is located at the Route 625 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K15R_LNT01A00 / Little Nottoway River / From Lazaretto Creek to a point 5 miles upstream of Fort Pickett's raw water intake.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	9.08

Little Nottoway River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.08**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16L-01-DO** **Fort Pickett Reservoir**

Cause Location: Fort Pickett Reservoir

City / County: Brunswick Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2018 cycle the segment became impaired for DO at station 5ANTW127.14 with an exceedance rate of 5/46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16L_NTW01L04 / Fort Pickett Reservoir / Fort Pickett Reservoir	5A	Oxygen, Dissolved	2018	L	318.95

Fort Pickett Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**318.95**	

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16L-01-TP** **Fort Pickett Reservoir**

Cause Location: Fort Pickett Reservoir

City / County: Brunswick Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

Station IDs:
5ANTW127.14 (Lake Station)
During the 2016 cycle the Lake was treated with algaecides and was impaired for Total Phosphorus - 2/3 exceedance Rate (Median calculated from 3 sample years)

During the 2018 cycle the segment remained impaired for TP with 1/2 exceedances.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16L_NTW01L04 / Fort Pickett Reservoir / Fort Pickett Reservoir	5A	Phosphorus (Total)	2012	L	318.95

Fort Pickett Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**318.95**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16R-01-BEN** **XBL - Hurricane Branch, UT**

Cause Location: Hurricane Branch, UT from the Town of Blackstone STP to its mouth on Hurricane Branch.

City / County: Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Hurricane Branch below the Town of Blackstone Municipal STP was initially impaired in the 1994 cycle based on benthic monitoring gat 5AXBL000.80 in comparison to reference station 5AXBL001.18, which is located upstream of the discharge.

The TMDL was approved by the EPA on 9/30/2004 and by the SWCB on 3/15/2005.

Additional monitoring in 2008 and 2010-2012 confirmed the impairment.

Note: The impairment was extended upstream to the headwaters in the 2008 cycle based on an impaired community at 5AXBL000.80. This section was considered nested; however, it was mistakenly included in the same fact sheet. The impairment will remain nested in the 2018 cycle, but the fact sheets will be separated (see K16R-03-BEN).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16R_XBL01A94 / Hurricane Branch, Unnamed Tributary / From Blackstone STP discharge to mouth at Hurricane Branch.	4A	Benthic-Macroinvertebrate Bioassessments	1994	L	1.07

XBL - Hurricane Branch, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.07**

Sources:

Non-Point Source	Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16R-02-BAC** **Beaver Pond Creek**

Cause Location: Beaver Pond Creek from its headwaters to its mouth on the Nottoway River

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Beaverpond Creek was assessed as fully supporting but threatened for the Recreation Use in the 1998 cycle to a fecal coliform exceedance rate of 6/12 at 5ABPC000.12. It was included on EPA's Attachment B list - "Waters Identified to Virginia for Listing Consideration During Development of Next List." It wad downgraded in the 2002 cycle with a TMDL due date of 2010.

The impairment converted to E. coli in the 2006 cycle due to an exceedance rate of 4/12.

The TMDL for Beaver Pond Creek was included in the Non-Tidal Chowan River Watershed Bacterial TMDL, which was approved by the EPA on 10/15/2005 and by the SWCB on 9/27/2006.

The exceedance rate was 13/24 in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16R_BPC01A00 / Beaver Pond Creek / Beaver Pond Creek from its headwaters to its mouth on the Nottoway River	4A	Escherichia coli	2004	L	7.43

Beaver Pond Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.43**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16R-03-BEN** **XBL - Hurricane Branch, UT**

Cause Location: Hurricane Branch, UT from its headwaters to the Town of Blackstone outfall

City / County: Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Hurricane Branch below the Town of Blackstone Municipal STP was initially impaired in the 1994 cycle based on benthic monitoring gat 5AXBL000.80 in comparison to reference station 5AXBL001.18, which is located upstream of the discharge. The TMDL was approved by the EPA on 9/30/2004 and by the SWCB on 3/15/2005.

The impairment was extended upstream to the headwaters in the 2008 cycle based on an impaired community at 5AXBL000.80 during monitoring in 2008 and 2010-2012. This section is considered nested; however, it was mistakenly included in the same fact sheet. The impairment will remain nested in the 2018 cycle, but the fact sheets will be separated.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16R_XBL02A02 / Hurricane Branch, Unnamed Tributary / unnamed tributary of Hurricane Branch from its headwaters to the Town of Blackstone STP outfall.	An 4A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.10

XBL - Hurricane Branch, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.10**

Sources:

Non-Point Source	Unspecified Urban Stormwater

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16R-06-BAC** **Tommeheton Creek**

Cause Location: Tommeheton Creek from its headwaters to the backwaters of Tommeheton Lake.

City / County: Brunswick Co. Dinwiddie Co. Lunenberg Co. Nottoway Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, upper Tommeheton Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5ATMT006.63.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16R_TMT01A10 / Tommeheton Creek / Tommeheton Creek from its headwaters to the backwaters of Tommeheton Lake.	5A	Escherichia coli	2016	L	7.84

Tommeheton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.84**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16R-06-DO** **Tommeheton Creek**

Cause Location: Tommeheton Creek from its headwaters to the backwaters of Tommeheton Lake.

City / County: Brunswick Co. Dinwiddie Co. Lunenberg Co. Nottoway Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, upper Tommeheton Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 5ATMT006.63.

The exceedance rate was 3/12 in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16R_TMT01A10 / Tommeheton Creek / Tommeheton Creek from its headwaters to the backwaters of Tommeheton Lake.	5C	Oxygen, Dissolved	2010	M	7.84

Tommeheton Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.84**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K16R-07-BEN** **Seay Creek**

Cause Location: Seay Creek from its headwaters to it mouth on Crooked Creek.

City / County: Lunenberg Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2014 cycle, Seay Creek was impaired of the Aquatic Life Use based on benthic monitoring at 5A5ASYC003.90 in 2012. Additional monitoring occurred in 2013.

Seay Creek and its benthic community is limited by available habitat. Hardpan clay is dominant and banks show signs of frequent scouring events. Algae and brown floc observed in slower reached of the stream, indicating a potential for nutrient enrichment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K16R_SYC01A14 / Seay Creek / From its headwaters to a point 5 miles above Fort Pickett's raw water intake.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	6.99
VAP-K16R_SYC02B14 / Seay Creek / Seay Creek from a point 5 miles above Fort Pickett's raw water intake to its mouth on Crooked Creek	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	0.51

Seay Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-01-BAC** **Nottoway River**

Cause Location: The Nottoway River from Turkey Egg Creek to Sturgeon Creek.

City / County: Brunswick Co. Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2010 cycle, the Nottoway River from Turkey Egg Creek to Sturgeon Creek was assessed as not supporting of the Recreation Use due to E. coli exceedances at the Route 1 bridge (5ANTW109.02). The exceedance rate was 7/36 during the 2014 cycle.

During the 2016 and 2018 cycles, the segment remained impaired due to exceedance rates of 3/12 at station 5ANTW0113.13 and 9/41 at 5ANTW109.02.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_NTW01A00 / Nottoway River / Turkey Egg Creek to Sturgeon Creek	5A	Escherichia coli	2010	H, 2yr	9.99

Nottoway River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-02-BAC** **Waqua Creek**

Cause Location: Waqua Creek - headwaters to the Masons Mill Pond dam.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Waqua Creek from its headwaters to the Route 46 bridge was initially assessed as not supporting of the Recreation Use goal during the 2002 cycle. In 2004, the impairment was based on fecal coliform exceedances at 5AWAQ020.52 (Route 617) and at 5AWAQ022.17 (private road). These stations were confined animal feeding operation (CAFO) special study stations.

Additional monitoring was conducted during the 2012 cycle. The impairment was confirmed due to an E. coli violation rate of 3/12 at 5AWAQ020.52 and the impairment was converted to E. coli.

In the 2016 cycle, Waqua Creek from Route 46 to one mile downstream was not supporting for the Recreation use due to an E.coli violation rate of 2/12 (2016 fact sheet K16R-07-BAC). The impairment was merged with the existing upstream impairment during the 2018 cycle and was extended downstream to Masons Mill Pond.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_WAQ01B00 / Waqua Creek / Headwaters to Masons Mill Pond.	5A	Escherichia coli	2012	H, 2yr	9.61

Waqua Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.61**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-03-BAC** **Waqua Creek**

Cause Location: Waqua Creek from the confluence with Great Branch to the mouth

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Waqua Creek from Great Branch to the mouth was impaired for the Recreation Use due to an E.coli violation rate of 2/12 at 5AWAQ001.40.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_WAQ03A16 / Waqua Creek / Confluence of Great Branch to the mouth at the Nottoway River.	5A	Escherichia coli	2016	L	5.59

Waqua Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.59**

Sources:

Agriculture	Non-Point Source	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-04-BAC** **Great Creek**

Cause Location: Great Creek from the headwaters to the mouth

City / County: Brunswick Co. Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Great Creek was impaired of the Recreation Use due to exceedances of E.coli. The exceedance rate was 7/12 at 5AGRC002.46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_GRC01A16 / Great Creek / From the headwaters to the mouth at the Nottoway River	5A	Escherichia coli	2016	L	5.45

Great Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.45**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-05-BAC** **Reedy Creek**

Cause Location: Reedy Creek from the headwaters to the mouth

City / County: Brunswick Co. Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Reedy Creek was assessed as not supporting the Recreation use due to an E.coli exceedance rate of 10/24 at 5ARYC002.31.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_RYC01A16 / Reedy Creek / From its headwaters to the mouth at the Nottoway River	5A	Escherichia coli	2016	L	6.02

Reedy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.02**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-05-DO** **Reedy Creek**

Cause Location: Reedy Creek from the headwaters to the mouth

City / County: Brunswick Co. Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle, Reedy Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/25 at 5ARYC002.31.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_RYC01A16 / Reedy Creek / From its headwaters to the mouth at the Nottoway River	5C	Oxygen, Dissolved	2016	L	6.02

Reedy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.02**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-06-BAC** **Turkey Egg Creek**

Cause Location: Turkey Egg Creek from the headwaters to the mouth

City / County: Brunswick Co. Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Turkey Egg Creek was impaired of the Recreation use due to exceedances of E.coli at 5ATEG001.77. The exceedance rate was 6/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_TEG01A16 / Turkey Egg Creek / From its headwaters to the mouth at the Nottoway River	5A	Escherichia coli	2016	L	5.64

Turkey Egg Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.64**

Sources:

Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-07-DO** **Hickory Run**

Cause Location: Hickory Run from its headwaters to its mouth.

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle, Hickory Run was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/12 at station 5AHCK000.96.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_HCK01A16 / Hickory Run / From its headwaters to its mouth	5C	Oxygen, Dissolved	2016	L	4.94

Hickory Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.94**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K17R-07-PH** **Hickory Run**

Cause Location: Hickory Run from its headwaters to its mouth.

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2016 cycle, Hickory Run was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at station 5AHCK000.96.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K17R_HCK01A16 / Hickory Run / From its headwaters to its mouth	5C	pH	2016	L	4.94

Hickory Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.94**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K18R-01-DO** **Sturgeon Creek**

Cause Location: The mainstem of Sturgeon Creek from its headwaters downstream to the confluence with Lloyds Run.

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The dissolved oxygen violation rate at station 5ASTG013.22, which is located at the Route 1 bridge, was 2/12 during the 2014 cycle. Therefore, the segment is considered impaired of the Aquatic Life Use.

No new data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K18R_STG01B14 / Sturgeon Creek / Headwaters to Lloyds Run.	5C	Oxygen, Dissolved	2014	L	12.96

Sturgeon Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**12.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-01-BAC** **Masons Branch**

Cause Location: Masons Branch from its headwaters to its mouth at Indian Creek.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, Masons Branch was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/17 at 5AMSN001.62, which is located at the Route 633 bridge.

During the 2016 cycle, the segment remained impaired due to an E.coli exceedance rate of 2/11 at station 5AMSN003.24. Monitoring at the original listing station, 5AMSN001.62, was acceptable (0/10.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_MSN01A10 / Masons Branch / Headwaters to mouth at Indian Creek	5A	Escherichia coli	2012	L	4.89

Masons Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.89**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-03-BAC** **Buckskin Creek**

Cause Location: Buckskin Creek from its headwaters to its mouth at the Nottoway River.

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Buckskin Creek was previously assessed as not supporting the Recreation Use goal based on a fecal coliform violations at the Route 609 bridge (5ABSK004.32).

Additional monitoring was conducted during the 2010 cycle. The impairment was confirmed and converted to E. coli due to a violation rate of 2/10. During the 2012 cycle, the violation rates were as follows:

2/12 at 5ABSK000.60
5/22 at 5ABSK004.32
3/12 at 5ABSK006.52
4/12 at 5ABSK007.40
2/12 at 5ABSK008.75
4/11 at 5ABSK011.17

Additional sampling occurred in the 2016 cycle. Data indicated impairment at all monitored stations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_BSK01A00 / Buckskin Creek / Headwaters to mouth, excluding segment downstream of XHW.	5A	Escherichia coli	2010	L	9.94
VAP-K19R_BSK01B12 / Buckskin Creek / Confluence with XHW to a downstream confluence	5A	Escherichia coli	2010	L	1.96

Buckskin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-03-DO** **Buckskin Creek**

Cause Location: Buckskin Creek from the confluence with XHW to the second downstream tributary.

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the portion of Buckskin Creek immediately downstream of tributary XHW was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/12 at 5ABSK008.75, which is located at Rt. 692.

During the 2016 cycle, the segment was extended slightly further downstream to include station 5ABSK007.40. Both stations are impaired for the Aquatic Life Use due to DO violations with exceedance rates of 3/24 at station 5ABSK007.40 and 9/24 at station 5ABSK008.75.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_BSK01B12 / Buckskin Creek / Confluence with XHW to a downstream confluence	5C	Oxygen, Dissolved	2012	L	1.96

Buckskin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-04-HG** **Nottoway River and Tributaries**

Cause Location: The Nottoway River from the confluence with the Blackwater River at the Virginia-North Carolina state line upstream to State Route 619 near Purdy, including its tributaries Assamoosick Swamp, Three Creek up to I-95, Rowanty Creek and tributaries, Hatcher Run to I-85, and Arthur Swamp to I-85.

City / County: Dinwiddie Co. Emporia City Greensville Co. Prince George Co. Southampton Co. Sussex Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

During the 2008 cycle, the Nottoway River from the confluence with the Blackwater River at the Virginia-North Carolina state line upstream to State Route 619 near Purdy, including its tributary Assamoosick Swamp, was considered impaired of the Fish Consumption Use due to a VDH fish consumption advisory for mercury. Three Creek up to I-95, Rowanty Creek and its tributaries, Hatcher Run up to I-85, and Arthur Swamp up to I-85 were added to the advisory during the 2010 cycle. No more than two meals/mouth of largemouth bass, smallmouth bass, bowfin, redhorse sucker species, longnose gar, channel catfish, chain pickerel, or sunfish species are recommended.

The advisory was based on exceedances of TSVs and TVs at several DEQ fish tissue monitoring stations, including 5ANTW091.70, 5ANTW075.48, 5ANTW077.95, 5ANTW045.45, 5AASM013.36, 5AROW002.41, 5AATH006.56, and 5AHRA004.16.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_NTW01B00 / Nottoway River / Town of Jarrett intake to Stony Creek	5A	Mercury in Fish Tissue	2008	L	13.90
VAP-K19R_NTW01C08 / Nottoway River / Rt. 619 near Purdy to the Town of Jarrett PWS Intake	5A	Mercury in Fish Tissue	2008	L	4.43
VAP-K23R_ATH01A08 / Arthur Swamp / I-85 bridge to mouth	5A	Mercury in Fish Tissue	2010	L	8.38
VAP-K23R_HRA01A04 / Hatcher Run / Hatcher Run from rivermile 19.27 (I-85) to the pond below Rt. 627.	5A	Mercury in Fish Tissue	2010	L	3.89
VAP-K23R_HRA01B10 / Hatcher Run / Pond at Rt. 627 to mouth at Rowanty Creek	5A	Mercury in Fish Tissue	2010	L	16.22
VAP-K23R_NTW02B00 / Nottoway River / Stony Creek to Nebletts Mill Run.	5A	Mercury in Fish Tissue	2008	L	16.66
State Scenic River (9 VAC 25-260-320)					
VAP-K23R_ROW03B10 / Rowanty Creek / Rowanty Creek downstream of Gravelly Run.	5A	Mercury in Fish Tissue	2010	L	14.07
VAP-K24R_NTW04B00 / Nottoway River / Nebletts Mill Run downstream to Three Creek	5A	Mercury in Fish Tissue	2008	L	19.17
State Scenic River					
Merged in the 2018 cycle					
VAP-K26R_TRE01B98 / Three Creek / I-95 to Otterdam Swamp.	5A	Mercury in Fish Tissue	2010	L	5.10
VAP-K26R_TRE02B98 / Three Creek / Otterdam Swamp to Browns Branch.	5A	Mercury in Fish Tissue	2010	L	5.43
VAP-K29R_ASM01A98 / Assamoosick Swamp / Headwaters to Route 607 bridge.	5A	Mercury in Fish Tissue	2008	L	15.41
VAP-K29R_ASM02A02 / Assamoosick Swamp / Start of PWS at	5A	Mercury in Fish Tissue	2008	L	2.46

river mile 2.5 to mouth.					
VAP-K29R_ASM02A98 / Assamoosick Swamp / Route 607 bridge to river mile 2.5.	5A	Mercury in Fish Tissue	2008	L	5.59
VAT-K27R_TRE01A00 / Three Creek - Upper / From confluence of Chatman Branch (RM 19.26) downstream to above Southampton Correctional Farm at Rt 308 crossing (RM 10.4).	5A	Mercury in Fish Tissue	2010	L	9.17
VAT-K27R_TRE02A00 / Three Creek - Lower / Lower portion of Three Creek. From area of Southampton Correctional Center at Rt 308 crossing (RM 10.4) downstream to confluence with Nottoway River (RM 0.00).	5A	Mercury in Fish Tissue	2010	L	10.67
VAT-K28R_NTW01A00 / Nottoway River - Upper / From upstream intersection with watershed boundary (near Three Cr. confluence, RM 36.50) downstream to 5 miles upstream of Courtland (RM 32.00, end of PWS area - downstream of confluence with Buckhorn Swamp at Vicks Isl.).	5A	Mercury in Fish Tissue	2008	L	4.44
VAT-K28R_NTW02A00 / Nottoway River - Middle (PWS area) / Middle portion of Nottoway River, 5 miles above Norfolk's intake @ Courtland (RM 32.0) at Vicks Island downstream to Norfolk and Western RR crossing @ Courtland (RM 27.00). PWS due to Norfolk raw water intake upstream of Courtland.	5A	Mercury in Fish Tissue	2008	L	5.53
VAT-K28R_NTW03A00 / Nottoway River - Lower / Lower portion of Nottoway River, beginning near Courtland (Norfolk and Western RR crossing, above Rt 58) downstream to end of watershed K28 (NW of Delaware).	5A	Mercury in Fish Tissue	2008	L	10.06
VAT-K30R_NTW01A08 / Nottoway River - Upper / Upper portion of Nottoway River in watershed K30. Segment begins at upstream intersection with watershed boundary (NW of Delaware) downstream below Route 671.	5A	Mercury in Fish Tissue	2008	L	0.45
VAT-K30R_NTW02A08 / Nottoway River -Lower Middle / Middle portion of Nottoway River in watershed K30. Segment starts below Route 671 downstream just below Point Beach.	5A	Mercury in Fish Tissue	2008	L	10.96
VAT-K30R_NTW02B14 / Nottoway River - Lower / Lower portion of Nottoway River in watershed K30. Segment starts below Mill Creek near Point Beach to VA/NC state line.	5A	Mercury in Fish Tissue	2008	L	4.54

Nottoway River and Tributaries		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption				
	Mercury in Fish Tissue - Total Impaired Size by Water Type:			**186.53**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-05-BEN** **XEJ - Nottoway River, UT**

Cause Location: An unnamed tributary (XEJ) of the Nottoway River in its entirety.

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, the tributary was assessed as impaired of the Aquatic Life Use due to an impaired benthic community at station 5AXEJ001.73 in 2001.

Additional benthic monitoring occurred in 2013; however, the results were inconclusive (insufficient information to assess).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_XEJ01A04 / XEJ - UT to Nottoway River / Headwaters to mouth at Nottoway River	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.88

XEJ - Nottoway River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-06-BEN** **Nottoway River**

Cause Location: The Nottoway River from Buckskin Creek downstream to the confluence with an unnamed tributary located near the Dinwiddie/Sussex Co. line

City / County: Brunswick Co. Dinwiddie Co. Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment of the Nottoway River was assessed as impaired of the Aquatic Life Use during the 2008 cycle due to benthic monitoring in fall 2003 at freshwater probabilistic station 5ANTW097.27.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_NTW02B08 / Nottoway River / The Nottoway River from Buckskin Creek to an UT at approx the Dinwiddie/Sussex Co. line	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.04

Nottoway River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.04**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-07-DO** **XAD - Buckskin Creek, UT**

Cause Location: Tributary XAD from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the tributary XAD was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 5AXAD001.59, which is located at the Rt. 1 bridge.

During the 2016 cycle the segment remained impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 5/24 at 5AXAD001.59.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_XAD01A12 / XAD - Buckskin Creek, UT / Headwaters to mouth at Buckskin Creek.	5C	Oxygen, Dissolved	2012	L	2.90

XAD - Buckskin Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.90**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-08-DO** **XHW - Buckskin Creek, UT**

Cause Location: Tributary XHW from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the tributary XHW was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 5/11 at 5AXHW000.38, which is located at the Rt. 692 bridge.

During the 2016 cycle, the segment remained impaired due to a dissolved oxygen exceedance rate of 5/19 at 5AXHW000.38.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_XHW01A12 / XHW - Buckskin Creek, UT / Headwaters to mouth	5C	Oxygen, Dissolved	2012	L	1.63

XHW - Buckskin Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.63**

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-09-BAC** **XHX - Buckskin Creek, UT**

Cause Location: Tributary XHX from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, the tributary XHX was impaired of the Recreation Use due to an E. coli exceedance rate of 2/9 at 5AXHX001.19, which is located at the Rt. 709 bridge.

During the 2016 cycle, the segment remained impaired due to an E. coli exceedance rate of 5/21 at 5AXHX001.19.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_XHX01A12 / XHX - Buckskin Creek, UT / Headwaters to mouth at Buckskin Creek	5A	Escherichia coli	2012	L	2.66

XHX - Buckskin Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.66**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-10-BAC** **XHY - Buckskin Creek, UT**

Cause Location: Tributary XHY from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, the tributary XHY was impaired of the Recreation Use due to an E. coli exceedance rate of 3/11 at 5AXHY001.08, which is located south of Route 40.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_XHY01A12 / XHY - Buckskin Creek, UT / Headwaters to mouth at Buckskin Creek	5A	Escherichia coli	2012	L	1.61

XHY - Buckskin Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.61**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K19R-11-BAC** **Moores Swamp**

Cause Location: Headwaters to mouth

City / County: Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the segment of Moores Swamp from its headwaters to the start of PWS was impaired for the Recreation Use due to an E.coli impairment at station 5AMRS002.31 with an exceedance rate of 6/12.

The impairment was extended to the mouth in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K19R_MRS01A08 / Moores Swamp / Headwaters to start of PWS	5A	Escherichia coli	2016	L	4.98
VAP-K19R_MRS01B10 / Moores Swamp / Start of PWS to mouth at Nottoway River	5A	Escherichia coli	2018	L	0.73

Moores Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.71**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K20R-01-DO** **White Oak Swamp**

Cause Location: The headwaters of White Oak Swamp downstream to its uppermost tributary

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

The mainstems of White Oak Swamp and Butterwood Swamp were initially listed as fully supporting but threatened for dissolved oxygen in the 1998 cycle. Station 5ABTR002.80 (Route 646 bridge) was identified to Virginia for listing consideration because of dissolved oxygen.

During the 2002 cycle, the segment was assessed as partially supporting of the Aquatic Use because of pH exceedances (5ABTR002.80). The DO exceedance rate at this station was acceptable (3/38), but due to DO exceedances throughout the watershed (see below) the segment was extended to include Reedy Creek and Rocky Run Creek. The entire segment was listed for both pH and dissolved oxygen. The impairment was continued in the 2004 cycle.

During the 2006 cycle, two Natural Conditions Assessment studies were performed. The results of the monitoring and study indicated that all creeks should be delisted except for:

Butterwood Creek (DO) from rivermile 14.59 to 4.65; recommended for Class VII
Cooks Branch (pH) from rivermile 1.08 to 0.00; recommended for Class VII
White Oak Swamp (DO/pH) at the headwaters; recommended for cat 4C

Butterwood Creek from river mile 4.65 (near Route 622) upstream to river mile 14.59 (near Route 643) was reclassified as Class VII swampwaters during the 2010 cycle. The segments remained Category 4C for dissolved oxygen until the swampwater WQS could be developed.

DO violations were documented in this water in 2002. It has since been formally re-classified as a swamp water (Class VII). Per Virginia's Water Quality Standards (9VAC25-260-50), numeric dissolved oxygen standards only apply to Class VII waters when there is sufficient evidence the narrative criterion is not protective of aquatic life uses. To date, this Class VII water has not exhibited a need for a site-specific DO criterion, so the DO impairments for Butterwood Creek and Cooks Branch have been removed.

The headwaters of White Oak Swamp will remain Category 4C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K20R_WOK02A06 / White Oak Swamp / The headwaters of White Oak Swamp downstream to its uppermost tributary	4C	Oxygen, Dissolved			2.20

White Oak Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.20**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K20R-01-PH** **White Oak Swamp**

Cause Location: Headwaters of White Oak Swamp

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

The mainstems of White Oak Swamp and Butterwood Swamp were initially listed as fully supporting but threatened for dissolved oxygen in the 1998 cycle. Station 5ABTR002.80 (Route 646 bridge) was identified to Virginia for listing consideration because of dissolved oxygen.

During the 2002 cycle, the segment was assessed as partially supporting of the Aquatic Use because of pH exceedances (5ABTR002.80). The DO exceedance rate at this station was acceptable (3/38), but due to DO exceedances throughout the watershed (see below) the segment was extended to include Reedy Creek and Rocky Run Creek. The entire segment was listed for both pH and dissolved oxygen.

During the 2006 cycle, two Natural Conditions Assessment studies were performed. The results of the monitoring and study indicated that all creeks should be delisted for pH except for Cooks Branch (pH) from rivermile 1.08 to 0.00 which was recommended for reclassification as a Class VII swampwater. and the headwaters of White Oak Swamp which was considered Category 4C.

During the 2010 cycle, Cooks Branch from river mile 1.08 to its mouth was reclassified as Class VII swampwater. The pH values at 5ACKS000.58 now met the Class VII WQS (0/22) and the segment was delisted. The White Oak Swamp segment remains Category 4C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K20R_WOK02A06 / White Oak Swamp / The headwaters of White Oak Swamp downstream to its uppermost tributary	4C	pH			2.20

White Oak Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.20**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K20R-02-BAC** **White Oak Swamp**

Cause Location: The lower portion of White Oak Swamp

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2018 cycle, the segment of White Oak Swamp was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 5AWOK012.08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K20R_WOK01A00 / White Oak Swamp / Uppermost tributary to mouth	5A	Escherichia coli	2018	L	14.83

White Oak Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K20R-02-DO** **White Oak Swamp**

Cause Location: The lower portion of White Oak Swamp

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The segment of White Oak Swamp was impaired of the Aquatic Life Use in the 2018 cycle due to a dissolved oxygen exceedance rate of 3/24 at 5AWOK000.54.

Monitoring at 5AWOK006.54 and 5AWOK012.08 was acceptable with exceedance rates of 1/12 and 0/14, respectively.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K20R_WOK01A00 / White Oak Swamp / Uppermost tributary to mouth	5C	Oxygen, Dissolved	2018	L	14.83

White Oak Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**14.83**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K20R-02-PH** **White Oak Swamp**

Cause Location: The lower portion of White Oak Swamp

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The segment of White Oak Swamp was impaired of the Aquatic Life Use in the 2018 cycle due to a pH exceedance rate of 2/14 at 5AWOK012.08.

Monitoring at 5AWOK000.54 and 5AWOK006.54 was acceptable with exceedance rates of 0/24 and 0/12, respectively.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K20R_WOK01A00 / White Oak Swamp / Uppermost tributary to mouth	5C	pH	2018	L	14.83

White Oak Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**14.83**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-03-HG** **Stony Creek**

Cause Location: Stony Creek from Mortar Branch downstream to its mouth.

City / County: Dinwiddie Co. Sussex Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

During the 2010 cycle, Stony Creek from Mortar Branch to its mouth was assessed as not supporting of the Fish Consumption Use due to mercury exceedances in flier sunfish and spotted bass during DEQ's 2007 fish tissue sampling.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_STO01B00 / Stony Creek / Mortar Branch to mouth	5A	Mercury in Fish Tissue	2010	L	2.60

Merged in the 2018 cycle.

Stony Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**2.60**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-05-BAC** **Mortar Branch**

Cause Location: Headwaters to mouth at Stony Creek

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, Mortar Branch was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 4/11 at station 5AMTR001.65, which is located at the Route 626 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_MTR01A14 / Mortar Branch / Headwaters to mouth at Stony Creek	5A	Escherichia coli	2014	H, 2yr	6.12

Mortar Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-05-DO** **Mortar Branch**

Cause Location: Headwaters to mouth at Stony Creek

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Mortar Branch was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/11 at station 5AMTR001.65, which is located at the Route 626 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_MTR01A14 / Mortar Branch / Headwaters to mouth at Stony Creek	5C	Oxygen, Dissolved	2014	L	6.12

Mortar Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.12**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-05-PH** **Mortar Branch**

Cause Location: Headwaters to mouth at Stony Creek

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2014 cycle, Mortar Branch was assessed as impaired of the Aquatic Life Use due to a pH exceedance rate of 5/11 at station 5AMTR001.65, which is located at the Route 626 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_MTR01A14 / Mortar Branch / Headwaters to mouth at Stony Creek	5C	pH	2014	L	6.12

Mortar Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**6.12**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-06-BAC** **Stony Creek**

Cause Location: Stony Creek from Mortar Branch downstream to its mouth.

City / County: Dinwiddie Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the segment from Mortar Branch to Snake became impaired for the Recreation Use due to E.coli exceedances of 3/12 at 5ASTO06.99.

The impairment was expanded to the mouth in the 2018 cycle based on an E. coli exceedance rate of 4/36 at 5ASTO001.20.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_STO01B00 / Stony Creek / Mortar Branch to mouth	5A	Escherichia coli	2016	L	2.60

Merged in the 2018 cycle.

Stony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.60**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-07-PH** **Chamberlains Bed**

Cause Location: Start of unnamed pond to the mouth at Stony Creek

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2016 cycle, the segment was impaired for the Aquatic Life Use due to a pH exceedance rate of 2/12 at 5ACBC000.58.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_CBC01A16 / Chamberlains Bed / start of the pond to mouth at Stony Creek	5C	pH	2016	L	1.32

Chamberlains Bed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.32**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-08-DO** **Chamberlains Bed**

Cause Location: Headwaters to Wheelers Pond

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle, the segment was impaired for the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/11 at 5ACBC005.79.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_CBC03A16 / Chamberlains Bed / From the headwaters to Wheelers Pond	5C	Oxygen, Dissolved	2016	L	2.82

Chamberlains Bed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.82**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K21R-08-PH** **Chamberlains Bed**

Cause Location: Headwaters to Wheelers Pond

City / County: Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2016 cycle, the segment was impaired for the Aquatic Life Use due to a pH exceedance rate of 3/11 at 5ACBC005.79.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K21R_CBC03A16 / Chamberlains Bed / From the headwaters to Wheelers Pond	5C	pH	2016	L	2.82

Chamberlains Bed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.82**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K22R-03-BAC** **Sappony Creek**

Cause Location: Sappony Creek from UT at powerline downstream to Spiers Pond.

City / County: Dinwiddie Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Sappony Creek from the headwaters to Spiers Pond was assessed as impaired of the Recreation Use during the 2006 due to an E. coli violation rate of 3/12 at 5ASAP005.54. In the 2010 cycle, the impairment was shortened to begin at Mill Run Branch because the E. coli rate at 5ASAP013.69 was acceptable (1/20). The violation rate was 3/13 during the 2012 cycle; therefore, the segment was returned to its original length.

During the 2016 cycle, the segment was shortened and split to exclude the headwaters portion which was no longer impaired for E.coli (VAP-K22R-SAP01C16); the upper portion of Sappony Creek was partially delisted. The portion from the UT at the power line downstream to Spiers Pond remained impaired for Recreation Use due to an E.coli violation of 5/23 at station 5ASAP013.69. 5ASAP005.54 was fully supporting for all that it was monitored for.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K22R_SAP01A00 / Sappony Creek / UT at powerline to Spiers Pond.	5A	Escherichia coli	2006	L	11.86

Sappony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.86**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K22R-04-BAC** **Sappony Creek**

Cause Location: Spiers Pond Dam to mouth at Stony Creek

City / County: Dinwiddie Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the segment became impaired for the Recreation Use due to an E.coli exceedance rate of 4/23 at 5ASAP001.46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K22R_SAP01B00 / Sappony Creek / Spiers Pond dam to mouth at Stony Creek	5A	Escherichia coli	2016	L	4.35

Sappony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.35**

Sources:

Agriculture Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K23R-01-BAC** **Arthur Swamp**

Cause Location: Arthur Swamp from its headwaters to its mouth

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Arthur Swamp from the I-85 bridge to its mouth was listed for Recreation Use due to E.coli exceedances (2/12).

The impairment was extended to its mouth in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K23R_ATH01A08 / Arthur Swamp / I-85 bridge to mouth	5A	Escherichia coli	2016	L	8.38
VAP-K23R_ATH01B10 / Arthur Swamp / Headwaters to I-85 bridge	5A	Escherichia coli	2018	L	0.24

Arthur Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.62**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K23R-02-BAC** **Joseph Swamp**

Cause Location: The mainstem of Joseph Swamp.

City / County: Prince George Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2010 cycle, Joseph Swamp was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/9 at 5AJOE003.92, which is located at Rt. 602.

In the 2016 cycle, the exceedance rate at 5AJOE003.92 was 4/11. Monitoring at station 5AJOE007.38 was acceptable (1/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K23R_JOE01A10 / Joseph Swamp / Headwaters to mouth	5A	Escherichia coli	2010	L	11.22

Joseph Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K23R-03-BAC** **XDV - Nebletts Mill Run, UT**

Cause Location: An unnamed tributary (XDV) of Nebletts Mill Run.

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Nebletts Run from the Millpond downstream to the mouth and Tributary XDV had been considered not supporting of the Recreation Use. During the 2006 cycle, the fecal coliform exceedance rate at 5ANBT001.26 was acceptable (2/19); therefore, Nebletts Mill Run was delisted. Tributary XDV continued to be impaired with a fecal coliform instantaneous exceedance rate of 10/17 and an E. coli exceedance rate of 2/2 at station 5AXDV000.46. The bacteria TMDL was due in 2016.

The impairment converted to E. coli during the 2008 cycle. The exceedance rate was 7/13 during the 2010 cycle. The TMDL was developed during the 2012 cycle and was approved by the EPA on 9/20/2010; therefore, the stream is Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K23R_XDV01A02 / XDV - UT to Nebletts Mill Run / An unnamed tributary (XDV) of Nebletts Mill Run from its headwaters to its mouth.	4A	Escherichia coli	2006	L	1.78

XDV - Nebletts Mill Run, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.78**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K23R-04-BAC** **Jones Hole Swamp/Moores Swamp and all tributaries**

Cause Location: Lower Jones Hole Swamp/Moores Swamp and tributaries

City / County: Dinwiddie Co. Prince George Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2010 cycle, the Jones Hole Swamp watershed was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 5/22 at 5AJNH001.73, which is located at the Route 637 bridge.

The violation rate was 6/24 during the 2014 cycle.

During the 2016 cycle, the segment was split to partially delist the headwaters portion of Jones Hole Swamp (VAP-K23R_JNH01B16 and VAP-K23R_JNH01C16.) The lower portion remains impaired for the Recreation use due to E.coli exceedances:
5ACOB000.92 - 2/12
5AJNH001.73 - 11/24
5AJNH004.42 - 2/12

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K23R_JNH01A98 / Jones Hole Swamp/Moores Swamp watershed / Lower Jones Hole Swamp / Moores Swamp and tributaries.	5A	Escherichia coli	2010	L	70.67

Jones Hole Swamp/Moores Swamp and all tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**70.67**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K23R-05-BAC** **Gosee Swamp and Tributaries**

Cause Location: Gosee Swamp/Indian Creek and all of its tributaries below rivermile 6.88

City / County: Prince George Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, lower Gosee Swamp was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5AGSE001.35, which is located at the Rt. 602 bridge.

No new data since 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K23R_GSE01A98 / Gosee Swamp and tributaries / Gosee Swamp/Indian Swamp and all its tributaries below rivermile 6.88.	5A	Escherichia coli	2014	L	27.71

Gosee Swamp and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**27.71**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K23R-09-BAC** **Fox Branch**

Cause Location: Fox Branch mainstem

City / County: Dinwiddie Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2018 cycle, Fox Branch was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5AFXB001.27, which is located at the Route 667 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K23R_FXB01A18 / Fox Branch / Headwaters to mouth at Rowanty Creek	5A	Escherichia coli	2018	L	3.48

Fox Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K23R-10-BAC** **Rowanty Creek**

Cause Location: Rowanty Creek mainstem downstream of Gravelly Run.

City / County: Dinwiddie Co. Prince George Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, Rowanty Creek from Little Cattail Creek to the mouth was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5AROW004.72, which is located at the Route 618 bridge. Continued monitoring was recommended to confirm the impairment because all other stations in the segment were acceptable.

Additional monitoring was conducted in the 2014 cycle at station 5AROW013.14, which is located at the Route 605 bridge. The exceedance rate was unacceptable (3/24); therefore, the segment was extended upstream to Gravelly Run.

During the 2016 cycle E.coli monitoring continued to be impaired:
5AROW002.41 - 4/12
5AROW004.72 - 8/24
5AROW008.64 - 0/12 (S)
5AROW013.14 - 2/12

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K23R_ROW03B10 / Rowanty Creek / Rowanty Creek downstream of Gravelly Run.	5A	Escherichia coli	2012	L	14.07

Rowanty Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.07**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K24R-03-BAC** **Hunting Quarter Swamp**

Cause Location: The mainstem of Hunting Quarter Swamp.

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2018 cycle, Hunting Quarter Swamp was assessed as impaired of the Recreation Use due to an E. coli exceedance rates of 4/24 at station 5AHQS006.22 and 5/12 at station 5AHQS009.57.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K24R_HQS01A98 / Hunting Quarter Swamp / Headwaters to mouth	5A	Escherichia coli	2008	L	16.67

Hunting Quarter Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**16.67**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K24R-04-BAC** **Nottoway River**

Cause Location: Nottoway River from Nebletts Mill Run downstream to Three Creek

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the Nottoway River from Nebletts Mill Run to Three Creek was impaired of the Recreation Use due to an E.coli exceedance rate of 3/12 at station 5ANTW052.83.

The impairment was extended upstream to Nebletts Mill Run in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K24R_NTW04B00 / Nottoway River / Nebletts Mill Run downstream to Three Creek	5A	Escherichia coli	2016	L	19.17

State Scenic River

Merged in the 2018 cycle

Nottoway River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.17**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K24R-05-BAC** **Thweatt Branch and Tributaries**

Cause Location: Thweatt Branch watershed

City / County: Southampton Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Thweatt Branch and its tributaries was impaired for the Recreation Use due to an E.coli exceedance rate of 4/11 at station 5ATWT001.19.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K24R_TWT01A16 / Thweatt Branch Tributaries / Headwaters to the mouth	5A	Escherichia coli	2016	L	7.26

Thweatt Branch and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.26**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K25R-02-BAC** **Raccoon Creek**

Cause Location: The entire mainstem of Raccoon Creek.

City / County: Southampton Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Raccoon Creek was initially listed as fully supporting but threatened of the Recreation use goal during the 1998 303(d) cycle. It was then identified to Virginia for listing consideration. During the 2002 303(d) cycle, the segment was downgraded to impaired; therefore, the TMDL was due in 2010.

The TMDL was completed as part of the Chowan River Bacteria TMDL. The TMDL was approved by the EPA on 10/14/2005 and the segment is considered Category 4A.

During the 2008 cycle, the impairment converted to E. coli. However, an upstream station at 5ARCN012.80 had an acceptable exceedance rate (1/12.)

The exceedance rate at 5ARCN003.36 was 7/32 in the 2010 cycle.

During the 2016 cycle, the segment remained impaired for E.coli exceedances at station 5ARCN014.72 (2/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K25R_RCN01A02 / Raccoon Creek / The entire mainstem of Raccoon Creek.	4A	Escherichia coli	2008	L	19.90

Raccoon Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.90**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K26R-01-BAC** **Three Creek**

Cause Location: Three Creek from its start at the confluence of Cooks Branch and Tryall Creek downstream to Cattail Creek.

City / County: Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle, upper Three Creek was impaired of the Recreation Use due to an E.coli exceedance rate of 2/12 at 5ATRE044.66, which is located at the Route 605 bridge.

The stream is located within the study area for the downstream Three Creek Bacterial TMDL (K26R-03-BAC), which was approved by the EPA on 9/28/2012 and by the SWCB on 3/25/2013. The impairment is proposed for nesting.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K26R_TRE01C18 / Three Creek / Start of Three Creek downstream to Cattail Creek	4A	Escherichia coli	2018	L	6.55

Three Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.55**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K26R-01-DO** **Three Creek**

Cause Location: Three Creek from its start at the confluence of Cooks Branch and Tryall Creek downstream to Cattail Creek.

City / County: Greensville Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2018 cycle, upper Three Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/12 at 5ATRE044.66, which is located at the Route 605 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K26R_TRE01C18 / Three Creek / Start of Three Creek downstream to Cattail Creek	5C	Oxygen, Dissolved	2018	L	6.55

Three Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.55**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K26R-02-BAC** **Three Creek**

Cause Location: From Otterdam Swamp downstream to Browns Branch.

City / County: Greensville Co. Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Three Creek from Otterdam Swamp to Browns Branch was assessed as not supporting of the Recreation Use support goal based on E. coli exceedances at the Route 615 bridge (5ATRE022.05). The exceedance rate was 3/23 during the 2010 cycle.

The Three Creek TMDL was completed and was approved by the EPA on 9/28/2012 and by the SWCB on 3/25/2013. The AU is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K26R_TRE02B98 / Three Creek / Otterdam Swamp to Browns Branch.	4A	Escherichia coli	2006	L	5.43

Three Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.43**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K26R-04-BAC** **Maclins Creek**

Cause Location: Maclins Creek in its entirety.

City / County: Greensville Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Maclins Creek was impaired of the Recreation Use due to an E.coli exceedance rate of 2/15 at 5AMCC000.08, which is located at the Route 610 bridge.

The stream is located within the study area for the Three Creek Bacterial TMDL, which was approved by the EPA on 9/28/2012 and by the SWCB on 3/25/2013. Maclins Creek is within the study watershed for K26R-02-BAC and the impairment is considered nested.

The E. coli exceedance rate was 6/12 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K26R_MCC01A00 / Maclins Creek / Headwaters to mouth at Three Creek	4A	Escherichia coli	2012	L	8.80

Maclins Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.80**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K27R-02-BAC** **Three Creek - Lower & Upper & UT to Angelico Cr**

Cause Location: This cause encompasses the area from the confluence of Chatman Branch (RM 20.95) downstream to the confluence with Nottoway River (RM 0.00), to include UT to Angelico Creek.

City / County: Southampton Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreational Use is impaired based on the E Coli data exceedance of the swimming criteria indicator at Stations 5ATRE008.48(11 violations / 35 observations) and 5ATRE016.02 (11 violations / 34 observations). 2018 nested new impairment at station 5AXEE001.44 with 3 viol / 11 obs. A Bacteria Total Maximum Daily Load was developed for Three Creek, Flat Swamp, Tarrara Creek, Mill Swamp, and Darden Mill Run in Southampton, Sussex, Greensville, Brunswick Counties and the City of Emporia, Virginia for E. Coli on 9/28/2012

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K27R_TRE01A00 / Three Creek - Upper / From confluence of Chatman Branch (RM 19.26) downstream to above Southampton Correctional Farm at Rt 308 crossing (RM 10.4).	4A	Escherichia coli	2006	L	9.17
VAT-K27R_TRE02A00 / Three Creek - Lower / Lower portion of Three Creek. From area of Southampton Correctional Center at Rt 308 crossing (RM 10.4) downstream to confluence with Nottoway River (RM 0.00).	4A	Escherichia coli	2002	L	10.67
VAT-K27R_XEE01A18 / Unnamed Tributary to Angelico Creek / Evaluated UT along Angelico Cr south of Route 658 crosses Pinopolis Rd (Rt 653).	4A	Escherichia coli	2018	L	4.06

Three Creek - Lower & Upper & UT to Angelico Cr	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**23.90**

Sources:

Non-Point Source	Source Unknown	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K27R-03-BEN** **Applewhite Swamp**

Cause Location: This cause encompasses the area from the start of swamp (near Harrells Mill) downstream to confluence with Three Creek. Located south of Mason & northeast of Arringdale.

City / County: Southampton Co. Sussex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained based on the Benthic population rating from the Benthic ProbMon-Benthic IM [MI:S&F-'01, S&F-'02]. No data within Assessment window. Impairment retained until new data collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K27R_APW01A04 / Applewhite Swamp / Located south of Mason & northeast of Arringdale. Segment extends from start of swamp (near Harrells Mill) downstream to confluence with Three Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	8.16

Applewhite Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.16**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K27R-05-BEN** **Three Creek - Upper**

Cause Location: This cause encompasses the area from the confluence of Chatman Branch (RM 19.26) downstream to above Southampton Correctional Farm at Rt. 308 crossing (RM 10.4).

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained from the 2004 Assessment based on benthic monitoring assessment which indicates impairment (MI in Fall-'04] based on data at DEQ (AQM & Bio) station @ 5ATRE016.02.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K27R_TRE01A00 / Three Creek - Upper / From confluence of Chatman Branch (RM 19.26) downstream to above Southampton Correctional Farm at Rt 308 crossing (RM 10.4).	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	9.17

Three Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.17**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-01-BAC** **Mill Swamp**

Cause Location: This cause encompasses the Main stem of Mill Swamp only, from headwaters downstream to the confluence with the Nottoway River. Tributary to Nottoway R, downstream of PWS. W of Delaware.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired based on the E.coli data at Station 5AMSP000.16 with 3 viol / 11 obs. A TMDL was established for E. Coli for Three Creek, Flat Swamp, Tarrara Creek, Mill Swamp, and Darden Mill Run in Southampton, Sussex, Greensville, Brunswick Counties and the City of Emporia, Virginia on 9/28/2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_MSP01A06 / Mill Swamp / Tributary to Nottoway R, downstream of PWS. W of Delaware. Main stem Mill Swamp only, from headwaters downstream to the confluence with the Nottoway River.	4A	Escherichia coli	2006	L	10.49

Mill Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-01-DO** **Mill Swamp**

Cause Location: This cause encompasses the Main stem of Mill Swamp only, from headwaters downstream to the confluence with the Nottoway River. Tributary to Nottoway R, downstream of PWS. W of Delaware.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Aquatic Life Use impairment is retained for DO from the 2016 IR with 4 viol/ 24 obs at Station 5AMSP000.16. 2018 IR data for DO is 1 viol / 12 obs. Violations for DO dropped outside of assessment window and no additional data was collected. Therefore additional data is needed to delist.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_MSP01A06 / Mill Swamp / Tributary to Nottoway R, downstream of PWS. W of Delaware. Main stem Mill Swamp only, from headwaters downstream to the confluence with the Nottoway River.	5C	Oxygen, Dissolved	2006	L	10.49

Mill Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-02-BEN** **Buckhorn Swamp**

Cause Location: This cause encompasses the segment of Buckhorn Swamp that is near Pope Count, segment is located between State Hwy 652 and US Hwy 58. Segment ends below State Hwy 657.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the Benthic population rating from the Benthic ProbMon-sample events [MI:F-'06, VI:S-'06] at Station 5ABKH005.16.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_BKH01A08 / Buckhorn Swamp / Segment of Buckhorn Swamp that is near Pope Count, segment is located between State Hwy 652 and US Hwy 58. Segment ends below State Hwy 657.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	5.68

Buckhorn Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.68**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-04-BEN** **Unnamed Tributary to Mill Swamp**

Cause Location: This cause encompasses the tributary running S / SE from Mill Swamp. To the east of Darden Pond and crosses RT 749 perpendicular.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic data is impaired at station 5AXEC000.76 (X-Trib to Mill Swamp). Spring Score 2012 = 17.1, Fall Score 2012 = 37.5. This was a 2012 probabilistic monitoring site. This stream has very steep banks but is very shallow with loosely packed sediment and little habitat available for benthic organisms to colonize. Assessed with VCPMI score.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_XEC01A14 / Unnamed Tributary To Mill Swamp / Tributary running S / SE from Mill Swamp. To the east of Darden Pond and crosses RT 749 perpendicular.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.85

Unnamed Tributary to Mill Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-05-BAC** **Buckhorn Swamp**

Cause Location: This cause encompasses the segment of Buckhorn Swamp near Pope that crosses over Route 652.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on E.coli data collected at Station 5BKH003.89 with 4 viol / 11 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_BKH01B12 / Buckhorn Swamp / Segment of Buckhorn Swamp near Pope that crosses over Route 652.	5A	Escherichia coli	2012	H	4.22

Buckhorn Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-05-DO** **Buckhorn Swamp**

Cause Location: This cause encompasses the segment of Buckhorn Swamp near Pope that crosses over Route 652.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Aquatic Life Use is impaired based on DO at Station 5BKH003.89 with 4 viol / 12 obs. The DO impairment is thought to be from natural conditions. There is currently no natural conditions report.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_BKH01B12 / Buckhorn Swamp / Segment of Buckhorn Swamp near Pope that crosses over Route 652.	5C	Oxygen, Dissolved	2014	M	4.22

Buckhorn Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-05-PH** **Buckhorn Swamp**

Cause Location: This cause encompasses the segment of Buckhorn Swamp near Pope that crosses over Route 652.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The pH impairment is retained from 2016 IR with 3 viol/ 24 obs at station 5ABKH003.89. 2018 IR has 1 viol / 12 obs. Data that fell outside of the 2018 IR window is why violation rate is below 10%. Need additional data to delist. Impairment thought to be from natural causes.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_BKH01B12 / Buckhorn Swamp / Segment of Buckhorn Swamp near Pope that crosses over Route 652.	5C	pH	2016	L	4.22

Buckhorn Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.22**

Sources:

Naturally Occurring Organic Acids

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-06-BAC** **Nottoway Swamp**

Cause Location: This cause encompasses the segment of Nottoway Swamp near Route 611.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use is impaired in the 2018 IR. In 2016 IR recreation use was supporting with E.coli data from Station 5ANTT002.96 with 2 viol / 23 obs and now in the 2018 IR data dropped off from 2009 and 2010. Data collected in 2014 now violates with 2 viol / 12 obs. Data outside of assessment after 2014 also violate. Therefore in the 2018 IR this segment will be listed for E.coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_NTT01A12 / Nottoway Swamp / Segment of Nottoway Swamp near Route 611	5A	Escherichia coli	2018	L	8.12

Nottoway Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-06-DO** **Nottoway Swamp**

Cause Location: This cause encompasses the segment of Nottoway Swamp near Route 611.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Aquatic Life Use is impaired based on DO and pH exceedances at Station 5ANT002.96. DO - 5 viol / 12 obs .

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_NTT01A12 / Nottoway Swamp / Segment of Nottoway Swamp near Route 611	5C	Oxygen, Dissolved	2012	L	8.12

Nottoway Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K28R-06-PH** **Nottoway Swamp**

Cause Location: This cause encompasses the segment of Nottoway Swamp near Route 611.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Aquatic Life Use is impaired based on pH exceedances at Station 5ANT002.96 with 2 viol / 12 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K28R_NTT01A12 / Nottoway Swamp / Segment of Nottoway Swamp near Route 611	5C	pH	2012	L	8.12

Nottoway Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**8.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K29R-01-BAC** **Seacorrie Swamp, German Swamp, XDW and XDX**

Cause Location: Seacorrie Swamp, portion of German Swamp, UT to Assamoosick Swamp XDW, and UT to Seacorrie Swamp XDX.

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 1998, the entire mainstem of Assamoosick Swamp (23.8 miles) was assessed as fully supporting but threatened of the Recreation Use. The segment was later identified to Virginia for listing consideration (station 5AASM013.36).

Assamoosick Swamp from the headwaters to Rt. 607 was downgraded in 2002, however the impairment was shortened in the year to end at the Route 607 bridge due to acceptable fecal coliform levels in this downstream portion (0/3 at 5AASM003.00, 0/13 at 5AASM000.89). The TMDL was due in 2010. In 2002, Black Swamp, Seacorrie Swamp, XDW, and XDX were also considered impaired of the Recreation Use. These TMDLs were due in 2014.

In 2004, German Swamp was added to the impairment. This was due in 2016.

During the 2010 cycle, E. coli monitoring was conducted throughout the watershed. The exceedance rates were acceptable at all stations on Black Swamp and Assamoosick Swamp above the Route 607 bridge; therefore, Black Swamp and the portion of Assamoosick Swamp which had been impaired were delisted. The lower portion of German Swamp remained impaired with an E. coli exceedance rate of 2/11 at 5AGMN000.54, however station 5AGMN003.19 was fully supporting (1/12); therefore, the portion above the upstream-most tributary was delisted. Seacorrie Swamp, XDW and XDX remained listed (5/14 at 5ASRE005.89, 4/21 at 5ASRE002.12, 3/8 at 5AXDW001.85, and 5/8 at 5AXDX001.35).

The Assamoosick Swamp and Tributaries Bacterial TMDL was developed during the 2012 cycle; it was approved by the EPA on 6/3/2010 and by the SWCB on 9/30/2010. The previously delisted segments are considered Category 2C; the impaired segments are Category 4A.

No new data has been collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K29R_GMN01A02 / German Swamp / The mainstem of German Swamp from the upstream-most tributary to its mouth.	4A	Escherichia coli	2010	L	2.62
VAP-K29R_SRE01A02 / Seacorrie Swamp / Seacorrie Swamp from its headwaters to its mouth	4A	Escherichia coli	2006	L	7.03
VAP-K29R_XDW01A02 / XDW - Assamoosick Swamp, UT / UT to Assamoosick Swamp	4A	Escherichia coli	2006	L	2.05
VAP-K29R_XDX01A02 / XDX - Seacorrie Swamp, UT / Unnamed tributary to Seacorrie Swamp	4A	Escherichia coli	2006	L	1.46

Seacorrie Swamp, German Swamp, XDW and XDX	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**13.16**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K29R-02-BAC** **Assamoosick Swamp**

Cause Location: Assamoosick Swamp from rivermile 2.5 near Mill Run downstream to its mouth

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2010 cycle, Assamoosick Swamp from rivermile 2.5 near Mill Run downstream to its mouth was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/11 at 5AASM000.89, which is located at the Route 647 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K29R_ASM02A02 / Assamoosick Swamp / Start of PWS at river mile 2.5 to mouth.	5A	Escherichia coli	2010	L	2.46

Assamoosick Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.46**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K29R-03-BAC** **XGT - Assamoosick Swamp, UT**

Cause Location: The UT XGT from its headwaters to its mouth at Assamoosick Swamp.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2010 cycle, the segment was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/6 at 5AXGT000.50, which is located at the Route 607 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K29R_XGT01A10 / XGT - Assamoosick Swamp, UT / Headwaters to mouth at Assamoosick Swamp	5A	Escherichia coli	2010	L	1.93

XGT - Assamoosick Swamp, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.93**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K29R-04-BAC** **XGS - Assamoosick Swamp, UT**

Cause Location: The UT XGS from its headwaters to its mouth at Assamoosick Swamp.

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, the segment was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/9 at 5AXGS000.96, which is located at the Route 634 bridge.

The stream is within the study area for the Assamoosick Swamp and Tributaries Bacterial TMDL, which was developed during the 2012 cycle. The TMDL was approved by the EPA on 6/3/2010 and by the SWCB on 9/30/2010. The stream is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K29R_XGS01A10 / XGS - Assamoosick Swamp, UT / Headwaters to mouth at Assamoosick Swamp	4A	Escherichia coli	2010	L	2.36

XGS - Assamoosick Swamp, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.36**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K30R-01-BAC** **Darden Mill Run**

Cause Location: This cause encompasses the area from headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired based on E.coli exceedance of the swimming criteria indicator with 9 violates/33 obs for station 5ADMR008.42. A Bacteria Total Maximum Daily Load was developed for Three Creek, Flat Swamp, Tarrara Creek, Mill Swamp, and Darden Mill Run in Southampton, Sussex, Greensville, Brunswick Counties and the City of Emporia, Virginia. EPA approved 09/28/2012 (PN 10623).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K30R_DMR01A02 / Darden Mill Run / From headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.	4A	Escherichia coli	2006	L	10.72

Darden Mill Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K30R-01-DO** **Darden Mill Run**

Cause Location: This cause encompasses the area from headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Aquatic Life Use is impaired due to depressed DO & pH concentrations below the criteria minimum. Impairment is suspected due to natural swamp conditions present in these waters, low flow and high organic content. Below criteria minimum = 4.0 mg/l. DO = 19 viol / 35 obs and pH 22 viol / 35 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K30R_DMR01A02 / Darden Mill Run / From headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.	5C	Oxygen, Dissolved	2002	L	10.72

Darden Mill Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K30R-01-PH** **Darden Mill Run**

Cause Location: This cause encompasses the area from headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Aquatic Life Use is impaired due to depressed DO & pH concentrations below the criteria minimum. Impairment is suspected due to natural swamp conditions present in these waters, low flow and high organic content. Below criteria minimum = 4.0 mg/l. DO = 19 viol / 35 obs and pH 22 viol / 35 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K30R_DMR01A02 / Darden Mill Run / From headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.	5C	pH	2004	L	10.72

Darden Mill Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**10.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K30R-02-DO** **Nottoway River - Lower**

Cause Location: This cause encompasses the lower portion of the Nottoway River in watershed K30. Segment starts below Mill Creek near Point Beach to VA/NC state line.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

DO is not supporting (4 viol / 36 obs) @ 5ANTW003.30 / Special Study and Trend Station and NCDNR station 5NTW-D0000050-NCDENR (21 viol/ 97 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K30R_NTW02B14 / Nottoway River - Lower / Lower portion of Nottoway River in watershed K30. Segment starts below Mill Creek near Point Beach to VA/NC state line.	5A	Oxygen, Dissolved	2014	L	4.54

Nottoway River - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K31R-01-BAC** **Blackwater Swamp, Warwick Swamp**

Cause Location: Blackwater Swamp from its headwaters to the Blackwater River and Warwick Swamp from its headwaters to Route 627.

City / County: Dinwiddie Co. Petersburg City Prince George Co. Surry Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In the 1998 cycle, Warwick Swamp from its headwaters to the Route 627 bridge was assessed as fully supporting but threatened of the Recreation use. During the year 2002 cycle, the entire mainstems of Warwick Swamp and Blackwater Swamp were considered impaired of the Recreation use. Due to an acceptable fecal coliform exceedance rate at 5AWKS001.00, the Warwick Swamp segment was shortened to its original length in 2004. During the 2008 cycle, the impairment converted to E. coli.

The exceedance rates during the 2010 cycle were as follows:

5ABKR001.92 - 1/12
5ABKR003.68 - 4/21
5ABKR004.83 - 0/1
5ABKR005.48 - 3/10
5ABKR007.28 - 0/10
5ABKR010.39 - 2/11
5ABKR014.01 - 1/12
5ABKR016.95 - 4/12
5AWKS009.11 - 6/21 (2014 cycle)
5AWKS013.53 - 0/12
5AWKS016.48 - 2/12
5AWKS018.67 - 5/10
5AWKS019.17 - 1/10

The Blackwater River Bacterial TMDL was developed during the 2012 cycle. The report was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. Blackwater Swamp and Warwick Swamp will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K31R_BKR01A98 / Blackwater Swamp / Headwaters to mouth.	4A	Escherichia coli	2006	L	22.90
VAP-K31R_WKS01A00 / Warwick Swamp / Warwick Swamp from its headwaters to the Route 627 bridge.	4A	Escherichia coli	2008	L	13.21

Blackwater Swamp, Warwick Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**36.11**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K31R-02-BAC** **Second Swamp**

Cause Location: Second Swamp from its headwaters to the first tributary upstream of Rt. 630

City / County: Petersburg City Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Second Swamp from its headwaters to its mouth was initially assessed as not supporting the Recreation Use support goal in 2004 based on a fecal coliform violation rate of 2/9 at the Route 618 bridge (5ASEC001.11).

Additional monitoring was conducted during the 2010 cycle. Data showed that the lower portion of Second Swamp has acceptable E. coli violation rates (1/11 at 5ASEC001.11, 1/12 at 5ASEC005.39, and 1/11 at 5ASEC006.88); therefore, the portion from the first tributary upstream of Route 630 (5ASEC006.88) downstream to its mouth was delisted (6.91 miles).

The upstream portion of Second Swamp remains listed, although only marginal violation rates were noted:

2/12 at 5ASEC014.08
0/12 at 5ASEC012.54
0/12 at 5ASEC010.97
2/12 at 5ASEC008.74

The Blackwater River and Tributaries Bacterial TMDL was developed during the 2012 cycle. The report was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The TMDL addressed all of Second Swamp; therefore, the impaired portion is considered Category 4A and the previously-delisted portion is considered Category 2C.
During the 2016 cycle the segment had an E.coli exceedance rate of 3/12 at station 5ASEC012.54 and remained impaired for the recreation use.

no new data for the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K31R_SEC01A04 / Second Swamp / Second Swamp from its headwater to the first tributary upstream of Rt. 630	4A	Escherichia coli	2010	L	9.52

Second Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.52**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K31R-04-BAC** **Warwick Swamp**

Cause Location: Warwick Swamp from the tributary at approximately rivermile 2.9 to its mouth at Blackwater Swamp.

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Warwick Swamp from the tributary at approximately rivermile 2.9 to its mouth was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/18 at 5AWKS001.00 and 4/12 at 5AWKS002.12.

The Blackwater River and Tributaries Bacterial TMDL was developed during the 2012 cycle. The report was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The TMDL only addressed the upstream impairment on Warwick Swamp, however the entire stream is located within the study area; therefore, the impaired portion will be considered nested in the Blackwater River impairment (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K31R_WKS03A10 / Warwick Swamp / Warwick Swamp from the tributary at approximately rivermile 2.9 to its mouth	4A	Escherichia coli	2010	L	3.02

Warwick Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.02**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K31R-05-BAC** **North Fork Blackwater Swamp**

Cause Location: North Fork Blackwater Swamp from its headwater to its mouth.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, North Fork Blackwater Swamp was assessed as not supporting of the Recreation Use due to E. coli violation rates of 2/12 at 5ABNF000.65, 4/11 at 5ABNF003.73, and 2/9 at 5ABNF005.25.

The Blackwater River Bacterial TMDL was developed during the 2012 cycle. The report was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. North Fork Blackwater Swamp is within the study area for the TMDL and will be considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K31R_BNF01A10 / North Fork Blackwater Swamp / Headwaters to mouth at Blackwater Swamp	4A	Escherichia coli	2010	L	6.11

North Fork Blackwater Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.11**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K31R-08-BAC** **XHO - Warwick Swamp, UT**

Cause Location: Tributary from its headwater to its mouth at XES

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the tributary was impaired of the Recreation Use due to an E. coli violation rate of 3/9 at 5AXGX000.46, which is located at the Route 626 bridge. The stream drains to Warwick Swamp which was addressed in the Blackwater River and Tributaries Bacterial TMDL, approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The tributary will be considered nested (Category 4A) and will be addressed during implementation of the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K31R_XHO01A12 / XHO - Warwick Swamp, UT / Headwaters to mouth at XES	4A	Escherichia coli	2012	L	2.42

XHO - Warwick Swamp, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.42**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K31R-09-BAC** **XGX - Warwick Swamp, UT**

Cause Location: Tributary from its headwater to its mouth at Warwick Swamp

City / County: Prince George Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the tributary was impaired of the Recreation Use due to an E. coli violation rate of 3/9 at 5AXGX000.46, which is located at the Route 626 bridge. The stream drains to Warwick Swamp which was addressed in the Blackwater River and Tributaries Bacterial TMDL, approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The tributary will be considered nested (Category 4A) and will be addressed during implementation of the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K31R_XGX01A12 / XGX - Warwick Swamp, UT / Headwaters to mouth at Warwick Swamp	4A	Escherichia coli	2012	L	2.22

XGX - Warwick Swamp, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.22**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-01-BAC** **Blackwater River**

Cause Location: Blackwater River from Warwick Swamp to the Route 617 bridge

City / County: Isle Of Wight Co. Southampton Co. Surry Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Blackwater River was identified for listing consideration by the EPA in 1998. The segment from Warwick Swamp to Cypress Swamp was initially assessed as not supporting of the Recreation Use during the 2002 cycle based on fecal coliform exceedances at 5ABLW074.66; the bacteria TMDL was due in 2010. During the 2006 cycle, the fecal coliform exceedance rate was acceptable, however the segment was considered impaired for E. coli based on exceedances at 5ABLW074.66 and downstream station 5ABLW058.22. The FC impairment was changed to E. coli, and the original TMDL due date was maintained.

During the 2010 cycle, it was determined that the 1998 segmentation actually extended downstream to the Route 617 bridge, which is also the location of 5ABLW058.22. The error was corrected and the impairment was extended. See VAT-K32R_BLW01A08.

During the 2012 cycle, the Blackwater River Bacterial TMDL was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The impairment is considered Category 4A.

The following are the 2014 exceedance rates:

5/42 at 5ABLW058.22
1/11 at 5ABLW064.46
3/11 at 5ABLW069.30
3/40 at 5ABLW074.66
2/12 at 5ABLW087.70

During the 2016 cycle the segment remained impaired for Recreation use due to an E.coli exceedance rate of 6/40 at 5ABLW074.66.
During the 2018 cycle the segment remained impaired for Recreation use due to an E.coli exceedance rate of 7/42 at 5ABLW074.66.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_BLW01B98 / Blackwater River / Start of Blackwater River at confluence of Warwick Swamp and Blackwater Swamp to Route 31	4A	Escherichia coli	2006	L	18.55
VAP-K32R_BLW02B98 / Blackwater River / Route 31 to Cypress Swamp	4A	Escherichia coli	2006	L	5.39
VAT-K32R_BLW01A08 / Blackwater River - Lower K32 / Lower portion of Blackwater R. in K32. Starts at the confluence with Cypress Swamp (upstream of Walls Bridge) downstream to above Rt 617 crossing @ Walls Bridge (RM 58.22).	4A	Escherichia coli	2008	L	2.32

Blackwater River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**26.26**

Sources:

Municipal Point Source Discharges
Non-Point Source
Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-01-BEN** **Blackwater River - Lower**

Cause Location: This cause encompasses the lower portion of Blackwater River in K32. Starts at the confluence with Cypress Swamp (upstream of Walls Bridge) downstream to above Rt. 617 crossing @ Walls Bridge (RM 58.22).

City / County: Isle Of Wight Co. Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on benthic data collected at stations 5ABLW052.91 and 5ABLW055.26.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K32R_BLW01A08 / Blackwater River - Lower K32 / Lower portion of Blackwater R. in K32. Starts at the confluence with Cypress Swamp (upstream of Walls Bridge) downstream to above Rt 617 crossing @ Walls Bridge (RM 58.22).	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.32

Blackwater River - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.32**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-02-BAC** **Spring Branch**

Cause Location: From the old Borden Chemical/Spurlock Adhesives discharge to the confluence with the Blackwater River

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the segment was impaired of the Recreation Use due to E. coli violations at 5ASRN000.65, which is located below Bryant Pond. The stream is within the study area for the Blackwater River Bacterial TMDL, which was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. Spring Branch will be addressed during implementation and is considered nested (Category 4A). The exceedance rate was 6/48 during the 2014 cycle.

During the 2018 cycle the segment remained impaired for E.coli with exceedances at all stations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_SRN01A94 / Spring Branch / Spurlock Adhesives discharge to Blackwater River.	4A	Escherichia coli	2012	L	4.15
VAP-K32R_SRN02A06 / Spring Branch / Headwaters to Spurlock Adhesives	4A	Escherichia coli	2018	L	0.11

Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.26**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-02-BEN** **Spring Branch**

Cause Location: From the old Borden Chemical/Spurlock Adhesives discharge to the confluence with the Blackwater River

City / County: Sussex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Spring Branch was initially assessed as impaired of the Aquatic Life Use in the 1994 cycle due to a severely impaired benthic community.

There are six past and current biological monitoring stations on Spring Branch. 5ASRN003.82 is located upstream of all the discharges; 5ASRN003.69 is located 50 yards below the Route 460 bridge; 5ASRN001.99 and 5ASRN001.90 are located upstream and downstream of Rt. 653; 5ASRN001.24 is located 100 yards below the Sussex Service Authority's Spring Branch WWTF discharge; and 5ASRN000.65 is located downstream of Bryant's Pond, near the mouth of Spring Branch. The three downstream stations were rated impaired during the 2012 cycle.

The benthic TMDL received approval by the EPA on 5/10/2006 and from the SWCB on 9/7/2006. The results indicated that total phosphorus is the Most Probable Stressor for Spring Branch because of its relationship to low dissolved oxygen and high pH. Total phosphorus was therefore used to develop the benthic TMDL.

During the 2018 cycle the segment remained impaired for benthics.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_SRN01A94 / Spring Branch / Spurlock Adhesives discharge to Blackwater River.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	4.15

Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.15**

Sources:

Industrial Point Source Discharge

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-02-PH** **Spring Branch**

Cause Location: From the old Borden Chemical/Spurlock Adhesives discharge to the confluence with the Blackwater River

City / County: Sussex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4A

The segment was considered impaired of the Aquatic Life Use in the 2008 cycle due to high pH at station 5ASRN000.66. The benthic TMDL was completed during the 2008 cycle; it received approval by the EPA on 5/10/2006 and from the SWCB on 9/7/2006. The results indicated that total phosphorus is the Most Probable Stressor for Spring Branch because of its relationship to low dissolved oxygen and high pH. The benthic TMDL limits phosphorus input, which should reduce algal growth and lower the pH. Therefore, the segment will be considered a Category 4A water for pH.

The exceedance rates were as follows during the 2014 cycle:

12/63 at 5ASRN000.65
11/60 at 5ASRN000.66
0/64 at 5ASRN001.24
0/63 at 5ASRN001.90
0/59 at 5ASRN001.99
0/40 at 5ASRN003.69

During the 2018 cycle there was no new pH data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_SRN01A94 / Spring Branch / Spurlock Adhesives discharge to Blackwater River.	4A	pH	2008	L	4.15

Spring Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.15**

Sources:

Industrial Point Source Discharge

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-04-BAC** **Otterdam Swamp**

Cause Location: Otterdam Swamp Headwaters to mouth. Nested within segment K32R-03-DO.

City / County: Prince George Co. Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The segment was initially assessed as not supporting of the Recreation Use goal during the 2002 cycle based on fecal coliform exceedances at 5AOTR001.26, 5AOTR004.31 (Rt. 607), and 5AOTR005.69 (Rt. 606). These are confined animal feeding operation (CAFO) special study stations.

E.coli was added as an impairing cause of the Recreation Use in 2006, however the original bacteria TMDL due date of 2014 was maintained. The bacteria impairment converted solely to E. coli during the 2008 cycle.

Otterdam Swamp was included in the Blackwater River Bacterial TMDL which was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The impairment is considered Category 4A.

The following are the exceedance rates during the 2014 cycle:
4/21 at 5AOTR001.26
3/14 at 5AOTR004.31 (2010 cycle)
0/12 at 5AOTR005.69 (2010 cycle)
During the 2018 cycle the segment remained impaired for E.coli at station 5AOTR008.07 with an exceedance rate of 3/12. Also with 2/12 exceedance rate at station 5AOTR001.26 and 5/12 at station 5AOTR004.31.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_OTR01A98 / Otterdam Swamp / Headwaters to Averys Pond dam	4A	Escherichia coli	2016	L	7.44
VAP-K32R_OTR02A00 / Otterdam Swamp / Below Averys Pond to Blackwater River	4A	Escherichia coli	2006	L	5.86

Otterdam Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.30**

Sources:

Agriculture Non-Point Source Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-05-BAC** **Coppahaunk Swamp, UT - XDT**

Cause Location: Mainstem from its headwaters to mouth

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Coppahaunk Swamp mainstem was initially assessed in 2002 as not supporting of the Recreation Use based on numerous fecal coliform exceedances. During the 2006 cycle, station 5AXDT000.50 had an E. coli exceedance rate of 2/2 and the UT was added into the mainstem impairment. The initial bacteria TMDL due date of 2014 was maintained.

During the 2008 cycle, additional E. coli monitoring at station 5ACPH006.00 showed an acceptable exceedance rate (1/11); therefore, the mainstem Coppahaunk Swamp was delisted for bacteria. This was a partial delist because the unnamed tributary to Coppahaunk Swamp, XDT, remains impaired.

XDT was addressed in the Blackwater River Bacterial TMDL which was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. Therefore, it will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_XDT01A08 / Coppahaunk Swamp, UT / Headwaters to mouth at Coppahaunk Swamp	4A	Escherichia coli	2006	L	0.91

Coppahaunk Swamp, UT - XDT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.91**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-07-BAC** **Cypress Swamp Tributaries**

Cause Location: All tributaries to Cypress Swamp, including Johnchecohunk Swamp and Spring Grove Swamp

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During 2006, station 5AJCH002.27 on Johnchecohunk Swamp had an E. coli exceedance rate of 2/12. In addition, the Cypress Swamp mainstem (VAP-K32R_CPP01A98) showed exceedances for bacteria. Therefore, the segment was assessed as not supporting the Recreation Use for E. coli.

The Cypress Swamp TMDL was completed and approved by the EPA on 10/14/2005. Due to the high reductions required to meet the Cypress Swamp mainstem TMDL, this segment is considered nested.

The segment remains impaired in the 2014 cycle with an exceedance rate of 2/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_CPP01B06 / Cypress Swamp Tributaries / All tributaries draining to Cypress Swamp.	4A	Escherichia coli	2006	L	143.62

Cypress Swamp Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**143.62**

Sources:

Agriculture	Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-08-BAC** **Cypress Swamp**

Cause Location: Mainstem from its headwaters to its mouth.

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Cypress Swamp from Johnchecohunk Swamp to its mouth (5.35 miles) was originally listed as impaired of the Recreation use during the 2002 cycle based on fecal coliform exceedances at the Rt. 31 bridge (5ACPP003.20). During the 2004 cycle, the impairment was extended upstream due to fecal coliform exceedances at 5A-PL-SCP1B and 5ACPP006.04 (Rt. 616).

In the 2006 cycle, E. coli was added as an impairing cause based on exceedances at 5ACPP003.20 and 5ACPP007.84 (Rt. 630). The TMDL was completed and approved by the EPA on 10/14/2005.

The impairment was converted to E. coil in the 2008 cycle based on E. coli exceedances at station 5ACPH003.20 and 5ACPH006.04.

The following were the exceedance rates during the 2010 cycle:
8/34 at 5ACPP003.20
2/12 at 5ACPP007.86

During the 2018 cycle there was no new data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_CPP01A98 / Cypress Swamp / Headwaters to mouth at Blackwater River.	4A	Escherichia coli	2006	L	17.06

Cypress Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.06**

Sources:

Agriculture	Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-11-BAC** **XDR - UT to Otterdam Swamp**

Cause Location: Headwaters to mouth

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, XDR (UT to Otterdam Swamp) was considered impaired of the Recreation Use due to a fecal coliform violation rate of 9/16 at 5AXDR00.38. Additional monitoring during the 2010 cycle confirmed an E. coli impairment with a violation rate of 5/14.

The tributary is within the study area for the Otterdam Swamp bacterial impairment, which was addressed in the Blackwater River Bacterial TMDL. The TMDL was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The impairment will be addressed during implementation and is therefore considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_XDR01A06 / UT to Otterdam Swamp / Headwaters to mouth at Otterdam Swamp	4A	Escherichia coli	2010	L	2.61

XDR - UT to Otterdam Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.61**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-13-HG** **Blackwater River Basin**

Cause Location: Blackwater River and tributaries from its headwaters to the VA-State Line

City / County: Dinwiddie Co. Isle Of Wight Co. Petersburg City Prince George Co. South Boston City
Southampton Co. Suffolk City Surry Co. Sussex Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

During the 2006 cycle, the Blackwater River from Route 31 near Dendron downstream to the Virginia-North Carolina state line was assessed as impaired of the Fish Consumption Use due to a VDH fish consumption advisory for mercury.

During the 2008 cycle, the advisory was expanded on 8/31/2007 to include the Blackwater River to its headwaters, including all of its tributaries. The advisory currently recommends consuming no more than two meals/month of largemouth bass, sunfish species, bowfin, chain pickerel, white catfish, redhorse sucker and longnose gar.

The advisory is based on the results of DEQ's fish tissue monitoring program, which show mercury exceedances at multiple stations throughout the watershed, including 5ABKR003.68, 5ABKR002.33, 5AWKS013.53, 5ASEC005.39, 5ABLW074.66, 5ACPP004.04, 5ACPP007.86, 5AJCH000.73.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K31R_BKR01A98 / Blackwater Swamp / Headwaters to mouth.	5A	Mercury in Fish Tissue	2008	L	22.90
VAP-K31R_BNF01A10 / North Fork Blackwater Swamp / Headwaters to mouth at Blackwater Swamp	5A	Mercury in Fish Tissue	2008	L	6.11
VAP-K31R_CAT01A10 / Cattail Creek / Headwaters to mouth at Blackwater Swamp	5A	Mercury in Fish Tissue	2008	L	3.43
VAP-K31R_SEC01A04 / Second Swamp / Second Swamp from its headwater to the first tributary upstream of Rt. 630	5A	Mercury in Fish Tissue	2008	L	9.52
VAP-K31R_SEC01B10 / Second Swamp / First tributary upstream of Rt. 630 to mouth	5A	Mercury in Fish Tissue	2008	L	6.91
VAP-K31R_WKS01A00 / Warwick Swamp / Warwick Swamp from its headwaters to the Route 627 bridge.	5A	Mercury in Fish Tissue	2008	L	13.21
VAP-K31R_WKS02A04 / Warwick Swamp / Warwick Swamp from the Route 627 bridge to the tributary at approximately rivermile 2.9	5A	Mercury in Fish Tissue	2008	L	6.23
VAP-K31R_WKS03A10 / Warwick Swamp / Warwick Swamp from the tributary at approximately rivermile 2.9 to its mouth	5A	Mercury in Fish Tissue	2008	L	3.02
VAP-K31R_XAT01A10 / Blackwater Swamp, UT / Headwaters to mouth at Blackwater Swamp	5A	Mercury in Fish Tissue	2008	L	1.46
VAP-K31R_XES01A08 / Warwick Swamp, UT / Headwater to mouth at Warwick Swamp	5A	Mercury in Fish Tissue	2008	L	3.43
VAP-K31R_XFN01A08 / North Fork Blackwater Swamp, UT / Headwaters to mouth at North Fork Blackwater Swamp	5A	Mercury in Fish Tissue	2008	L	2.82
VAP-K31R_XFX01A10 / Warwick Swamp, UT / Headwaters to mouth at Warwick Swamp	5A	Mercury in Fish Tissue	2008	L	2.95
VAP-K31R_XGE01A10 / Blackwater Swamp, UT / Headwaters to mouth at Blackwater Swamp	5A	Mercury in Fish Tissue	2008	L	1.46
VAP-K31R_XGX01A12 / XGX - Warwick Swamp, UT / Headwaters to mouth at Warwick Swamp	5A	Mercury in Fish Tissue	2008	L	2.22
VAP-K31R_XHO01A12 / XHO - Warwick Swamp, UT / Headwaters	5A	Mercury in Fish Tissue	2008	L	2.42

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Chowan River and Dismal Swamp Basins

to mouth at XES					
VAP-K31R_XHP01A10 / Blackwater Swamp, UT / Headwaters to mouth at Blackwater Swamp	5A	Mercury in Fish Tissue	2008	L	2.50
VAP-K31R_XHS01A12 / XHS - Second Swamp, UT / Headwaters to mouth at Second Swamp	5A	Mercury in Fish Tissue	2008	L	4.39
VAP-K31R_ZZZ01A14 / Unsegmented Rivers in K31 / Unsegmented portion of watershed CU52.	5A	Mercury in Fish Tissue	2008	L	40.84
VAP-K31R_ZZZ01B14 / Unsegmented Rivers in K31 / Unsegmented portion of watershed CU53.	5A	Mercury in Fish Tissue	2008	L	94.09
VAP-K31R_ZZZ01C14 / Unsegmented Rivers in K31 / Unsegmented portion of watershed CU54.	5A	Mercury in Fish Tissue	2008	L	59.14
VAP-K32R_BLW01B98 / Blackwater River / Start of Blackwater River at confluence of Warwick Swamp and Blackwater Swamp to Route 31	5A	Mercury in Fish Tissue	2008	L	18.55
VAP-K32R_BLW02B98 / Blackwater River / Route 31 to Cypress Swamp	5A	Mercury in Fish Tissue	2006	L	5.39
VAP-K32R_CPH01A98 / Coppahaunk Swamp / Headwaters to mouth at Blackwater River.	5A	Mercury in Fish Tissue	2008	L	11.98
VAP-K32R_CPP01A98 / Cypress Swamp / Headwaters to mouth at Blackwater River.	5A	Mercury in Fish Tissue	2008	L	17.06
VAP-K32R_CPP01B06 / Cypress Swamp Tributaries / All tributaries draining to Cypress Swamp.	5A	Mercury in Fish Tissue	2008	L	143.62
VAP-K32R_OTR01A98 / Otterdam Swamp / Headwaters to Averys Pond dam	5A	Mercury in Fish Tissue	2008	L	7.44
VAP-K32R_OTR02A00 / Otterdam Swamp / Below Averys Pond to Blackwater River	5A	Mercury in Fish Tissue	2008	L	5.86
VAP-K32R_RED01A08 / Reedy Branch Watershed / Headwaters to mouth at Otterdam Swamp	5A	Mercury in Fish Tissue	2008	L	7.31
VAP-K32R_SRN01A94 / Spring Branch / Spurlock Adhesives discharge to Blackwater River.	5A	Mercury in Fish Tissue	2008	L	4.15
VAP-K32R_SRN02A06 / Spring Branch / Headwaters to Spurlock Adhesives	5A	Mercury in Fish Tissue	2008	L	0.11
VAP-K32R_XAL01A08 / Spring Branch, UT / Headwaters to mouth at Spring Branch.	5A	Mercury in Fish Tissue	2008	L	0.72
VAP-K32R_XAW01A08 / Spring Branch, UT / Headwaters to mouth at Spring Branch.	5A	Mercury in Fish Tissue	2008	L	1.07
VAP-K32R_XDR01A06 / UT to Otterdam Swamp / Headwaters to mouth at Otterdam Swamp	5A	Mercury in Fish Tissue	2008	L	2.61
VAP-K32R_XDS01A06 / UT to Otterdam Swamp / Headwaters to mouth at Otterdam Swamp	5A	Mercury in Fish Tissue	2008	L	1.12
VAP-K32R_XDT01A08 / Coppahaunk Swamp, UT / Headwaters to mouth at Coppahaunk Swamp	5A	Mercury in Fish Tissue	2008	L	0.91
VAP-K32R_XFM01A08 / Blackwater River, UT / Headwaters to mouth at Blackwater River	5A	Mercury in Fish Tissue	2008	L	3.13
VAP-K32R_XFV01A10 / XFV - Otterdam Swamp, UT / Headwaters to mouth	5A	Mercury in Fish Tissue	2008	L	1.20
VAP-K32R_XGC01A10 / XGC - Coppahaunk Swamp, UT / Headwaters to mouth at Coppahaunk Swamp	5A	Mercury in Fish Tissue	2008	L	2.97

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Chowan River and Dismal Swamp Basins

VAP-K32R_ZZZ01A14 / Unsegmented Rivers in K32R / Unsegmented portion of watershed CU55.	5A	Mercury in Fish Tissue	2008	L	30.88
VAP-K32R_ZZZ01B14 / Unsegmented Rivers in K32R / Unsegmented portion of watershed CU56.	5A	Mercury in Fish Tissue	2008	L	40.81
VAP-K32R_ZZZ01C14 / Unsegmented Rivers in K32R / Unsegmented portion of watershed CU57	5A	Mercury in Fish Tissue	2008	L	111.12
VAT-K32R_BLW01A08 / Blackwater River - Lower K32 / Lower portion of Blackwater R. in K32. Starts at the confluence with Cypress Swamp (upstream of Walls Bridge) downstream to above Rt 617 crossing @ Walls Bridge (RM 58.22).	5A	Mercury in Fish Tissue	2006	L	2.32
VAT-K33R_ANT01A06 / Antioch Swamp - Middle / From confluence with Burnt Mills Swamp downstream to confluence with northern UT (RM 1.30).	5A	Mercury in Fish Tissue	2010	L	1.45
VAT-K33R_BLW01A00 / Blackwater River - Upper / Upper portion of Blackwater R. in K33. Starts at the Rt 617 crossing (Walls Bridge, RM 58.22) downstream to above Rt 460 crossing @ Zuni (RM 40.23).	5A	Mercury in Fish Tissue	2006	L	19.10
VAT-K33R_BLW02A04 / Blackwater River - Middle / Middle portion of Blackwater River within watershed, from Rt 460 bridge crossing, RM 40.22 to downstream approx. halfway between Station 5ABLW040.22 and Station 5ABLW038.69.	5A	Mercury in Fish Tissue	2004	L	1.04
VAT-K33R_BLW03A08 / Blackwater River - Lower / Lower portion of Blackwater River within watershed, from RM 39.34 downstream of confluence with Antioch Swamp (RM 35.22)].	5A	Mercury in Fish Tissue	2004	L	4.18
VAT-K33R_BLW04A08 / Blackwater River / From connection of Antioch Swamp to the Watershed line of K33.	5A	Mercury in Fish Tissue	2008	L	1.81
VAT-K33R_BMS01A12 / Burnt Mills Swamp / At confluence of Antioch Swamp to Route 258.	5A	Mercury in Fish Tissue	2008	L	5.16
VAT-K33R_ZZZ01A00 / Unsegmented rivers in K33R, Villines Swamp / Evaluated non-segmented rivers/swamps in K33.	5A	Mercury in Fish Tissue	2008	L	199.37
VAT-K34R_GHB01A18 / Golden Hill Branch / Tributary to Mill Swamp; North of Elberon	5A	Mercury in Fish Tissue	2010	L	3.47
VAT-K34R_MSW01A00 / Mill Swamp / Located northwest of Raynor, upstream tributary to Rattlesnake Swamp. Segment begins at confluence of Moores Swamp with Mill Swamp (mile 16.78) downstream to confluence with Rattlesnake Swamp (mile 0.0).	5A	Mercury in Fish Tissue	2010	L	8.44
VAT-K34R_MSW02A18 / Mill Swamp- Upper / Upstream portion of Swamp, Located North of Route 617 and South of Colonial Trail	5A	Mercury in Fish Tissue	2010	L	5.14
VAT-K34R_RKN01A02 / Rattlesnake Swamp K34 / Located northwest of Raynor. Rattlesnake Swamp Segment from confluence of Pouches Swamp downstream to watershed boundary K33/K34.	5A	Mercury in Fish Tissue	2010	L	6.42
VAT-K34R_ZZZ01A00 / Unsegmented rivers in K34R, Rattlesnake Swamp / Evaluated non-segmented rivers in K34.	5A	Mercury in Fish Tissue	2010	L	153.32
VAT-K35R_BNT01A04 / Brantley Swamp - Lower / Located northeast of Pulleys Crossroads. Segment from confluence with Lightwood Swamp downstream to confluence with Seacock Swamp.	5A	Mercury in Fish Tissue	2010	L	3.65
VAT-K35R_RHS01A08 / Round Hill Swamp / Confluence of Seacock Swamp between State Route 614 and State Route 623	5A	Mercury in Fish Tissue	2010	L	0.64
VAT-K35R_SCK01A00 / Seacock Swamp - Upper / Located west of Rt 460, south of Sussex - Southampton Co. line. Upper portion of Seacock Swamp, from Drumwright Pond downstream to confluence with unnamed tributary, approx. 0.1 mi downstream of Rt 628 crossing.	5A	Mercury in Fish Tissue	2010	L	0.84

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Chowan River and Dismal Swamp Basins

VAT-K35R_SCK02A08 / Seacock Swamp - Lower / Located west of Rt 460 south of Ivor. Lower portion of Seacock Swamp, from confluence with Brantley Swamp (RM 8.73) downstream below State Hwy 614.	5A	Mercury in Fish Tissue	2010	L	2.50
VAT-K35R_SCK03A08 / Seacock Swamp - Lower / Lower portion of Seacock Swamp south of Doles Crossroads, west of State Hwy 600.	5A	Mercury in Fish Tissue	2010	L	2.59
VAT-K35R_SCK03B18 / Seacock Swamp / Approx. 1 mi north of Seacock Swamp where it crosses Route 635 to confluences with the Blackwater River	5A	Mercury in Fish Tissue	2010	L	3.23
VAT-K35R_SCK04A10 / Seacock Swamp / From State Route 618 south to confluence with Reddy Hole Branch	5A	Mercury in Fish Tissue	2010	L	0.81
VAT-K35R_XDY01A04 / UT Seacock Swamp- Upper / UT to Seacock Swamp, PRO CAFO special study. Headwaters to confluence with Seacock Swamp mainstem.	5A	Mercury in Fish Tissue	2010	L	1.02
VAT-K35R_XDZ01A04 / UT Airfield Pond - Upper / UT to Airfield Pond, PRO CAFO special study. Headwaters to confluence with UT VAT-K35R_XDZ02A04.	5A	Mercury in Fish Tissue	2010	L	0.68
VAT-K35R_XDZ02A04 / UT Airfield Pond - Lower / UT start at confluence with segment VAT-K35R_XDZ01A04 halfway between State Hwy 622 and 729 downstream to Airfield Pond.	5A	Mercury in Fish Tissue	2010	L	0.71
VAT-K35R_XED01A18 / UT to Seacock Swamp- Lower / Tributary of Seacock Swamp that runs East / West from South of Corinth at Rt. 626 to Rt 635 north of Unity in Southampton County where it merges with the mainstem of Seacock Swamp.	5A	Mercury in Fish Tissue	2010	L	3.75
VAT-K35R_ZZZ01A00 / Unsegmented rivers in Seacock Swamp. / Area of unsegmented rivers that extend west from Airfield Pond, North to Rt. 460 in Wakefield, East to Guildfield Corner and South to Corinth.	5A	Mercury in Fish Tissue	2010	L	206.98
VAT-K35R_ZZZ02A18 / Unsegmented Seacock Swamp - No Station / Unsegmented portions K35R Seacock Swamp	5A	Mercury in Fish Tissue	2010	L	13.29
VAT-K36R_BLC01A06 / Black Creek / Located NW of Burdette. From Wades Pond downstream to mouth. Tributary to Blackwater R. with confluence at RM 22.0.	5A	Mercury in Fish Tissue	2008	L	4.95
VAT-K36R_BLC02A10 / Black Creek - Upper / Segment parallel with State Route 503. Southeast of Whitefields Millpond and Johnson Millpond.	5A	Mercury in Fish Tissue	2008	L	3.29
VAT-K36R_BLW01A00 / Blackwater River - Uppermost (PWS) / From start of watershed at RM 35.21 (at the confluence with Seacock Swamp) downstream to approximately 0.1 mi south of Rt. 603.	5A	Mercury in Fish Tissue	2004	L	4.28
VAT-K36R_BLW01B08 / Blackwater River - Upper / Between State Hwy 603 at the confluence with Horse Swamp to approximately 0.5 mi north of State Hwy 630.	5A	Mercury in Fish Tissue	2004	L	6.47
VAT-K36R_BLW02A08 / Blackwater River - Middle / Segment includes water from east of Edgehill to west of the Franklin Municipal John Beverly Rose Airport.	5A	Mercury in Fish Tissue	2004	L	3.85
VAT-K36R_BLW02B08 / Blackwater River - Upper / Segment begins north of Maynards Crossroads and State Hwy 630 and ends at Joyners Bridge.	5A	Mercury in Fish Tissue	2004	L	2.47
VAT-K36R_BLW02C10 / Blackwater River - Upper / Segment begins at State Route 611 and ends near Edgehill.	5A	Mercury in Fish Tissue	2004	L	3.00
VAT-K36R_BLW03A08 / Blackwater River - Middle / Segment begins west of the Franklin Municipal John Beverly Rose Airport and	5A	Mercury in Fish Tissue	2004	L	2.23

ends at the Blackwater Landing in Franklin.

VAT-K36R_BLW04A08 / Blackwater River - Lower Middle / From Blackwater Landing in Franklin the southern end of the industrial waste ponds in Isle of Wight.	5A	Mercury in Fish Tissue	2004	L	2.83
VAT-K36R_BLW04B12 / Blackwater River - Lower Middle / From Industrial Waste Ponds near Isle of Wight and Suffolk line to US-58.	5A	Mercury in Fish Tissue	2004	L	0.69
VAT-K36R_BLW04C12 / Blackwater River - Lower Middle / South of the Isle of Wight / Suffolk line beginning at Rt 58 downstream to Cox Landing	5A	Mercury in Fish Tissue	2012	L	4.75
VAT-K36R_BLW05A08 / Blackwater River - Lower / From Cox Landing downstream to downstream to VA/NC state line	5A	Mercury in Fish Tissue	2004	L	5.10
VAT-K36R_CRW01A18 / Corrowaugh Swamp / Trib to Blackwater North of Route 619 upstream near Dardens Pond and Route 611	5A	Mercury in Fish Tissue	2008	L	5.87
VAT-K36R_CYS01A12 / Cypress Swamp / Swamp off of Blackwater River. From Town of Sedley downstream to Route 611.	5A	Mercury in Fish Tissue	2008	L	5.16
VAT-K36R_DKS01A10 / Ducks Swamp / From confluence with Jenkins Swamp upstream to confluence with Corrowaugh Swamp - north of Walters and Aqueduct.	5A	Mercury in Fish Tissue	2008	L	2.61
VAT-K36R_WAC01A08 / Washole Creek / Segment at the confluence of Blackwater. East of Franklin Sewage Disposal. South of US Hwy 58.	5A	Mercury in Fish Tissue	2008	L	0.55
VAT-K36R_XGI01A08 / Unsegmented Tributary to Blackwater / Unsegmented river from Blackwater south of Franklin and north of State Hwy 58	5A	Mercury in Fish Tissue	2008	L	2.75
VAT-K36R_ZZZ01A00 / Unsegmented rivers in K36R (not PWS area) / Evaluated non-segmented rivers in K36 (excluding Corrowaugh Swamp), located downstream of Norfolk raw water intake located southeast of Burdette (on Blackwater R).	5A	Mercury in Fish Tissue	2008	L	308.86
VAT-K36R_ZZZ01B00 / Unsegmented rivers in K36R (PWS area) / The evaluated tributaries to Blackwater River (including Corrowaugh Swamp), located within 5 mi upstream from Norfolk raw water intake located southeast of Burdette (on Blackwater R). From end of K36 (RM 35.0) downstream to RM 27.0.	5A	Mercury in Fish Tissue	2008	L	68.05
VAT-K36R_ZZZ01C18 / UT to Blackwater / Trib to Blackwater River in Franklin South of 258 to headwaters near Clay St	5A	Mercury in Fish Tissue	2008	L	3.20

Blackwater River Basin	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			######

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-15-BAC** **Spring Branch, UT (XAW)**

Cause Location: The unnamed tributary from its headwaters to its mouth at Spring Branch.

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, the UT was assessed as not supporting of the Recreation Use due to E. coli exceedances at the Route 460 bridge (5AXAW000.19). The stream is located within the study area for the Blackwater River Bacterial TMDL, which was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The impairment will be addressed during implementation; therefore, it is considered nested (Category 4A.)

The exceedance rate was 20/53 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_XAW01A08 / Spring Branch, UT / Headwaters to mouth at Spring Branch.	4A	Escherichia coli	2010	L	1.07

Spring Branch, UT (XAW) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.07**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-16-BAC** **Spring Branch, UT (XAL)**

Cause Location: The unnamed tributary from its headwaters to its mouth at Spring Branch.

City / County: Prince George Co. Surry Co. Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the tributary was impaired of the Recreation Use due to E. coli exceedances at 5AXAL000.02. The stream is located within the study area for the Blackwater River Bacterial TMDL, which was approved by the EPA on 7/9/2010 and by the SWCB on 9/30/2010. The impairment will be addressed during implementation; therefore, it is considered nested (Category 4A.) The exceedance rate was 7/24 during the 2014 cycle.

During the 2018 cycle the segment remained impaired with exceedance rates of 16/22 at 5AXAW000.19.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_XAL01A08 / Spring Branch, UT / Headwaters to mouth at Spring Branch.	4A	Escherichia coli	2012	L	0.72

Spring Branch, UT (XAL)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.72**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K32R-18-BEN** **Blackwater River, UT**

Cause Location: Unnamed tributary XFM from its headwaters to its mouth at Blackwater River

City / County: Sussex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, the tributary was assessed as not supporting the Aquatic Life Use due to impairment of the benthic community at station 5AXFM000.88, which is located at the Route 613 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-K32R_XFM01A08 / Blackwater River, UT / Headwaters to mouth at Blackwater River	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.13

Blackwater River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K33R-02-BAC** **Blackwater River - Middle**

Cause Location: This cause encompasses the middle portion of Blackwater River from Rt. 460 bridge crossing, RM 40.22 to downstream approx. halfway between Station 5ABLW040.22 and Station 5ABLW038.69.

City / County: Isle Of Wight Co. Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreational Use is not supported with 5 viol / 34 obs at station 5ABLW040.22 (K33R-02-BAC)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K33R_BLW02A04 / Blackwater River - Middle / Middle portion of Blackwater River within watershed, from Rt 460 bridge crossing, RM 40.22 to downstream approx. halfway between Station 5ABLW040.22 and Station 5ABLW038.69.	5A	Escherichia coli	2012	H	1.04

Blackwater River - Middle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.04**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K33R-02-BEN** **Blackwater River - Upper**

Cause Location: This cause encompasses the upper portion of Blackwater R. in K33. Starts at the Rt. 617 crossing (Walls Bridge, RM 58.22) downstream to above Rt. 460 crossing @ Zuni (RM 40.23).

City / County: Isle Of Wight Co. Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic impairment is retained from 2008 Assessment. No new benthic data within the assessment window. Previous impairment is from benthic data collected at stations 5ABLW052.91 and 5ABLW055.26. Station Metrics in 2002 for station 52.91 and 2001 for 55.26 in the Spring and Fall were classified as moderately impaired with low DO and swamp conditions.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K33R_BLW01A00 / Blackwater River - Upper / Upper portion of Blackwater R. in K33. Starts at the Rt 617 crossing (Walls Bridge, RM 58.22) downstream to above Rt 460 crossing @ Zuni (RM 40.23).	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	19.10

Blackwater River - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K33R-03-BEN** **Blackwater River - Lower and Burnt Mills Swamp**

Cause Location: This cause encompasses the lower portion of the Blackwater River from RM 39.34 to the confluence with Antioch Swamp as well as the entirety of Burnt Mills Swamp

City / County: Isle Of Wight Co. South Boston City Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic impairment identified at DEQ (ProbMon) station 5ABLW038.69. Station 5ABLW038.69 Benthic IM [MI: S&F '05] and 5ABMS000.80 [VI: S&F 10].

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K33R_BLW03A08 / Blackwater River - Lower / Lower portion of Blackwater River within watershed, from RM 39.34 downstream of confluence with Antioch Swamp (RM 35.22)].	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.18
VAT-K33R_BMS01A12 / Burnt Mills Swamp / At confluence of Antioch Swamp to Route 258.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	5.16

Blackwater River - Lower and Burnt Mills Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.34**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K34R-01-BAC** **Mill Swamp**

Cause Location: Located northwest of Raynor, upstream tributary to Rattlesnake Swamp. Segment begins at confluence of Moores Swamp with Mill Swamp (mile 16.78) downstream to confluence with Rattlesnake Swamp (mile 0.0).

City / County: Isle Of Wight Co. Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Recreational Use is impaired based on the E.coli data with 8 viol / 24 obs at DEQ (AQM) station @ 5AMSW006.77.

A Bacterial TMDL for the Chowan Study Area was developed and EPA approved on 10/14/2005 (VAT-K34R-01).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K34R_MSW01A00 / Mill Swamp / Located northwest of Raynor, upstream tributary to Rattlesnake Swamp. Segment begins at confluence of Moores Swamp with Mill Swamp (mile 16.78) downstream to confluence with Rattlesnake Swamp (mile 0.0).	4A	Escherichia coli	2010	L	8.44

Mill Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.44**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K34R-02-BAC** **Rattlesnake Swamp**

Cause Location: This cause encompasses Rattlesnake Swamp Segment from confluence of Pouches Swamp downstream to watershed boundary K33/K34.

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Recreational Use is impaired based on E.coli data 11 viol / 35 obs.

A Bacterial TMDL for the Chowan Study Area was developed and EPA approved on 10/14/2005 (VAT-K34R-01). This TMDL includes Rattlesnake (Creek) Swamp, Mill Swamp, Cypress Swamp, Nottoway River, Little Nottoway River, Big Hounds Creek, Beaverpond Creek, Sappony Creek, and Raccoon Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K34R_RKN01A02 / Rattlesnake Swamp K34 / Located northwest of Raynor. Rattlesnake Swamp Segment from confluence of Pouches Swamp downstream to watershed boundary K33/K34.	4A	Escherichia coli	2010	L	6.42

Rattlesnake Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35L-01-DO** **Airfield Pond**

Cause Location: This cause encompasses the Pond north of Lightwood Swamp, off of State Route 628.

City / County: Sussex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Aquatic Life Use is impaired for dissolved oxygen based on the Class III DO water quality criteria. Data from station 5ALTD005.10 has 15 viol / 42 obs for Dissolved Oxygen.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35L_LTD01A02 / Airfield Pond / Pond north of Lightwood Swamp; off of State Route 628	5C	Oxygen, Dissolved	2008	L	120.07

Airfield Pond **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**120.07**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35L-01-HG** **Airfield Pond**

Cause Location: This cause encompasses all of Airfield Pond north of Lightwood Swamp; Off of State Route 628.

City / County: Sussex Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Fish Consumption Use is impaired based on Fish Tissue data from 2006 at Station 5ALTD005.10. Fish Tissue data Impaired for Hg for fish species Brown Bullhead Catfish, Largemouth Bass, Chain Pickerel, Bowfin & Bluegill Sunfish. The VDH Fish Advisory is for all of Blackwater and its tributaries as stated on 10/29/03, modified 7/27/05 and again on 8/31/07.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35L_LTD01A02 / Airfield Pond / Pond north of Lightwood Swamp; off of State Route 628	5A	Mercury in Fish Tissue	2010	L	120.07

Airfield Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**120.07**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35L-01-PH** **Airfield Pond**

Cause Location: This cause encompasses the Pond north of Lightwood Swamp, off of State Route 628.

City / County: Sussex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Aquatic Life Use is impaired for pH based on data from station 5ALTD005.10 with 5 viol/ 42 obs for pH based on Class III water quality criteria.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35L_LTD01A02 / Airfield Pond / Pond north of Lightwood Swamp; off of State Route 628	5C	pH	2008	L	120.07

Airfield Pond	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**120.07**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35R-02-BAC** **Seacock Swamp - Lower**

Cause Location: This cause encompasses the lower portion of Seacock swamp south of Doles Crossroads, west of State Hwy 600.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

Recreational Use impairment is retained. Need new E.coli data.
2006 01557 / 2008 K35R-02-BAC

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35R_SCK03A08 / Seacock Swamp - Lower / Lower portion of Seacock Swamp south of Doles Crossroads, west of State Hwy 600.	5A	Fecal Coliform	2004	L	2.59

Seacock Swamp - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.59**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35R-02-BEN** **Seacock Swamp - Lower**

Cause Location: This cause encompasses the lower portion of Seacock swamp

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on benthic assessment at station 5ASCK003.84 Benthic IM [MI:S-'04]. There is insufficient data to assess DO or pH.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35R_SCK03A08 / Seacock Swamp - Lower / Lower portion of Seacock Swamp south of Doles Crossroads, west of State Hwy 600.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.59

Seacock Swamp - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.59**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35R-03-BAC** **UT Seacock Swamp**

Cause Location: This cause encompasses the UT to Seacock Swamp, PRO CAFO special study. Headwaters to confluence with Seacock Swamp mainstem.

City / County: Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

Recreational Use is not supported based on data over 5 years old (2004 IR FC data: 6 viol / 7 obs.) at 5AXDY000.96. The impaired status was retained from previous Fecal Coliform data.
Confined animal operations are present in the watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35R_XDY01A04 / UT Seacock Swamp- Upper / UT to Seacock Swamp, PRO CAFO special study. Headwaters to confluence with Seacock Swamp mainstem.	5A	Fecal Coliform	2004	L	1.02

UT Seacock Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**1.02**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35R-05-BAC** **UT Airfield Pond - Upper**

Cause Location: This cause encompasses UT to Airfield Pond, PRO CAFO special study. Headwaters to confluence with UT VAT-K35R_XDZ02A04.

City / County: Sussex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use impairment is based on 2015 data from Station 5AXDZ001.73 with 2 viol / 6 obs for E.coli. Previously for E.coli in 2007 was 4 viol/ 6 obs. Listing based on Fecal Coliform data impairment (TMDL ID: VAT-K41R-05) based with 13 violates / 16 observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35R_XDZ01A04 / UT Airfield Pond - Upper / UT to Airfield Pond, PRO CAFO special study. Headwaters to confluence with UT VAT-K35R_XDZ02A04.	5A	Escherichia coli	2004	L	0.68

UT Airfield Pond - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.68**

Sources:

Animal Feeding Operations (NPS)	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35R-06-BAC** **Seacock Swamp - Upper and Lower**

Cause Location: This cause encompasses the upper portion of Seacock Swamp between Drumwright Pond and approximately 0.2 mi east of Rt. 628 and lower Seacock Swamp between the confluence of Brantley Swamp and the confluence with Round Hill Swamp.

City / County: Southampton Co. Surry Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The Recreation Use is impaired based on E.coli data at Station 5ASCK006.96 with 10 viol / 30 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35R_SCK02A08 / Seacock Swamp - Lower / Located west of Rt 460 south of Ivor. Lower portion of Seacock Swamp, from confluence with Brantley Swamp (RM 8.73) downstream below State Hwy 614.	5A	Escherichia coli	2012	L	2.50

Seacock Swamp - Upper and Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.50**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35R_SCK01A00 / Seacock Swamp - Upper / Located west of Rt 460, south of Sussex - Southampton Co. line. Upper portion of Seacock Swamp, from Drumwright Pond downstream to confluence with unnamed tributary, approx. 0.1 mi downstream of Rt 628 crossing.	5A	Fecal Coliform	2006	L	0.84

Seacock Swamp - Upper and Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**0.84**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K35R-08-BEN** **Round Hill Swamp**

Cause Location: The cause encompasses Round Hill Swamp between the confluence with Seacock Swamp and Rt. 623

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Aquatic Life Use is impaired based on benthic impairments (Benthic ProbMon-Benthic IM [MI:S-'05] at station 5ARHS000.39.

2008 K35R-08-BEN

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K35R_RHS01A08 / Round Hill Swamp / Confluence of Seacock Swamp between State Route 614 and State Route 623	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	0.64

Round Hill Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.64**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-01-DO** **Blackwater - Lower Middle**

Cause Location: Segment includes water from west of Franklin Municipal Airport downstream to Cox Landing downstream to RM 0.65 (at Suffolk City & Gates County line).

City / County: Isle Of Wight Co. Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

The Aquatic Life Use impairment is retained. The DO impairment is Cat 4C based on EPA approval letter dated April 8, 2010 to confirm all six Blackwater segments are impaired due to natural conditions and therefore move to Category 4C. In the EPA approval letter, "it is EPAs understanding that VADEQ will request that Blackwater River (Middle, Lower-Middle, Lower. Mouth) be formally reclassified as a Class VII Swamp Water during the next triennial review of the Virginia's Water Quality Standards". Water remain in Class II with a Cat 4C until Triennial Review.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_BLW02A08 / Blackwater River - Middle / Segment includes water from east of Edgehill to west of the Franklin Municipal John Beverly Rose Airport.	4C	Oxygen, Dissolved			3.85
VAT-K36R_BLW03A08 / Blackwater River - Middle / Segment begins west of the Franklin Municipal John Beverly Rose Airport and ends at the Blackwater Landing in Franklin.	4C	Oxygen, Dissolved			2.23
VAT-K36R_BLW05A08 / Blackwater River - Lower / From Cox Landing downstream to downstream to VA/NC state line	4C	Oxygen, Dissolved			5.10

Blackwater - Lower Middle **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**11.18**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-02-BAC** **Blackwater River - Lower Middle**

Cause Location: This cause encompasses the lower Blackwater River from RM 13.76 (downstream of Franklin, confluence of UT, parallel to Hayden High School) downstream west of Union Camp Holding Pond. And from South of the Isle of Wight / Suffolk line beginning at Rt. 58 downstream to Cox Landing.

City / County: Isle Of Wight Co. Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on E.coli data from DEQ (AQM) stations: 5ABLW012.28 (6 viol / 32 obs); 5ABLW009.14 (4 viol / 34 obs); 5ABLW009.80(4 viol / 33 obs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_BLW04A08 / Blackwater River - Lower Middle / From Blackwater Landing in Franklin the southern end of the industrial waste ponds in Isle of Wight.	5A	Escherichia coli	2006	L	2.83
VAT-K36R_BLW04C12 / Blackwater River - Lower Middle / South of the Isle of Wight / Suffolk line beginning at Rt 58 downstream to Cox Landing	5A	Escherichia coli	2012	L	4.75

Blackwater River - Lower Middle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-02-BEN** **Black Creek**

Cause Location: This cause encompasses the Black Creek Located NW of Burdette. From Wades Pond downstream to mouth. Tributary to Blackwater R. with confluence at RM 22.0.

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained based on the Benthic data collected at Station 5ABLC000.88 (Benthic ProbMon-Benthic IM [MI:F-'03, VI:S-'03]).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_BLC01A06 / Black Creek / Located NW of Burdette. From Wades Pond downstream to mouth. Tributary to Blackwater R. with confluence at RM 22.0.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.95

Black Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.95**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-02-DO** **Blackwater River - Lower Middle**

Cause Location: This cause encompasses the area from RM 13.76 (downstream of Franklin, confluence of UT, parallel to Hayden High School) downstream west of Union Camp Holding Pond.

City / County: Isle Of Wight Co. Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

The Aquatic Life Use is impaired based on DO data at DEQ (AQM) stations @ 5ABLW013.16 (12 violations / 35 observations), 5ABLW012.96 (7 violations / 18 observations), 5ABLW012.28 (15 violations / 35 observations), 5ABLW011.48 (8 violations / 18 observations), 5ABLW010.60 (7 violations / 18 observations), 5ABLW009.80 (15 violations / 35 observations), 5ABLW009.14 (11 violations / 36 observations). DO impairment is Cat 4C based on EPA approval letter dated April 15, 2010 to confirm all six Blackwater segments are impaired due to natural conditions and therefore move to Category 4C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_BLW04A08 / Blackwater River - Lower Middle / From Blackwater Landing in Franklin the southern end of the industrial waste ponds in Isle of Wight.	4C	Oxygen, Dissolved			2.83
VAT-K36R_BLW04B12 / Blackwater River - Lower Middle / From Industrial Waste Ponds near Isle of Wight and Suffolk line to US-58.	4C	Oxygen, Dissolved			0.69
VAT-K36R_BLW04C12 / Blackwater River - Lower Middle / South of the Isle of Wight / Suffolk line beginning at Rt 58 downstream to Cox Landing	4C	Oxygen, Dissolved			4.75

Blackwater River - Lower Middle **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-03-BAC** **Black Creek- Upper**

Cause Location: This cause encompasses the upper portion of Black Creek parallel with State Route 503. Southeast of Whitefields Millpond and Johnson Millpond.

City / County: Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use is impaired based on E.coli data collected at station 5ABLC006.97 with 4 viol / 24 obs with a 16.6 % violation rate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_BLC02A10 / Black Creek - Upper / Segment parallel with State Route 503. Southeast of Whitefields Millpond and Johnson Millpond.	5A	Escherichia coli	2010	L	3.29

Black Creek- Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-03-DO** **Washole Creek**

Cause Location: This cause encompasses the area at the confluence of Blackwater. East of Franklin Sewage Disposal. South of US Hwy 58.

City / County: Isle Of Wight Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

The Aquatic Life Use is impaired based on DO data (10 violations / 33 observations) at station 5AWAC000.03. The DO impairment is Cat 4C based on EPA approval letter dated April 15, 2010 to confirm all six Blackwater segments are impaired due to natural conditions and therefore move to Category 4C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_WAC01A08 / Washole Creek / Segment at the confluence of Blackwater. East of Franklin Sewage Disposal. South of US Hwy 58.	4C	Oxygen, Dissolved			0.55

Washole Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.55**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-04-BAC** **Cypress Swamp**

Cause Location: This cause encompasses Cypress Swamp from town of Sedley downstream to Route 611.

City / County: Isle Of Wight Co. Southampton Co. Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use is impaired (3 violations / 12 observations) at Station 5ACYS001.92.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_CYS01A12 / Cypress Swamp / Swamp off of Blackwater River. From Town of Sedley downstream to Route 611.	5A	Escherichia coli	2012	L	5.16

Cypress Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.16**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-04-BEN** **Unsegmented Tributary to Blackwater**

Cause Location: This cause encompasses the Unsegmented River from Blackwater South of Franklin to North of State Hwy 58.

City / County: Southampton Co. Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on Benthic Impairments. The Benthic ProbMon is impaired [VI:S&F-'06, 07] AT DEQ (ProbMon) Station @ 5AXGI001.79.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_XGI01A08 / Unsegmented Tributary to Blackwater / Unsegmented river from Blackwater south of Franklin and north of State Hwy 58	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.75

Unsegmented Tributary to Blackwater	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.75**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-05-BAC** **Washole Creek**

Cause Location: This cause encompasses the area at the confluence of Blackwater. East of Franklin Sewage Disposal. South of US Hwy 58.

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use ins not supporting based on E.coli data (4 violations / 33 observations) at station 5AWAC000.30.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_WAC01A08 / Washole Creek / Segment at the confluence of Blackwater. East of Franklin Sewage Disposal. South of US Hwy 58.	5A	Escherichia coli	2014	L	0.55

Washole Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.55**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-07-BAC** **Blackwater River - Upper**

Cause Location: This cause encompasses the Blackwater River segment north of Maynards Crossroads and State Hwy 630 and ends at Joyners Bridge

City / County: Isle Of Wight Co. Southampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use impairment is retained with 3 viol / 30 observation. Additional samples needed for delist. Recreation Use was impaired based on data at station 5ABLW022.84 with 4 viol / 32 obs in 2016 IR.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_BLW02B08 / Blackwater River - Upper / Segment begins north of Maynards Crossroads and State Hwy 630 and ends at Joyners Bridge.	5A	Escherichia coli	2016	L	2.47

Blackwater River - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K36R-08-BAC** **Ducks Swamp**

Cause Location: This cause encompasses the area from the confluence with Jenkins Swamp upstream to confluence with Corrowaugh Swamp -north of Walters and Aqueduct.

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use is not supported based on E.coli data collected at station 5ADKS000.09 with 3 viol / 24 obs. Station was supporting based on E.coli in the 2016 IR.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K36R_DKS01A10 / Ducks Swamp / From confluence with Jenkins Swamp upstream to confluence with Corrowaugh Swamp - north of Walters and Aqueduct.	5A	Escherichia coli	2018	L	2.61

Ducks Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.61**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K37R-01-PH** **Buckhorn Creek**

Cause Location: This cause encompasses all of Northern Branch of Buckhorn Creek (within Virginia).

City / County: Southampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 4C

The Aquatic Life Use is impaired due to depressed pH concentrations, impairment continued from 2004 IR at DEQ (AQM) station @ 5AXDN000.48 (segment Class change from III to VII, can not delist previous impairments since no current data). A natural conditions report is complete that determined the pH impairment was not influenced by anthropogenic sources.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K37R_XDN01A00 / Buckhorn Creek / All of Northern Branch of Buckhorn Creek (within Virginia).	4C	pH			1.52

Buckhorn Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.52**

Sources:

Naturally Occurring Organic Acids

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K38R-01-BEN** **Somerton Creek**

Cause Location: This cause encompasses the area of Somerton Creek from 5 miles upstream from monitoring station (RM 10.36) downstream to VA/NC state line.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the Benthic Impairments at Station 5ASTN008.78. Station 5ASTN008.78 Benthic IM [MI:F-'04].

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K38R_STN01A00 / Somerton Creek / Somerton Creek from 5 miles upstream from monitoring station (RM 10.36) downstream to VA/NC state line.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	9.38

Somerton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K38R-02-BAC** **March Swamp**

Cause Location: This cause encompasses entirety of March Swamp. Northeast of Factory Hill. Northern tributary to Somerton Creek.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on E.coli data at DEQ (AQM) station @ 5AMAR001.65 with 2 viol / 15 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K38R_MAR01A06 / March Swamp / Northeast of Factory Hill. Northern tributary to Somerton Creek. Entirety of swamp.	5A	Escherichia coli	2008	L	7.71

March Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.71**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K38R-04-BAC** **Jones Swamp**

Cause Location: This cause encompasses from Spivey Swamp near Rt. 643 (Arthur Dr) upstream to confluence with Quaker Swamp near Route 664.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation is impaired with 4 viol / 17 obs for E. Coli @ DEQ Station 5AJNS001.89.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K38R_JNS01A14 / Jones Swamp / Trib to Spivey Swamp near Rt. 643 (Arthur Dr) upstream to confluence with Quaker Swamp near Route 664.	5A	Escherichia coli	2014	L	3.80

Jones Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.80**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K38R-05-BAC** **Chapel Swamp**

Cause Location: This cause encompasses the Northern tributary of Somerton Creek. Located east of Cleopus. Entirety of swamp.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use is impaired with 2 viol / 16 obs at station 5ACHP002.03.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K38R_CHP01A04 / Chapel Swamp / Northern tributary of Somerton Creek. Located east of Cleopus. Entirety of swamp.	5A	Escherichia coli	2014	L	8.28

Chapel Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K38R-06-BAC** **Somerton Creek**

Cause Location: This cause encompasses Somerton Creek from 5 miles upstream from monitoring station (RM 10.36) downstream to VA/NC state line.

City / County: Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use impaired based on E. coli data from station 5ASTN008.78 with 7 viol/ 34 viol.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K38R_STN01A00 / Somerton Creek / Somerton Creek from 5 miles upstream from monitoring station (RM 10.36) downstream to VA/NC state line.	5A	Escherichia coli	2016	L	9.38

Somerton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K38R-07-DO** **Jones Swamp**

Cause Location: This cause encompasses the Trib to Spivey Swamp from Rt. 643 (Arthur Dr) upstream to confluence with Quaker Swamp near Route 664.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is not supported based on DO data collected at station 5AJNS001.89 with 12 viol/ 17 obs. Impairment is suspected to be natural conditions.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K38R_JNS01A14 / Jones Swamp / Trib to Spivey Swamp near Rt. 643 (Arthur Dr) upstream to confluence with Quaker Swamp near Route 664.	5C	Oxygen, Dissolved	2018	L	3.80

Jones Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.80**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K38R-07-PH** **Jones Swamp**

Cause Location: This cause encompasses the Trib to Spivey Swamp from Rt. 643 (Arthur Dr) upstream to confluence with Quaker Swamp near Route 664.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The Aquatic Life Use is not supported based on pH data collected at station 5AJNS001.89 with 6 viol/ 17 obs. Impairment is suspected to be natural conditions.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K38R_JNS01A14 / Jones Swamp / Trib to Spivey Swamp near Rt. 643 (Arthur Dr) upstream to confluence with Quaker Swamp near Route 664.	5C	pH	2018	L	3.80

Jones Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.80**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K39L-01-HG** **Lake Drummond**

Cause Location: This cause encompasses the entirety of lake Drummond within the Great Dismal Swamp National Wildlife Refuge. Located on City of Suffolk/City of Chesapeake boundary near NC state line.

City / County: Chesapeake City Suffolk City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for Bowfin and Chain Pickerel (issued 10/2003 & modified 7/27/05, 8/31/2007 recommending no more than two meals/month due to Hg reported in fish tissue).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K39L_LKD01A06 / Lake Drummond / Within the Great Dismal Swamp National Wildlife Refuge. Located on City of Suffolk/City of Chesapeake boundary near NC state line. Entirety of lake.	5A	Mercury in Fish Tissue	2006	L	######

Lake Drummond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**3,241.96**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K39L-01-PH** **Lake Drummond**

Cause Location: This cause encompasses the entirety of lake Drummond within the Great Dismal Swamp National Wildlife Refuge. Located on City of Suffolk/City of Chesapeake boundary near NC state line.

City / County: Chesapeake City Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The Aquatic Life Use is impaired based on the pooled pH exceedance of the criteria for this parameter with a violation rate of 100% (113 violates/113 obs.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K39L_LKD01A06 / Lake Drummond / Within the Great Dismal Swamp National Wildlife Refuge. Located on City of Suffolk/City of Chesapeake boundary near NC state line. Entirety of lake.	5C	pH	2008	L	######

Lake Drummond	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**3,241.96**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K39R-01-HG** **Dismal Swamp Canal & Feeder Ditch to Lake Drummond**

Cause Location: This cause encompasses the Dismal Swamp Canal from Deep Creek Locks to VA/NC state line and including Feeder Ditch to Lake Drummond and unsegmented rivers in K39R.

City / County: Chesapeake City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for Bowfin and Chain Pickerel (issued 10/2003 & modified 7/27/05, recommending no more than two meals/month due to Hg reported in fish tissue).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K39R_XCK01A00 / Dismal Swamp Canal & Feeder Ditch to Lake Drummond / Dismal Swamp Canal from Deep Creek Locks to VA/NC state line and including Feeder Ditch to Lake Drummond.	5A	Mercury in Fish Tissue	2004	L	13.21

Dismal Swamp Canal & Feeder Ditch to Lake Drummond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**13.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K39R-02-HG** **Unsegmented rivers in K39R**

Cause Location: This cause encompasses the non-segmented rivers-feeder ditches within K39.

City / County: Chesapeake City Suffolk City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Fish Consumption Use impairment for Mercury is retained for 2018 IR. Monitoring data at Station 5B-GDS-ED is from 2005. The feeder ditches flow to Lake Drummond which is impaired for Fish Consumption based on a VDH Fish Consumption Advisory.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K39R_ZZZ01B08 / Unsegmented rivers in K39R / Evaluated non-segmented areas of K39. majority of waters are feeder ditches to Lake Drummond.	5A	Mercury in Fish Tissue	2010	L	15.28

Unsegmented rivers in K39R **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**15.28**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K39R-03-BAC** **Adams Swamp**

Cause Location: This cause encompasses the Swamp in its entirety located in Suffolk from NC/VA border near Route 673 to headwaters.

City / County: Chesapeake City Suffolk City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use is impaired based on E.coli data collected at station 5BADA002.34 with 6 viol / 11 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K39R_ADA01A18 / Adams Swamp / Swamp in its entirety located in Suffolk from NC/VA border near Route 673 to headwaters.	5A	Escherichia coli	2018	L	2.99

Adams Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K39R-03-DO** **Adams Swamp**

Cause Location: This cause encompasses the Swamp in its entirety located in Suffolk from NC/VA border near Route 673 to headwaters.

City / County: Chesapeake City Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on pH and DO data collected at station 5BADA002.34. Data collected at the station has 7 viol / 11 obs for DO and 8 viol / 11 obs for pH.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K39R_ADA01A18 / Adams Swamp / Swamp in its entirety located in Suffolk from NC/VA border near Route 673 to headwaters.	5C	Oxygen, Dissolved	2018	L	2.99

Adams Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.99**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K39R-03-PH** **Adams Swamp**

Cause Location: This cause encompasses the Swamp in its entirety located in Suffolk from NC/VA border near Route 673 to headwaters.

City / County: Chesapeake City Suffolk City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The Aquatic Life Use is impaired based on pH and DO data collected at station 5BADA002.34. Data collected at the station has 7 viol / 11 obs for DO and 8 viol / 11 obs for pH.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K39R_ADA01A18 / Adams Swamp / Swamp in its entirety located in Suffolk from NC/VA border near Route 673 to headwaters.	5C	pH	2018	L	2.99

Adams Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.99**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K40R-01-DO** **Unnamed tributary to Northwest River**

Cause Location: This cause encompasses the Unnamed trib to Northwest River from St Brides Rd crossing to confluence with Northwest River. Within PWS area.

City / County: Chesapeake City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

Aquatic Life Use impairment is due to low dissolved oxygen concentrations (20/30) at DEQ (AQM) station @ 5BXAM000.60. A Total Maximum Daily Load was development for the Northwest River Watershed for Total Phosphorus due to Low Dissolved Oxygen. EPA Approved 4/26/2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K40R_XAM01A02 / Unnamed tributary to Northwest River (PWS) / Unnamed trib to Northwest River from St Brides Rd crossing to confluence with Northwest River. Within PWS area.	4A	Oxygen, Dissolved	2002	L	4.06

Unnamed tributary to Northwest River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.06**

Sources:

Contaminated Groundwater	Municipal Point Source Discharges	Non-Point Source	Runoff from Forest/Grassland/Parkland

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K40R-02-BAC** **Northwest River - Middle (PWS)**

Cause Location: This cause encompasses Northwest River from RM 16.63 (start of PWS) to RM 12.0 near 168 . Upstream of Pine Grove Lane, downstream to 168.

City / County: Chesapeake City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli data impaired with 5 viol/ 32 obs at station 5BNTW012.86

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K40R_NTW02A00 / Northwest River - Middle (PWS) / Northwest River from RM 16.63 (start of PWS) to RM 12.0 near 168 . Upstream of Pine Grove Lane, downstream to 168.	5A	Escherichia coli	2006	L	5.69

Northwest River - Middle (PWS)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K40R-02-DO** **Northwest River (Upper, Middle, Lower & Mouth)**

Cause Location: This cause encompasses all of the Northwest River.

City / County: Chesapeake City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life Use is impaired based on low dissolved oxygen. The DO was assessed using Stations 5BNTW012.86 (21/32), 5BNTW011.90(19/32), 5BNTW008.97 (8/32), 5BNTW009.49 (9/32), 5BNTW010.23 (10/32), & Station 5BNTW007.49(9 violates /32 obs.). EPA approved TMDL April 26,2011.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K40R_NTW01A00 / Northwest River - Upper (Non-PWS) / Northwest River from mile 22.15 to 16.63, upstream of Chesapeake's intake and PWS area. From the headwaters downstream to start of PWS area, upstream of Pine Grove Lane.	4A	Oxygen, Dissolved	1998	L	7.43
VAT-K40R_NTW02A00 / Northwest River - Middle (PWS) / Northwest River from RM 16.63 (start of PWS) to RM 12.0 near 168 . Upstream of Pine Grove Lane, downstream to 168.	4A	Oxygen, Dissolved	1998	L	5.69
VAT-K40R_NTW03A08 / Northwest River - Lower (PWS) / Northwest River from 168 to the Indian Creek Confluence	4A	Oxygen, Dissolved	1998	L	2.82
VAT-K40R_NTW04A08 / Northwest River - Mouth (PWS) / Northwest River below Indian Creek confluence downstream to the VA state line @ RM 7.49.	4A	Oxygen, Dissolved	2010	L	1.90

Northwest River (Upper, Middle, Lower & Mouth)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**17.84**

Sources:

Agriculture	Contaminated Groundwater	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal Point Source Discharges
Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Runoff from Forest/Grassland/Parkland	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K40R-04-HG** **Northwest River - Middle**

Cause Location: This cause encompasses the Northwest River from RM 16.63 (start of PWS) to RM 12.0 near 168 . Upstream of Pine Grove Lane, downstream to 168.

City / County: Chesapeake City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Fish Consumption Use is impaired based on FT data collected at Station 5BNTW011.90. The mercury Fish Tissue Value was violated in 2007 (07-IM- FT_Met Hg Largemouth Bass & Bowfin).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K40R_NTW02A00 / Northwest River - Middle (PWS) / Northwest River from RM 16.63 (start of PWS) to RM 12.0 near 168 . Upstream of Pine Grove Lane, downstream to 168.	5A	Mercury in Fish Tissue	2010	L	5.69

Northwest River - Middle **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**5.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K40R-06-DO** **Indian Creek tributary to Northwest River**

Cause Location: This cause encompasses the area from the St. Brides Rd. crossing downstream to the confluence with the Northwest River. Located southeast of Saint Brides.

City / County: Chesapeake City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life Use impairment is due to low dissolved oxygen concentrations (8/33) at DEQ (AQM) stations @ 5BIND001.15. Not determined to be natural conditions therefore a TMDL was completed and EPA approved 4/26/2011 that assigned a TP endpoint for the DO impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K40R_IND01A02 / Indian Creek tributary to Northwest River / From the St. Brides Rd. crossing downstream to the confluence with the Northwest River. Located southeast of Saint Brides.	4A	Oxygen, Dissolved	2002	L	3.46

Indian Creek tributary to Northwest River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.46**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K40R-09-BAC** **Indian Creek tributary to Northwest River**

Cause Location: From the St. Brides Rd. crossing downstream to the confluence with the Northwest River. Located southeast of Saint Brides.

City / County: Chesapeake City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on E.coli data collected at station 5BIND001.15 with 8 viol / 31 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K40R_IND01A02 / Indian Creek tributary to Northwest River / From the St. Brides Rd. crossing downstream to the confluence with the Northwest River. Located southeast of Saint Brides.	5A	Escherichia coli	2006	L	3.46

Indian Creek tributary to Northwest River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.46**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-01-BEN** **Pocaty River**

Cause Location: This cause encompasses the Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.

City / County: Chesapeake City Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained based on benthic impairment. Data collected at station 5BPCT002.16 MI: S-03 and VI:F-03.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_PCT01A02 / Pocaty River / Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	7.43

Pocaty River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.43**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-01-DO** **Pocaty River**

Cause Location: This cause encompasses the Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.

City / County: Chesapeake City Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life Use is impaired based on low dissolved oxygen concentrations. The cause of the depressed dissolved oxygen concentrations is suspected to be naturally occurring. DO violates 17/ 34 obs at Station 5BPCT001.79

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_PCT01A02 / Pocaty River / Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.	4A	Oxygen, Dissolved	2002	L	7.43

Pocaty River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.43**

Sources:

Crop Production (Crop Land or Dry Land)	Non-Point Source	Source Unknown	Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-02-BAC** **Milldam Creek - Lower**

Cause Location: This cause encompasses the tidally influenced portion of Milldam Creek from Blackwater Rd. crossing (RM 1.92) to confluence with North landing River @ RM 0.00.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired due to E.coli concentrations exceeding the swimming indicator criteria (4/32) at DEQ (AQM) station @ 5BMLD001.92. TMDL EPA approved 9/27/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_MLD02A06 / Milldam Creek - Lower / Tidally influenced portion of Milldam Creek from Blackwater Rd. crossing (RM 1.92) to confluence with North landing River @ RM 0.00.	4A	Escherichia coli	1998	M	2.54

Milldam Creek - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-02-DO** **Milldam Creek - Lower**

Cause Location: This cause encompasses the tidally influenced portion of Milldam Creek from Blackwater Rd. crossing (RM 1.92) to confluence with North Landing River @ RM 0.00.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

Aquatic Life Use is impairment due to low dissolved oxygen concentrations (12 viol /34 obs) at DEQ (AQM) station @ 5BMLD001.92. The pH is supporting (0 viol / 35 obs). A Stressor Report was developed for the Dissolved Oxygen Assessment for Virginia Beach (Albemarle Canal/ North Landing River, Milldam Creek, West Neck Creek (middle), and Nawney Creek). EPA Approved letter for 4A 12/14/2010. It was determined that the approved bacterial TMDL should significantly reduce organic matter and nutrients and thus a TMDL specifically addressing DO is not required. However, if conditions do not improve through implementation of the Bacteria TMDL consideration will be given to develop an additional TMDL for DO.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_MLD02A06 / Milldam Creek - Lower / Tidally influenced portion of Milldam Creek from Blackwater Rd. crossing (RM 1.92) to confluence with North landing River @ RM 0.00.	4A	Oxygen, Dissolved	2006	L	2.54

Milldam Creek - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.54**

Sources:

Grazing in Riparian or Shoreline Zones	Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-03-DO** **Albemarle Canal & North Landing River - Middle**

Cause Location: This cause encompasses the Albemarle Canal (Intracoastal Waterway) and North Landing River from the Great Bridge Locks downstream to confluence with West Neck Creek.

City / County: Chesapeake City Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life Use impairment is retained. Current data within assessment window is 0 viol / 1 obs for dissolved oxygen at Station 5BAAC000.49. Low DO impairment at 5BNLR013.61 has 14 viol / 36 obs. EPA approved TMDL 1/13/2011 for Albemarle Canal/North Landing River.

1999 CD segment for DO (Attachment B) VAT-K41R-03.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_AAC01A06 / Albemarle Canal (upstream of North Landing River) / Albemarle and Chesapeake Canal (Intracoastal Waterway) from Great Bridge Locks downstream to confluence with North Landing River (RM 13.65).	4A	Oxygen, Dissolved	2002	L	8.55
VAT-K41R_NLR02A06 / North Landing River - Middle / From confluence with Intracoastal Waterway (RM 13.65) downstream to instream Island (RM 12.01, upstream of confluence of West Neck Creek).	4A	Oxygen, Dissolved	2006	L	2.15

Albemarle Canal & North Landing River - Middle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.70**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-05-BAC** **West Neck Creek - Middle**

Cause Location: This cause encompasses the segment from southside of Princess Anne Road crossing (RM 6.20) downstream to widening of creek (RM 3.10) approx. 0.55 mi downstream of Indian River Road crossing.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Recreation Use is impaired based on E.coli data collected at station 5BWNC003.65 with 4 viol / 15 obs. Initial impairment (2002 cycle) (TMDL ID: VAT-K41R-05) based on fecal coliform.

A Bacterial TMDL was developed for the Virginia Beach Coastal Area (London Bridge Creek & Canal # 2, Milldam Creek, Nawney Creek, West Neck Creek (Middle), and West Neck Creek (Upper)) and was approved by EPA 9/05.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_WNC01A00 / West Neck Creek - Middle / Segment from south side of Princess Anne Road crossing (RM 6.20) downstream to widening of creek (RM 3.10) near Indian River Road crossing.	4A	Escherichia coli	2002	M	3.40

West Neck Creek - Middle **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-05-DO** **West Neck Creek - Middle**

Cause Location: This cause encompasses the area from southside of Princess Anne road crossing (RM 6.20) downstream to widening of creek (RM 3.10) approx. 0.55 mi downstream of Indian River Road crossing.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

Aquatic Life Use is impaired for DO (12 obs / 33 obs) at DEQ station 5BWNC003.65. The high nutrient and total organic solids concentrations indicate that anthropogenic sources are exacerbating the naturally low DO conditions in the stream.
A Stressor Report was developed for the Dissolved Oxygen Assessment for Virginia Beach (Albemarle Canal/ North Landing River, Milldam Creek, West Neck Creek (middle), and Nawney Creek). EPA Approved letter for 4A classification , 12/14/2010. It was determined that the approved bacterial TMDL should significantly reduce organic matter and nutrients and thus a TMDL specifically addressing DO is not required. However, if conditions do not improve through implementation of the Bacteria TMDL consideration will be given to develop an additional TMDL for DO.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_WNC01A00 / West Neck Creek - Middle / Segment from south side of Princess Anne Road crossing (RM 6.20) downstream to widening of creek (RM 3.10) near Indian River Road crossing.	4A	Oxygen, Dissolved	2002	L	3.40

West Neck Creek - Middle **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.40**

Sources:

- Livestock (Grazing or Feeding Operations)
- Natural Conditions - Water Quality Standards Use Attainability Analyses Needed
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-05-PCB** **West Neck Creek - Middle**

Cause Location: This cause encompasses the area from southside of Princess Anne road crossing (RM 6.20) downstream to widening of creek (RM 3.10) approx. 0.55 mi downstream of Indian River Road crossing.

City / County: Virginia Beach City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on Fish Tissue data collected at Station 5BWNC003.65. 07-IM, FT_PCB White Catfish, Carp & FT-OE, Met_As Carp.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_WNC01A00 / West Neck Creek - Middle / Segment from south side of Princess Anne Road crossing (RM 6.20) downstream to widening of creek (RM 3.10) near Indian River Road crossing.	5A	PCB in Fish Tissue	2010	L	3.40

West Neck Creek - Middle **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**3.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-08-BAC** **Blackwater Creek**

Cause Location: This cause encompasses the area of Blackwater Creek from headwaters at RM 3.2 to confluence with North Landing River RM 0.0.

City / County: Chesapeake City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use is not supported based on E.coli data collected in the 2018 IR with 4 viol/ 32 obs at station 5BBKW002.50. This station was previously impaired in 2006 and 2008. Then in 2010 this station was delisted. From 2010 to 2016 this station was fully supporting Recreation Use with 2 viol / 34 obs in 2014 and 3 viol / 31 obs in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_BKW01A00 / Blackwater Creek / Blackwater Creek from headwaters at RM 3.2 to confluence with North Landing River RM 0.0.	5A	Escherichia coli	2006	L	4.47

Blackwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-09-BAC** **Pocaty River**

Cause Location: This cause encompasses Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.

City / County: Chesapeake City Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is not supported based on data at Station 5BPCT001.79 with 5 viol / 32 obs.

A Total Maximum Daily Load has been Developed for the Back Bay, North Landing River, and Pocaty River Watersheds for E. coli and Enterococci due to Recreation Use Impairments and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use impairments. EPA approved 12/11/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_PCT01A02 / Pocaty River / Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.	4A	Escherichia coli	2012	L	7.43

Pocaty River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.43**

Sources:

Agriculture Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-12-BEN** **Unnamed Trib to Milldam Creek**

Cause Location: This cause encompasses the area from the confluence with Milldam Creek to Crags Cswy.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Aquatic Life Use is not supported based on benthic data from Station 5BXAT000.30. Benthic IM [VI:S&F-09 & S-10; MI:F-10]

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_XAT01A12 / Unnamed Trib to Milldam Creek / From Confluence with Milldam Creek to Crags Cswy	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	0.66

Unnamed Trib to Milldam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.66**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-12-DO** **Unnamed Trib to Milldam Creek**

Cause Location: This cause encompasses the area from the confluence with Milldam Creek to Crags Cswy.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Aquatic Life Use is not supported based DO data from Station 5BXAT000.30, DO with 4 viol / 4 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_XAT01A12 / Unnamed Trib to Milldam Creek / From Confluence with Milldam Creek to Crags Cswy	5A	Oxygen, Dissolved	2014	L	0.66

Unnamed Trib to Milldam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.66**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K41R-13-DO** **Blackwater Creek**

Cause Location: This cause encompasses the Blackwater Creek from headwaters at RM 3.2 to confluence with North Landing River RM 0.0.

City / County: Chesapeake City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Dissolved oxygen is impaired. 4 viol/ 34 obs at station 5BBKW002.50.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K41R_BKW01A00 / Blackwater Creek / Blackwater Creek from headwaters at RM 3.2 to confluence with North Landing River RM 0.0.	5A	Oxygen, Dissolved	2008	L	4.47

Blackwater Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-01-BAC** **Nawney Creek - Upper**

Cause Location: This cause encompasses the Upper portion of Nawney Creek, 0.8 mi. upstream of Nawney Creek Road bridge (RM 1.92) downstream 0.6 mi. from Nawney Creek Road bridge to RM 1.24.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococci data that exceed the swimming criteria indicator with 10 violate/ 33 observations. A Bacterial TMDL was developed for the Virginia Beach Coastal Area (London Bridge Creek & Canal # 2, Milldam Creek, Tawney Creek, West Neck Creek (Middle), and West Neck Creek (Upper)) EPA approved 9/ 2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_NWN01A00 / Nawney Creek - Upper / Upper portion of Nawney Creek, 0.8 mi. upstream of Nawney Creek Road bridge (RM 1.92) downstream 0.6 mi. from Nawney Creek Road bridge to RM 1.24.	4A	Enterococcus	2004	M	0.016

Nawney Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.016**		

Sources:

Animal Feeding Operations (NPS)	Crop Production (Crop Land or Dry Land)	Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
Runoff from Forest/Grassland/Parkland	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-01-DO** **Nawney Creek - Upper**

Cause Location: This cause encompasses the Upper portion of Nawney Creek, 0.8 mi. upstream of Nawney Creek Road bridge (RM 1.92) downstream 0.6 mi. from Nawney Creek Road bridge to RM 1.24.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

Aquatic Life Use impaired due to low dissolved oxygen concentrations below the criteria minimum (4.0 mg/l) in the headwaters of the segment. Station 5BNWN001.84 violates 13 out of 33 observations for DO. pH is supporting with 0 viol / 35 obs. High nutrients and organic solids concentrations are present in the stream, which are exacerbating the naturally low DO conditions. Therefore, impairment is a result of anthropogenic impacts. The implementation of the Bacteria TMDL approved in 2005 will improve excessive nutrients and organic solids concentrations. If conditions do not improve through implementation of the Bacteria TMDL consideration will be given to develop an additional TMDL for DO.

EPA understands DEQ intends to revise WQS for this stream in the next triennial review to reflect natural low DO conditions in this stream.

Dissolved Oxygen Assessment for Virginia Beach EPA approved 10/26/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_NWN01A00 / Nawney Creek - Upper / Upper portion of Nawney Creek, 0.8 mi. upstream of Nawney Creek Road bridge (RM 1.92) downstream 0.6 mi. from Nawney Creek Road bridge to RM 1.24.	4A	Oxygen, Dissolved	2002	L	0.016

Nawney Creek - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.016**		

Sources:

- Livestock (Grazing or Feeding Operations)
- Natural Conditions - Water Quality Standards Use Attainability Analyses Needed
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Runoff from Forest/Grassland/Parkland
- Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-02-BAC** **Nawney Creek - Lower**

Cause Location: This cause encompasses the lower portion of Nawney Creek, from 0.6 mi. downstream from Nawney Creek Road bridge (RM 1.24) downstream to RM 0.00 (confluence with Redhead/Back Bay).

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Recreation Use is not supported based on Enterococcus data (13 violations/ 34 observations) at DEQ station @ 5BNWN000.00.

A Bacterial TMDL for the Virginia Beach Coastal Area (London Bridge Creek and Canal #2, Milldam Creek, Tawney Creek, West Neck Creek (Middle), and West Neck Creek (Upper)) was approved on 09/27/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_NWN02A00 / Nawney Creek - Lower / Lower portion of Nawney Creek, from 0.6 mi. downstream from Nawney Creek Road bridge (RM 1.24) downstream to RM 0.00 (confluence with Redhead/Back Bay).	4A	Enterococcus	2006	M	0.017

Nawney Creek - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.017**		

Sources:

Crop Production (Crop Land or Dry Land)	Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Runoff from Forest/Grassland/Parkland
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-02-DO** **Nawney Creek - Lower**

Cause Location: This cause encompasses the lower portion of Nawney Creek, from 0.6 mi. downstream from Nawney Creek Road bridge (RM 1.24) downstream to RM 0.00 (confluence with Redhead/Back Bay).

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

Aquatic Life Use impairment based on DO data violates 7 out of 33 observations at DEQ station @ 5BNWN000.00. High nutrients and organic solids concentrations are present in the stream, which are exacerbating the naturally low DO conditions. Therefore, impairment is a result of anthropogenic impacts. The implementation of the Bacteria TMDL approved in 2005 will improve excessive nutrients and organic solids concentrations. If conditions do not improve through implementation of the Bacteria TMDL consideration will be given to develop an additional TMDL for DO.

EPA understands DEQ intends to revise WQS for this stream in the next triennial review to reflect natural low DO conditions in this stream.

Dissolved Oxygen Assessment for Virginia Beach EPA approved 10/26/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_NWN02A00 / Nawney Creek - Lower / Lower portion of Nawney Creek, from 0.6 mi. downstream from Nawney Creek Road bridge (RM 1.24) downstream to RM 0.00 (confluence with Redhead/Back Bay).	4A	Oxygen, Dissolved	2008	L	0.017

Nawney Creek - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.017**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-04-BAC** **Muddy Creek**

Cause Location: This cause encompasses area at confluence with Ashville Bridge Creek and ends at the mouth, the confluence with North Bay.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to Enterococci bacteria concentrations exceeding the swimming criteria (8 viol /35 obs) at DEQ station @ 5BMDY000.00.

A Total Maximum Daily Load has been Developed for the Back Bay, North Landing River, and Pocaty River Watersheds for E. coli and Enterococci due to Recreation Use Impairments and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use impairments. EPA approved 12/11/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_MDY01A04 / Muddy Creek / Located southeast of Pungo. Segment begins at confluence with Ashville Bridge Creek and ends at the mouth, the confluence with North Bay.	4A	Enterococcus	2004	L	0.026

Muddy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.026**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-05-BAC** **Beggars Bridge Creek**

Cause Location: This cause encompasses the area southeast of Dawley Corners, tributary to Shipps Bay. Segment begins at the confluence of numerous unnamed tributaries (RM 1.34) near Dawley Corners and extends downstream to the mouth at the confluence with Shipps Bay.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Recreation Use is impaired based on Enterococci data collected at station 5BBBC000.76 with 7 viol / 35 obs.

A Total Maximum Daily Load has been Developed for the Back Bay, North Landing River, and Pocaty River Watersheds for E. coli and Enterococci due to Recreation Use Impairments and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use impairments. EPA approved 12/11/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_BBC01A04 / Beggars Bridge Creek / Located southeast of Dawley Corners, tributary to Shipps Bay. Segment begins at the confluence of numerous unnamed tributaries (RM 1.34) near Dawley Corners and extends downstream to the mouth at the confluence with Shipps Bay.	4A	Enterococcus	2004	L	0.042

Beggars Bridge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.042**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-06-BAC** **Ashville Bridge Creek - Lower**

Cause Location: This cause encompasses the lower portion of Ashville Bridge Creek, between Hell Point and Muddy Creeks.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Recreation Use is impaired based on 2 violates out of 10 observations for Enterococci data at station 5BASH002.20. This was last sampled in 2006, no new data therefore it is retained.

A Total Maximum Daily Load has been Developed for the Back Bay, North Landing River, and Pocaty River Watersheds for E. coli and Enterococci due to Recreation Use Impairments and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use impairments. EPA approved 12/11/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_ASH01A06 / Ashville Bridge Creek - Lower / Lower portion of Ashville Br. Cr., between Hell Point and Muddy Creeks.	4A	Enterococcus	2006	L	0.022

Ashville Bridge Creek - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-06-DO** **Ashville Bridge Creek - Lower**

Cause Location: This cause encompasses the lower portion of Ashville Bridge Creek, between Hell Point and Muddy Creeks.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

Aquatic Life Use is impaired due to low dissolved oxygen concentrations 2 exceedances / 15 observations below the criteria minimum (4.0 mg/l) at DEQ station @5BASH002.20.

Asheville Bridge has one permitted discharge- City of Virginia Beach MS4. Land Use is primarily crop, wetland and forest. Nutrient Monitoring data used in the TMDL exceed screening levels and are evidence of human impact to the stream. The phosphorus load reduction for Asheville Bridge is 34.59%.

A Total Maximum Daily Load has been Developed for the Back Bay, North Landing River, and Pocaty River Watersheds for E. coli and Enterococci due to Recreation Use Impairments and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use impairments. EPA approved 12/11/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_ASH01A06 / Ashville Bridge Creek - Lower / Lower portion of Ashville Br. Cr., between Hell Point and Muddy Creeks.	4A	Oxygen, Dissolved	2006	L	0.022

Ashville Bridge Creek - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.022**		

Sources:

Contaminated Groundwater	Municipal Point Source Discharges	Non-Point Source	Runoff from Forest/Grassland/Parkland

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-06-PH** **Ashville Bridge Creek - Lower**

Cause Location: This cause encompasses the lower portion of Ashville Bridge Creek, between Hell Point and Muddy Creeks.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Aquatic Life Use impairment based on pH will be retained in the 2018 IR. Data is from 2005-2006 with 1 viol / 15 obs. New data is needed to delist pH.

Asheville Bridge has one permitted discharge- City of Virginia Beach MS4. Land Use is primarily crop, wetland and forest. Nutrient Monitoring data used in the TMDL exceed screening levels and are evidence of human impact to the stream. The phosphorus load reduction for Asheville Bridge is 34.59%. The pH impairment was determined to be contributed by atmospheric deposition in the TMDL and will be addressed in a ecoregion/ statewide TMDL. The nutrient and bacteria TMDLs for Asheville Bridge will help eliminate pollutants that can also contribute to the low pH values.

A Total Maximum Daily Load has been Developed for the Back Bay, North Landing River, and Pocaty River Watersheds for E. coli and Enterococci due to Recreation Use Impairments and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use impairments. EPA approved 12/11/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_ASH01A06 / Ashville Bridge Creek - Lower / Lower portion of Ashville Br. Cr., between Hell Point and Muddy Creeks.	5C	pH	2010	L	0.022

Ashville Bridge Creek - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.022**		

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-07-DO** **Beggars Bridge Creek**

Cause Location: This cause encompasses the area located southeast of Dawley Corners, tributary to Shipps Bay. Segment begins at the confluence of numerous unnamed tributaries (RM 1.34) near Dawley Corners and extends downstream to the mouth at the confluence with Shipps Bay

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Dissolved oxygen is impaired. 7 viol/ 33 obs at station 5BBBC000.76.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_BBC01A04 / Beggars Bridge Creek / Located southeast of Dawley Corners, tributary to Shipps Bay. Segment begins at the confluence of numerous unnamed tributaries (RM 1.34) near Dawley Corners and extends downstream to the mouth at the confluence with Shipps Bay.	5A	Oxygen, Dissolved	2010	L	0.042

Beggars Bridge Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.042**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chowan River and Dismal Swamp Basins

***Cause Group Code:* K42E-10-BAC** **Hell Point Creek - Upper**

Cause Location: This cause encompasses the area west of Sandbridge. Segment from headwaters downstream to RM 0.73, intersection of creek with canal near mouth.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is not supported based on Enterococci bacteria data (8 violate / 34 obs.) at DEQ station @ 5BHPC001.46.

A Total Maximum Daily Load has been Developed for the Back Bay, North Landing River, and Pocaty River Watersheds for E. coli and Enterococci due to Recreation Use Impairments and Total Phosphorus Due to Low Dissolved Oxygen in Aquatic Life Use impairments. EPA approved 12/11/2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-K42E_HPC01A00 / Hell Point Creek - Upper / Located west of Sandbridge. Segment from headwaters downstream to RM 0.73, intersection of creek with canal near mouth.	4A	Enterococcus	2006	L	0.030

Hell Point Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.030**		

Sources:

Municipal Point Source Discharges	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O01R-01-BAC** **South Fork Holston River and Tributaries**

Cause Location: This segment includes the mainstem South Fork Holston River from the headwaters downstream to the Barton Creek confluence; from the Rowland Creek confluence downstream to the Grosses Creek confluence; and the Lower South Fork Holston River from the South Holston Lake backwaters upstream to the Rush Creek confluence. It also includes Bishop Branch from the confluence with South Fork Holston River upstream to the confluence with Parker Branch, Grosses Creek from the headwaters downstream to the confluence with South Fork Holston River, Slemp Creek from the headwaters downstream to the confluence with the South Fork Holston River, and St. Clair Creek, a South Fork Holston River tributary south of St. Clair Bottom.

City / County: Smyth Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6CSFH075.61 had a 21% exceedance of the E.coli water quality standard, 6CSFH110.45 had a 33% exceedance, 6CSFH097.42 had a 25% exceedance of the E. coli water quality standard. Station 6CGRC000.68 had a 67% exceedance of the E. coli water quality standard, station 6CBSC000.10 had a 91% exceedance, station 6CSLM000.67 had a 40% exceedance, and station 6BSTC000.20 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O01R_BSC01A02 / Bishop Branch / South Fork Holston tributary from south at Riverside in WQS Section 6.	4A	Escherichia coli	2010	L	0.48
VAS-O01R_GRC01A00 / Grosses Creek / From the headwaters downstream to the South Fork Holston River confluence, southeast of Loves Mill, WQS Section 6, DGIF vi.	4A	Escherichia coli	2010	L	4.00
VAS-O01R_SFH01A00 / South Fork Holston River / Mainstem South Fork Holston River from Rowland Creek confluence downstream to Grosses Creek confluence, WQS Section 6.	4A	Escherichia coli	2002	L	8.73
VAS-O01R_SFH03A00 / South Fork Holston River / Mainstem South Fork Holston River from headwaters downstream to Barton Branch confluence, WQS Section 6, DGIF ii.	4A	Escherichia coli	2010	L	9.58
VAS-O01R_SLM01A02 / Slemp Creek / Upper Slemp Creek, north of Sugar Grove in WQS Section 6.	4A	Escherichia coli	2010	L	3.85
VAS-O01R_STC01A02 / Saint Clair Creek / A South Fork Holston tributary south of St. Clair Bottom, in WQS Section 6.	4A	Escherichia coli	2016	L	3.68
VAS-O02R_SFH02A00 / South Fork Holston River / Lower South Fork Holston River from Rockhouse Run confluence at South Holston Lake backwaters, river mile 73.00, upstream to the Rush Creek confluence, WQS Section 6.	4A	Escherichia coli	2004	L	12.98

South Fork Holston River and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**43.30**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O01R_SFH03A00 / South Fork Holston River / Mainstem South Fork Holston River from headwaters downstream to Barton Branch confluence, WQS Section 6, DGIF ii.	4A	Fecal Coliform	2004	L	9.58

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

South Fork Holston River and Tributaries

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.58**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Rural (Residential Areas)
- Source Unknown
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O01R-02-PH** **Hurricane Creek Tributary**

Cause Location: This is an unnamed tributary of Hurricane Creek in Smyth County north of the Appalachian Trail.

City / County: Smyth Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

pH measurements at station 6CXEE000.72 failed to meet the pH water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O01R_XEE01A08 / Hurricane Creek tributary / On Hurricane Mountain, WQS Section 6, DGIF ii.	5A	pH	2010	L	1.12

Hurricane Creek Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.12**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O02R-01-HG** **South Fork Holston River**

Cause Location: This segment extends from the Grosses Creek confluence downstream to Rush Creek.

City / County: Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Two samples at station 6CSFH0088.91 exceeded the Mercury screening values in 2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O02R_SFH01B02 / South Fork Holston River / South Fork Holston River from Grosses Creek confluence south of Loves Mill. downstream to Rush Creek confluence, WQS Section 6.	5A	Mercury in Fish Tissue	2010	L	6.14

South Fork Holston River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**6.14**

Sources:

Atmospheric Deposition - Toxics

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O02R-03-HG** **Beaverdam Creek**

Cause Location: This segment extends from the Tennessee state line upstream to its confluence with the South Fork Holston River.

City / County: Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Virginia Department of Health's level of concern was exceeded for Mercury in one fish tissue sample and the Department of Environmental Quality's screening value for Mercury was exceeded in an additional sample.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O02R_BVD01A00 / Beaverdam Creek / Beaverdam Creek mainstem from Tennessee line upstream to its confluence with South Fork Holston River in Damascus, WQS Section 6, DGIF iii.	5A	Mercury in Fish Tissue	2010	L	2.01

Beaverdam Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**2.01**

Sources:

Atmospheric Deposition - Toxics

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O02R-05-BAC** **Whitetop Laurel Creek**

Cause Location: Mainstem from Pennington Branch confluence upstream of Konnarock, downstream to the Green Cove Creek confluence.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6CWLC011.55 had a 16% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O02R_WLC01A00 / Whitetop Laurel Creek / South of Straight Mountain, the mainstem from Little Laurel Creek confluence upstream of Konnarock, downstream to the Green Cove Creek confluence. Section 6, DGIF ii.	5A	Escherichia coli	2012	M	3.80

Whitetop Laurel Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.80**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O03R-01-BAC** **Middle Fork Holston River**

Cause Location: This segment extends from the headwaters downstream to Chilhowie and includes from the Button Branch confluence at Groseclose downstream to the Snavely Branch confluence.

City / County: Smyth Co. Washington Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station, 6CMFH053.36 had a 31% exceedance of the E. coli water quality standard, 6CMFH045.83, had a 22% exceedance and an additional station at 6CMFH040.67 had a 58% exceedance. Station 6CMFH033.40 had a 52% exceedance and 6CMFH013.21 had a 30% exceedance. Station 6CMFH055.88 had a 66% exceedance and station 6CXDY000.17 had a 66% exceedance. VAS-O05R_MFH03A00 was delisted in 2012 and relisted in 2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O03R_MFH01A00 / Middle Fork Holston River / From Marion raw water intake, near Mt Carmel, downstream to Hungry Mother Creek confluence, including Town of Marion, section 5.	4A	Escherichia coli	2010	M	5.50
VAS-O03R_MFH02A00 / Middle Fork Holston River / From Marion raw water intake, 45.83, through Atkins to the Snavely Branch confluence, WQS Section 5c, DGIF vi.	4A	Escherichia coli	2010	M	5.15
VAS-O03R_MFH04A98 / Middle Fork Holston River / From Dutton Branch confluence at Groseclose downstream to the at the Snavely Branch confluence, WQS Section 5, DGIF vi.	4A	Escherichia coli	2014	M	4.25
VAS-O03R_MFH05A04 / Middle Fork Holston River / Mainstem headwaters upstream of Dutton Branch confluence at Groseclose, WQS Section 5, DGIF vi; originates in Kinser Valley in Wythe County.	4A	Escherichia coli	2010	M	3.42
VAS-O04R_MFH01A00 / Middle Fork Holston River / Mainstem Middle Fork Holston River from Hungry Mother Creek confluence downstream to Sulfur Spring Creek confluence, section 5.	4A	Escherichia coli	2004	M	12.59
VAS-O05R_MFH03A00 / Middle Fork Holston River / Mainstem Middle Fork Holston River from PWS segment upstream to Edmondson Dam, WQS Section 5.	4A	Escherichia coli	2006	M	3.87
VAS-O05R_XDY01A08 / Middle Fork Holston tributary / Enters at SR 803 crossing near the USGS gauging station, WQS Section 5.	4A	Escherichia coli	2008	M	0.88

Middle Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**35.66**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O03R_MFH01A00 / Middle Fork Holston River / From Marion raw water intake, near Mt Carmel, downstream to Hungry Mother Creek confluence, including Town of Marion, section 5.	4A	Fecal Coliform	2002	M	5.50
VAS-O03R_MFH02A00 / Middle Fork Holston River / From Marion raw water intake, 45.83, through Atkins to the Snavely Branch confluence, WQS Section 5c, DGIF vi.	4A	Fecal Coliform	2002	M	5.15
VAS-O03R_MFH04A98 / Middle Fork Holston River / From Dutton Branch confluence at Groseclose downstream to the at the Snavely	4A	Fecal Coliform	2002	M	4.25

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Branch confluence, WQS Section 5, DGIF vi.

VAS-O05R_MFH04A00 / Middle Fork Holston River / Mainstem Middle Fork Holston River from Sulphur Spring Creek downstream to Rt. 91 bridge, WQS Section 5.	4A	Fecal Coliform	2002	M	9.19
VAS-O05R_MFH05A04 / Middle Fork Holston River / Mainstem Middle Fork Holston River from Edmondson Dam upstream to Rt. 91 bridge, downstream to Rt. 91 bridge confluence, WQS Section 5a.	4A	Fecal Coliform	2006	M	3.80

Middle Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**27.89**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O03R-01-BEN** **Middle Fork Holston River**

Cause Location: This segment includes the Middle Fork Holston River from the headwaters downstream to the Dutton Branch confluence.

City / County: Smyth Co. Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Probabilistic Monitoring station 6CMFH055.88 was impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O03R_MFH05A04 / Middle Fork Holston River / Mainstem headwaters upstream of Dutton Branch confluence at Groseclose, WQS Section 5, DGIF vi; originates in Kinser Valley in Wythe County.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	3.42

Middle Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.42**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O03R-02-BAC** **Bear Creek**

Cause Location: Middle Fork Holston River tributary, west of Atkins, parallel to Route 622.

City / County: Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

AWQM station at 6CBER000.17 had a 33% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O03R_BER01A02 / Bear Creek & tributaries / Middle Fork Holston River tributary flows south, west of Atkins, WQS Section 5c.	5A	Escherichia coli	2010	M	6.51

Bear Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.51**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O03R-03-BAC** **Staley Creek**

Cause Location: This segment is a Middle Fork Holston River tributary, parallel to Route 16, south of Marion to the National Forest border.

City / County: Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

AWQM station at 6CSTA000.05 has a 63% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O03R_STA01A02 / Staley Creek / Middle Fork Holston River tributary from I 81 upstream to National Forest just north of Rocky Hollow, including east Currin Valley, WQS Section 5, DGIF vi.	5A	Escherichia coli	2010	M	5.58
VAS-O03R_STA01B10 / Staley Creek / Middle Fork Holston River tributary on the west side of Marion, upstream to I 81, WQS Section 5, DGIF vi.	5A	Escherichia coli	2010	M	1.01

Staley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.59**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* O04L-01-HG** **Hungry Mother Lake**

Cause Location: This segment includes Hungry Mother Lake from its headwaters to the dam.

City / County: Smyth Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Mercury exceeded DEQ's screening value in four fish samples at station 6CHUN005.24

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O04L_HUN01A02 / Hungry Mother Lake / Man made reservoir in Hungry Mother State Park in Smyth County, WQS Section 5b.	5A	Mercury in Fish Tissue	2010	L	103.23

Hungry Mother Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**103.23**	

Sources:

Atmospheric Deposition - Toxics

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O04R-01-BAC** **Hungry Mother Creek**

Cause Location: This segment extends from the reservoir downstream to the Middle Fork Holston River confluence.

City / County: Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station 6CHUN001.34 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O04R_HUN02A02 / Hungry Mother Creek / Hungry Mother Creek downstream from dam to Middle Fork Holston River west of Marion, WQS Section 5.	4A	Escherichia coli	2006	M	4.83

Hungry Mother Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.83**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O04R-03-BAC** **Laurel Springs Creek**

Cause Location: This segment flows north from Adwolf to the Middle Fork Holston River.

City / County: Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 6CLRL000.35, had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O04R_LRL01A04 / Laurel Springs Creek / Flows north from Adwolf to Middle Fork Holston River, WQS Section 5.	4A	Escherichia coli	2006	M	2.12

Laurel Springs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.12**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O04R-04-BAC** **Walker Creek**

Cause Location: This segment flows from the headwaters downstream to the Middle Fork Holston River near the intersection of route 659 and route 645.

City / County: Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 6CWAL000.09, had a 66% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O04R_WAL01A02 / Walker Creek & tributaries / A Middle Fork Holston River tributary from north of Little Brushy Mountain, WQS Section 5.	4A	Escherichia coli	2006	M	13.52

Walker Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**13.52**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O04R-05-BAC** **Sulphur Spring Branch and Tributaries**

Cause Location: This segment is a Middle Fork Holston River tributary north of Chilhowie that runs parallel to Route 107 to the intersection with Route 617.

City / County: Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CSUL000.09 has a 75% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O04R_SUL01A12 / Sulphur Spring Creek and tributaries / Middle Fork Holston River tributary that drains Lyons Gap area of Little Brushy Mountain northwest of Chilhowie.	4A	Escherichia coli	2012	M	11.28

Sulphur Spring Branch and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.28**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O05R-01-BAC** **Three Creeks**

Cause Location: This segment includes the following tributaries to Middle Fork Holston River: Hutton, Hall, Byers, and their tributaries (Cedar Creek, West Fork Cedar Creek, East Fork Cedar Creek, Plum Creek, unnamed tributary to Hutton Creek, unnamed tributary to Hall Creek and Tattle Branch).

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

Station 6CBYS000.23 had a 50% exceedance of the E.coli water quality standard and station 6CCED000.14 had a 83% exceedance of the E.coli standard. An additional station at 6CXDY000.17 had a 66% exceedance of the E. coli water quality standard. Station 6CHTO000.24 had an 91% exceedance of the E. coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O05R_BYS01A94 / Byers Creek / Byers Creek from Hall Creek and Indian Run confluence downstream to Middle Fork Holston River confluence, WQS Section 5.	4A	Escherichia coli	1996	H, 2yr	0.49
VAS-O05R_CED01A94 / Cedar Creek / From confluence of East Fork Cedar Creek and West Fork Cedar Creek through Cedarville to Middle Fork Holston confluence, WQS Section 5.	4A	Escherichia coli	2006	H, 2yr	5.61
VAS-O05R_HTO01A94 / Hutton Creek / Headwaters east of Glade Spring downstream to Middle Fork Holston River confluence and tributaries, WQS Section 5.	4A	Escherichia coli	2006	H, 2yr	5.15

Three Creeks **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.25**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O05R_CWF01A02 / West Fork Cedar Creek / Cedar Creek tributary west of Meadowview, section 5.	4A	Fecal Coliform	2002	H, 2yr	1.54
VAS-O05R_ECE01A02 / Cedar Creek / Cedar Creek tributary through Meadowview, section 5.	4A	Fecal Coliform	2002	H, 2yr	1.10
VAS-O05R_HAL01A94 / Hall Creek / Mainstem from headwaters north of Emory through Emory and Henry College to Byers Creek confluence, WQS Section 5.	4A	Fecal Coliform	2002	H, 2yr	6.91
VAS-O05R_PLU01A02 / Plum Creek / Headwaters at Jamison Gap downstream to Hutton Creek confluence, WQS Section 5.	4A	Fecal Coliform	2002	H, 2yr	2.32
VAS-O05R_TAT01A02 / Tattle Branch / Mainstem south of Old Glade Spring from headwaters to Byers Creek confluence, WQS Section 5.	4A	Fecal Coliform	2002	H, 2yr	2.77
VAS-O05R_XCD01A02 / Tributary to Hutton Creek / Headwaters near Litz through Glade Spring down to Middle Fork Holston River confluence and tributaries, WQS Section 5.	4A	Fecal Coliform	2002	H, 2yr	4.11
VAS-O05R_XCG01A02 / Hall Creek tributary / Mainstem from headwaters to Hall Creek confluence west of Patrick Henry High School, section 5.	4A	Fecal Coliform	2002	H, 2yr	1.71

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Three Creeks	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**20.46**

Sources:

- Animal Feeding Operations (NPS)
- Crop Production (Crop Land or Dry Land)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O05R-01-BEN** **Three Creeks**

Cause Location: This segment includes the following tributaries to Middle Fork Holston River: Hall and surrounding tributaries (Byers Creek, Cedar Creek, West Fork Cedar Creek, East Fork Cedar Creek, Plum Creek, unnamed tributary to Hutton Creek, unnamed tributary to Hall Creek, Tattle Branch).

City / County: Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The following biological stations were found to be impaired based on their VSCI scores being lower than 60: 6CTAT000.50, 6CCED000.04, and 6CBYS000.08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O05R_BYS01A94 / Byers Creek / Byers Creek from Hall Creek and Indian Run confluence downstream to Middle Fork Holston River confluence, WQS Section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	0.49
VAS-O05R_CED01A94 / Cedar Creek / From confluence of East Fork Cedar Creek and West Fork Cedar Creek through Cedarville to Middle Fork Holston confluence, WQS Section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	5.61
VAS-O05R_CWF01A02 / West Fork Cedar Creek / Cedar Creek tributary west of Meadowview, section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	1.54
VAS-O05R_ECE01A02 / Cedar Creek / Cedar Creek tributary through Meadowview, section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	1.10
VAS-O05R_HAL01A94 / Hall Creek / Mainstem from headwaters north of Emory through Emory and Henry College to Byers Creek confluence, WQS Section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	6.91
VAS-O05R_PLU01A02 / Plum Creek / Headwaters at Jamison Gap downstream to Hutton Creek confluence, WQS Section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	2.32
VAS-O05R_TAT01A02 / Tattle Branch / Mainstem south of Old Glade Spring from headwaters to Byers Creek confluence, WQS Section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	2.77
VAS-O05R_XCD01A02 / Tributary to Hutton Creek / Headwaters near Litz through Glade Spring down to Middle Fork Holston River confluence and tributaries, WQS Section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	4.11
VAS-O05R_XCG01A02 / Hall Creek tributary / Mainstem from headwaters to Hall Creek confluence west of Patrick Henry High School, section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2004	H, 2yr	1.71

Three Creeks **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**26.56**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O05R_CED01A94 / Cedar Creek / From confluence of East Fork Cedar Creek and West Fork Cedar Creek through Cedarville to Middle Fork Holston confluence, WQS Section 5.	4A	Sedimentation/Siltation	2010	H, 2yr	5.61
VAS-O05R_CWF01A02 / West Fork Cedar Creek / Cedar Creek tributary west of Meadowview, section 5.	4A	Sedimentation/Siltation	2010	H, 2yr	1.54

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VAS-O05R_ECE01A02 / Cedar Creek / Cedar Creek tributary through Meadowview, section 5.	4A	Sedimentation/Siltation	2010	H, 2yr	1.10
VAS-O05R_HAL01A94 / Hall Creek / Mainstem from headwaters north of Emory through Emory and Henry College to Byers Creek confluence, WQS Section 5.	4A	Sedimentation/Siltation	2010	H, 2yr	6.91
VAS-O05R_TAT01A02 / Tattle Branch / Mainstem south of Old Glade Spring from headwaters to Byers Creek confluence, WQS Section 5.	4A	Sedimentation/Siltation	2010	H, 2yr	2.77
VAS-O05R_XCD01A02 / Tributary to Hutton Creek / Headwaters near Litz through Glade Spring down to Middle Fork Holston River confluence and tributaries, WQS Section 5.	4A	Sedimentation/Siltation	2010	H, 2yr	4.11
VAS-O05R_XCG01A02 / Hall Creek tributary / Mainstem from headwaters to Hall Creek confluence west of Patrick Henry High School, section 5.	4A	Sedimentation/Siltation	2010	H, 2yr	1.71

Three Creeks **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sedimentation/Siltation - Total Impaired Size by Water Type:			**23.75**

Sources:

- Animal Feeding Operations (NPS)
- Crop Production (Crop Land or Dry Land)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O05R-02-BAC** **Greenway Creek**

Cause Location: This segment includes the mainstem from the headwaters downstream to the confluence with the Middle Fork Holston River.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station 6CGRW000.09 had a 83% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O05R_GRW01A02 / Greenway Creek / Tributary to Middle Fork Holston River at Neff, west of Meadowview.	4A	Escherichia coli	2008	H	5.02

Greenway Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.02**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O05R-02-BEN** **Greenway Creek**

Cause Location: This segment includes the mainstem from the headwaters downstream to the confluence with the Middle Fork Holston River.

City / County: Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6CGRW002.31 was impaired based on VSCI score of 55.80.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O05R_GRW01A02 / Greenway Creek / Tributary to Middle Fork Holston River at Neff, west of Meadowview.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	5.02

Greenway Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.02**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O05R-05-BEN** **Middle Fork Holston River**

Cause Location: This segment includes the mainstem Middle Fork Holston River from the Sulphur Springs Creek confluence to Edmondson Dam.

City / County: Smyth Co. Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Biological stations, 6CMFH011.31 and 6CMFH023.41 were impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O05R_MFH04A00 / Middle Fork Holston River / Mainstem Middle Fork Holston River from Sulphur Spring Creek downstream to Rt. 91 bridge, WQS Section 5.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	9.19
VAS-O05R_MFH05A04 / Middle Fork Holston River / Mainstem Middle Fork Holston River from Edmondson Dam upstream to Rt. 91 bridge, downstream to Rt. 91 bridge confluence, WQS Section 5a.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	3.80

Middle Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.99**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06L-01-HG** **South Holston Reservoir**

Cause Location: The TVA dam is located in Tennessee and Virginia. It is operated to generate hydroelectric power, flood control and provide recreational opportunities.

City / County: Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Four fish tissue samples exceeded the Virginia Department of Health's level of concern for Mercury and 7 samples exceeded the Department of Environmental Quality's screening value for Mercury.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06L_SFH01A00 / South Holston Reservoir / The TVA dam is located in Tennessee; the 7580 acre reservoir is owned and operated by the Tennessee Valley Authority to generate hydroelectric power, flood control and provide recreational opportunities, WQS Section 2. Acreage given is Virginia only.	5A	Mercury in Fish Tissue	2010	L	######

South Holston Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,699.97**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06L-01-PCB** **South Holston Reservoir**

Cause Location: The TVA dam is located in Tennessee and Virginia. It is operated to generate hydroelectric power, flood control and provide recreational opportunities.

City / County: Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

Two fish tissue samples from channel catfish exceeded the Department of Environmental Quality's screening value for polychlorinated biphenyls (PCBs).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06L_SFH01A00 / South Holston Reservoir / The TVA dam is located in Tennessee; the 7580 acre reservoir is owned and operated by the Tennessee Valley Authority to generate hydroelectric power, flood control and provide recreational opportunities, WQS Section 2. Acreage given is Virginia only.	5A	PCB in Fish Tissue	2010	L	######

South Holston Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**1,699.97**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06R-01-BAC** **Wolf Creek**

Cause Location: This segment extends from the upper mainstem at Route 11 downstream to the lake backwaters and also includes the lower mainstem from the Town Creek confluence through the Great Knobs, downstream to the Route 75 bridge. Spoon Gap Creek, a Wolf Creek tributary near Green Spring.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station, 6CWLF001.18, had a 66% exceedance of the E.coli water quality standard, 6CWLF004.10 had a 25% exceedance, and station 6CWLF007.55 had a 55% exceedance of the E.coli water quality standard. Station 6CSPO001.45 had a 16% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_SPO01A16 / Spoon Gap Creek / A Wolf Creek tributary near Green Spring, Section 3.	4A	Escherichia coli	2016	M	2.66
VAS-O06R_WLF01A98 / Wolf Creek / Lower mainstem from Town Creek confluence through the Great Knobs, downstream to Rt. 75 bridge, WQS Section 3.	4A	Escherichia coli	2008	M	3.33
VAS-O06R_WLF02B06 / Wolf Creek / Lower end of Wolf Creek from Rt. 75 bridge near Green Spring downstream to South Holston Lake backwaters.	4A	Escherichia coli	2010	M	0.41
VAS-O06R_WLF02B08 / Wolf Creek / Upper mainstem from the Town Creek confluence past Stone Mill, upstream to Rt. 11 in west Abingdon.	4A	Escherichia coli	2010	M	2.36
VAS-O06R_WLF03A06 / Wolf Creek / From upper Rt. 75 bridge near Abingdon downstream to Rt. 75 bridge near Green Spring, WQS Section 3.	4A	Escherichia coli	2010	M	2.93

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.69**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_WLF01A98 / Wolf Creek / Lower mainstem from Town Creek confluence through the Great Knobs, downstream to Rt. 75 bridge, WQS Section 3.	4A	Fecal Coliform	2004	M	3.33
VAS-O06R_WLF02B06 / Wolf Creek / Lower end of Wolf Creek from Rt. 75 bridge near Green Spring downstream to South Holston Lake backwaters.	4A	Fecal Coliform	2006	M	0.41
VAS-O06R_WLF03A06 / Wolf Creek / From upper Rt. 75 bridge near Abingdon downstream to Rt. 75 bridge near Green Spring, WQS Section 3.	4A	Fecal Coliform	2004	M	2.93

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.67**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

Sources:

Livestock (Grazing or Feeding Operations)	Rural (Residential Areas)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06R-01-BEN** **Wolf Creek**

Cause Location: This segment extends from the Town Creek confluence downstream to the lake backwaters.

City / County: Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The biological stations located at 6CWLF004.10, 6CWFC005.95 and 6CWLF006.43 are impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_WLF01A98 / Wolf Creek / Lower mainstem from Town Creek confluence through the Great Knobs, downstream to Rt. 75 bridge, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2002	M	3.33
VAS-O06R_WLF02B06 / Wolf Creek / Lower end of Wolf Creek from Rt. 75 bridge near Green Spring downstream to South Holston Lake backwaters.	4A	Benthic-Macroinvertebrate Bioassessments	2006	M	0.41
VAS-O06R_WLF03A06 / Wolf Creek / From upper Rt. 75 bridge near Abingdon downstream to Rt. 75 bridge near Green Spring, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2006	M	2.93

Wolf Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.67**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_WLF02B06 / Wolf Creek / Lower end of Wolf Creek from Rt. 75 bridge near Green Spring downstream to South Holston Lake backwaters.	4A	Sedimentation/Siltation	2012	M	0.41
VAS-O06R_WLF03A06 / Wolf Creek / From upper Rt. 75 bridge near Abingdon downstream to Rt. 75 bridge near Green Spring, WQS Section 3.	4A	Sedimentation/Siltation	2012	M	2.93

Wolf Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**3.34**

Sources:

Grazing in Riparian or Shoreline Zones	Rural (Residential Areas)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06R-01-PCB** **Wolf Creek**

Cause Location: This segment extends from the Town Creek confluence downstream to the lake backwaters.

City / County: Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

This segment was listed based on the Virginia Department of Health's fish consumption advisory for polychlorinated biphenyls.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_WLF01A98 / Wolf Creek / Lower mainstem from Town Creek confluence through the Great Knobs, downstream to Rt. 75 bridge, WQS Section 3.	5A	PCB in Fish Tissue	2006	L	3.33
VAS-O06R_WLF02B06 / Wolf Creek / Lower end of Wolf Creek from Rt. 75 bridge near Green Spring downstream to South Holston Lake backwaters.	5A	PCB in Fish Tissue	2006	L	0.41
VAS-O06R_WLF03A06 / Wolf Creek / From upper Rt. 75 bridge near Abingdon downstream to Rt. 75 bridge near Green Spring, WQS Section 3.	5A	PCB in Fish Tissue	2006	L	2.93

Wolf Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**6.67**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06R-02-BAC** **Fifteen Mile Creek**

Cause Location: This segment extends from the headwaters downstream to the confluence with the South Holston Reservoir.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station 6CFIF000.96 had a 45% exceedance of the E.coli water quality standard and station 6CFIF006.16 had a 40% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_FIF01A02 / Fifteenmile Creek & tributaries / From north of Watauga Road to South Holston Lake backwaters, WQS Section 3.	5A	Escherichia coli	2008	M	8.99
VAS-O06R_FIF02A08 / Fifteenmile Creek / From Lee Highway near I81 Exit 19, to beginning of PWS waters just north of Watauga Road, WQS Section 3.	5A	Escherichia coli	2008	M	3.94

Fifteen Mile Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.93**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06R-03-BAC** **Spring Creek**

Cause Location: This segment extends from the South Holston Reservoir backwaters upstream to the headwaters.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6CSPR001.18 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_SPR01A02 / Spring Creek / Spring Creek from South Holston Lake backwaters upstream, WQS Section 3, DGIF vi.	5A	Escherichia coli	2008	M	4.43

Spring Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.43**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06R-04-BAC** **Town Creek**

Cause Location: This segment includes the mainstem from the headwaters, through the Town of Abingdon to the Wolf Creek confluence.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CTOW000.58 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_TOW01A00 / Town Creek / Mainstem from the headwaters, flows from northeast through Town of Abingdon, southwest to the Wolf Creek confluence, WQS Section 3.	4A	Escherichia coli	2012	L	4.75

Town Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.75**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O06R-06-BAC** **Cox Mill Creek**

Cause Location: A South Holston Lake tributary.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

DEQ special study monitoring station located at 6CMLC000.65 had a 33% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O06R_CXC01A18 / Cox Mill Creek / South Holston Lake tributary, WQS Section 3.	5A	Escherichia coli	2018	L	3.51

Cox Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.51**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O07R-01-BAC** **Beaver Creek and Tributaries**

Cause Location: This segment includes the headwaters of Beaver Creek downstream to the Tennessee political boundary. It also includes the headwaters of Little Creek, including Mumpower Creek, downstream to the Tennessee political boundary in the City of Bristol.

City / County: Bristol City Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM and TMDL stations revealed a 50% exceedance of the E.coli water quality standard at 6CBEV015.27, a 54% exceedance at 6CMUM000.65, a 100% exceedance at 6CXDR000.34 and a 91% exceedance at 6CLTL000.26.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O07R_BEV01A94 / Beaver Creek / Mainstem from Beaver Creek dam (nonfunctional) thru the City of Bristol, downstream to Tennessee state line including tributaries, Section 4.	4A	Escherichia coli	2006	L	7.27
VAS-O07R_BEV02A94 / Beaver Creek / From headwaters of Beaver Creek near Ratcliff Knob downstream to Beaver Creek flood control dam in Sugar Hollow Park, section 4, DGIF vi.	4A	Escherichia coli	2006	L	7.77
VAS-O07R_LTL01A96 / Little Creek / Headwaters, downstream to the Tennessee state line in the City of Bristol, WQS Section 4.	4A	Escherichia coli	2006	L	2.29
VAS-O07R_MUM01A06 / Mumpower Creek / A tributary to Little Creek parallel SR 640, north of Bristol City limits, WQS Section 4.	4A	Escherichia coli	2006	L	2.90
VAS-O07R_XDR01A06 / Little Creek / Headwaters west of Haskell, downstream to the confluence of Mumpower Creek parallel to Campground Road in WQS Section 4.	4A	Escherichia coli	2006	L	2.80

Beaver Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.03**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O07R_LTL01A96 / Little Creek / Headwaters, downstream to the Tennessee state line in the City of Bristol, WQS Section 4.	4A	Fecal Coliform	2004	L	2.29

Beaver Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.29**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access Wastes from Pets

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O07R-01-BEN** **Beaver Creek**

Cause Location: This segment includes the mainstem from the headwaters of Beaver Creek downstream to the Tennessee political boundary including its tributaries.

City / County: Bristol City Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The biological stations located at 6CBEV015.27 and 6CBEV023.99 was found to be impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O07R_BEV01A94 / Beaver Creek / Mainstem from Beaver Creek dam (nonfunctional) thru the City of Bristol, downstream to Tennessee state line including tributaries, Section 4.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	7.27
VAS-O07R_BEV02A94 / Beaver Creek / From headwaters of Beaver Creek near Ratcliff Knob downstream to Beaver Creek flood control dam in Sugar Hollow Park, section 4, DGIF vi.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	7.77

Beaver Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.04**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O07R_BEV01A94 / Beaver Creek / Mainstem from Beaver Creek dam (nonfunctional) thru the City of Bristol, downstream to Tennessee state line including tributaries, Section 4.	4A	Sedimentation/Siltation	2010	L	7.27
VAS-O07R_BEV02A94 / Beaver Creek / From headwaters of Beaver Creek near Ratcliff Knob downstream to Beaver Creek flood control dam in Sugar Hollow Park, section 4, DGIF vi.	4A	Sedimentation/Siltation	2010	L	7.77

Beaver Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sedimentation/Siltation - Total Impaired Size by Water Type:			**15.04**

Sources:

Crop Production (Crop Land or Dry Land) | Rural (Residential Areas) | Unrestricted Cattle Access | Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O07R-01-PCB** **Beaver Creek and Little Creek**

Cause Location: This segment includes the headwaters of Beaver Creek downstream to the Tennessee political boundary and Little Creek from the headwaters downstream to the Tennessee political boundary in the City of Bristol.

City / County: Bristol City Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

Fish tissue stations (6CBEV015.27 and 6CLTL000.26) found polychlorinated biphenyls (PCB's) in carp and stonerollers above DEQ's screening value.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O07R_BEV01A94 / Beaver Creek / Mainstem from Beaver Creek dam (nonfunctional) thru the City of Bristol, downstream to Tennessee state line including tributaries, Section 4.	5A	PCB in Fish Tissue	2006	L	7.27
VAS-O07R_BEV02A94 / Beaver Creek / From headwaters of Beaver Creek near Ratcliff Knob downstream to Beaver Creek flood control dam in Sugar Hollow Park, section 4, DGIF vi.	5A	PCB in Fish Tissue	2006	L	7.77
VAS-O07R_LTL01A96 / Little Creek / Headwaters, downstream to the Tennessee state line in the City of Bristol, WQS Section 4.	5A	PCB in Fish Tissue	2006	L	2.29

Beaver Creek and Little Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**17.33**

Sources:

Inappropriate Waste Disposal

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O07R-04-BAC** **Sinking Creek**

Cause Location: This segment includes the headwaters downstream to the Tennessee state line, east of the City of Bristol.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6CSNK006.68 has a 41% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O07R_SNK01A02 / Sinking Creek / Headwaters downstream to the Tennessee state line, east of City of Bristol, WQS Section 4, DGIF vi.	5A	Escherichia coli	2012	M	3.79

Sinking Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.79**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O07R-05-BAC** **Stoffel Creek**

Cause Location: This segment is located northwest of the City of Bristol, near the Three Springs community.

City / County: Bristol City Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6CSTO000.86 has a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O07R_STO01A12 / Stoffel Creek & tributaries / Drains the Three Springs community, northwest of City of Bristol.	5A	Escherichia coli	2012	M	5.22

Stoffel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.22**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O08R-01-BAC** **Boozy Creek**

Cause Location: This is a South Fork Holston Lake tributary to Tennessee, parallel to Route 618.

City / County: Scott Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6CBOO002.71 has a 50% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O08R_BOO01A12 / Boozy Creek / South Fork Holston Lake tributary parallel to the Tennessee state line, from Anderson Cemetery downstream.	5A	Escherichia coli	2012	M	2.53

Boozy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.53**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O09R-01-BAC** **Lick Creek**

Cause Location: This segment extends from the Lynn Camp confluence, river mile 4.31, downstream to the North Fork Holston River confluence.

City / County: Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CLIB000.08 had a 33% exceedance, station 6CLIB001.06 had a 25% exceedance, and station 6CLIB003.65 had a 16% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O09R_LIB01A02 / Lick Creek / From the Lynn Camp confluence at river mile 4.31, downstream to the North Fork Holston confluence, WQS Section 1.	4A	Escherichia coli	2006	L	5.73

Lick Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.73**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O09R-03-BAC** **North Fork Holston River**

Cause Location: This segment includes the mainstem from the headwaters downstream to the Crewey Branch confluence and the mainstem from the Lick Branch confluence downstream to the Lick Creek confluence.

City / County: Bland Co. Smyth Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6CNFH127.12 had a 58% exceedance, station 6CNFH113.36 had a 16% exceedance, and station 6CNFH124.62 had a 33% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O09R_NFH01A02 / North Fork Holston River / Mainstem from Lick Creek confluence downstream to Crewey Branch confluence, WQS Section 1.	4A	Escherichia coli	2010	L	13.77
VAS-O09R_NFH01B02 / North Fork Holston River / Mainstem from Lick Branch confluence near Bland/Wythe County line downstream to Lick Creek confluence, WQS Section 1.	4A	Escherichia coli	2014	L	12.58
VAS-O09R_NFH01C02 / North Fork Holston River / Mainstem from headwaters near Sharon Springs, downstream through Ceres, to Lick Branch confluence, WQS Section 1.	4A	Escherichia coli	2010	L	12.23

North Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**38.58**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O09R_NFH01C02 / North Fork Holston River / Mainstem from headwaters near Sharon Springs, downstream through Ceres, to Lick Branch confluence, WQS Section 1.	4A	Fecal Coliform	2006	L	12.23

North Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**12.23**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O10R-01-BAC** **North Fork Holston River**

Cause Location: This segment extends from the Laurel Creek confluence downstream to the confluence of Tumbling Creek. It also includes the mainstem from the confluence of Big Moccasin Creek downstream to the Tennessee line.

City / County: Scott Co. Smyth Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM station 6CNFH081.69 had a 20% exceedance, station 6CNFH085.20 had a 21% exceedance, station 6CNFH089.25 had a 16% exceedance, and station 6CNFH008.78 had an 11% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_NFH01A94 / North Fork Holston River / From Rt. 91 near Broady Bottom above Saltville to Robertson Branch confluence in WQS, WQS Section 1.	4A	Escherichia coli	2008	L	1.83
VAS-O10R_NFH02A00 / North Fork Holston River / From Laurel Creek confluence near Broadford, downstream Rt. 91 near Allison Gap, WQS Section 1.	4A	Escherichia coli	2006	L	8.51
VAS-O11R_NFH03A94 / North Fork Holston River / From confluence of Robertson Branch near Allison Gap, downstream to confluence of Tumbling Creek in WQS Section 1a.	4A	Escherichia coli	2006	L	4.92
VAS-O13R_NFH01A94 / North Fork Holston River / Mainstem from confluence of Big Moccasin Creek downstream to Tennessee state line, WQS Section 1a.	4A	Escherichia coli	2006	L	5.32

North Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**20.58**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_NFH01A94 / North Fork Holston River / From Rt. 91 near Broady Bottom above Saltville to Robertson Branch confluence in WQS, WQS Section 1.	4A	Fecal Coliform	2006	L	1.83
VAS-O13R_NFH01A94 / North Fork Holston River / Mainstem from confluence of Big Moccasin Creek downstream to Tennessee state line, WQS Section 1a.	4A	Fecal Coliform	2004	L	5.32

North Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**7.15**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O10R-01-HG** **North Fork Holston River**

Cause Location: This segment begins in Saltville at the Robertson Branch confluence and extends downstream to the Tennessee state line.

City / County: Scott Co. Smyth Co. Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 4A

Mercury (Hg) contamination of the fish tissue prior to 1972 led to a ban on fish consumption by the Virginia Department of Health. The ban extends downstream for 80.4 miles, through watersheds; VAS-O11R, VAS-O12R, and VAS-O13R. Station 6CNFH080.43 exceeded the screening value for Hg in the water column and 6CNFH039.18 exceeded the screening values for Hg in sediment and fish tissue.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_NFH01A94 / North Fork Holston River / From Rt. 91 near Broady Bottom above Saltville to Robertson Branch confluence in WQS, WQS Section 1.	4A	Mercury in Fish Tissue	1994	L	1.83
VAS-O11R_NFH01A00 / North Fork Holston River / Segment from Brumley Creek confluence downstream to Cabin Creek confluence, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	1.87
VAS-O11R_NFH02A94 / North Fork Holston River / From Route 80 crossing at River Bridge community downstream to Brumley Creek confluence, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	6.29
VAS-O11R_NFH02B10 / North Fork Holston River / From Tumbling Creek confluence downstream to Rt. 80 bridge crossing, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	8.52
VAS-O11R_NFH03A94 / North Fork Holston River / From confluence of Robertson Branch near Allison Gap, downstream to confluence of Tumbling Creek in WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	4.92
VAS-O12R_NFH01B02 / North Fork Holston River / Mainstem near Maces Spring from Livingston Creek confluence downstream to Cove Creek confluence, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	4.28
VAS-O12R_NFH01C02 / North Fork Holston River / Mainstem near Mendota from Abrams Creek confluence to Livingston Creek confluence, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	8.17
VAS-O12R_NFH02A00 / North Fork Holston River / Mainstem from Cabin Creek confluence near Mongle Spring to Little Moccasin Creek confluence at Holston community, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	2.84
VAS-O12R_NFH02C04 / North Fork Holston River / Mainstem near Walnut Grove, from Smith Creek confluence at Horseshoe Bend, downstream to Abrams Creek confluence near Stacher Ford, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	10.80
VAS-O12R_NFH03C04 / North Fork Holston River / Mainstem near Roebuck, from Smith Creek confluence at the Holston community upstream to the Little Moccasin Creek confluence at Horseshoe Bend, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	8.43
VAS-O13R_NFH01A94 / North Fork Holston River / Mainstem from confluence of Big Moccasin Creek downstream to Tennessee state line, WQS Section 1a.	4A	Mercury in Fish Tissue	1994	L	5.32
VAS-O13R_NFH02A94 / North Fork Holston River / Mainstem from	4A	Mercury in Fish Tissue	1994	L	18.72

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the confluence of Cove Creek south of Maces Spring, downstream to confluence of Big Moccasin Creek south of Weber City, WQS Section 1a.

North Fork Holston River		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption				
	Mercury in Fish Tissue - Total Impaired Size by Water Type:			**81.99**

Sources:

Industrial Point Source Discharge

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***Cause Group Code:* O10R-01-PCB** **North Fork Holston River**

Cause Location: This segment begins in Saltville at river mile 85.40 and extends to the Route 80 bridge. Historically there has been an error in the segments that are included in this impairment due to a discrepancy in the VDH website.

City / County: Scott Co. Smyth Co. Washington Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Virginia Department of Health added polychlorinated biphenyls (PCBs) to the fish consumption ban in 12/13/2004. Stations 6CNFH059.65 and 6CNFH039.18 revealed PCBs in the sediment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_NFH01A94 / North Fork Holston River / From Rt. 91 near Broady Bottom above Saltville to Robertson Branch confluence in WQS, WQS Section 1.	5A	PCB in Fish Tissue	1996	L	1.83
VAS-O11R_NFH02B10 / North Fork Holston River / From Tumbling Creek confluence downstream to Rt. 80 bridge crossing, WQS Section 1a.	5A	PCB in Fish Tissue	1996	L	8.52
VAS-O11R_NFH03A94 / North Fork Holston River / From confluence of Robertson Branch near Allison Gap, downstream to confluence of Tumbling Creek in WQS Section 1a.	5A	PCB in Fish Tissue	1996	L	4.92

North Fork Holston River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**15.27**

Sources:

Source Unknown

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***Cause Group Code:* O10R-05-BAC** **North Fork Holston River Tributaries**

Cause Location: This segment includes the headwaters of Laurel Creek within Jefferson National Forest upstream of the Roaring Fork confluence downstream to the North Fork Holston River confluence, Locust Cove Creek which is a tributary to the North Fork Holston River, Robertson Branch from the headwaters to the confluence with the North Fork Holston River, Turkey Run Creek from the headwaters to the confluence with the North Fork Holston River at McCready, and Beaver Creek.

City / County: Bland Co. Smyth Co. Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM station 6CLAE000.62 had a 25% exceedance of the E.coli water quality standard and station 6CLOC000.14 had a 66% exceedance, 6CRRB000.06 had a 25% exceedance, 6CTUR000.08 had 45% exceedance, and 6CBVR000.03 had a 66% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_BVR01A02 / Beaver Creek / From headwaters on Walker Mountain east of Page Hollow, downstream to mile 2.8 near Oak Grove, WQS Section 1.	4A	Escherichia coli	2010	L	1.92
VAS-O10R_BVR01B04 / Beaver Creek / From North Fork Holston River confluence near North Holston upstream 2.8 miles, WQS Section 1, DGIF ii.	4A	Escherichia coli	2010	L	2.82
VAS-O10R_LAE01A02 / Laurel Creek / Headwaters within Jefferson National Forest upstream of the Roaring Fork confluence through Poor Valley, WQS Section 1, DGIF vi.	4A	Escherichia coli	2010	L	2.65
VAS-O10R_LAE02A02 / Laurel Creek, middle / From Little Tumbling Creek confluence at Tannersville downstream to confluence with North Fork Holston River. at Broadford, WQS Section 1, DGIF ***.	4A	Escherichia coli	2010	L	6.48
VAS-O10R_LOC01A02 / Locust Cove Creek / A North Fork Holston tributary near Rich Valley High School from headwaters near Rt. 16 on Brushy Mountain in Jefferson National Forest, in WQS Section 1.	4A	Escherichia coli	2006	L	8.88
VAS-O10R_RRB01A02 / Robertson Branch / Mainstem from headwaters at Redrock Mountain downstream through Allison Gap to North Fork Holston River confluence in WQS Section 1.	4A	Escherichia coli	2010	L	3.26
VAS-O10R_TUR01A10 / Turkey Run Creek / A North Fork Holston River tributary from Whiterock Mountain to confluence with North Fork Holston River at McCready in WQS Section 1.	4A	Escherichia coli	2010	L	3.71

North Fork Holston River Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**29.72**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_LAE01A02 / Laurel Creek / Headwaters within Jefferson National Forest upstream of the Roaring Fork confluence through Poor Valley, WQS Section 1, DGIF vi.	4A	Fecal Coliform	2004	L	2.65
VAS-O10R_LAE02A02 / Laurel Creek, middle / From Little Tumbling Creek confluence at Tannersville downstream to confluence	4A	Fecal Coliform	2006	L	6.48

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with North Fork Holston River. at Broadford, WQS Section 1, DGIF ***.

VAS-O10R_LOC01A02 / Locust Cove Creek / A North Fork Holston tributary near Rich Valley High School from headwaters near Rt. 16 on Brushy Mountain in Jefferson National Forest, in WQS Section 1.	A	Fecal Coliform	2006	L	8.88

North Fork Holston River Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**18.01**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

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***Cause Group Code:* O10R-05-BEN** **Laurel Creek**

Cause Location: This segment includes the headwaters within Jefferson National Forest in Bland County downstream to the confluence with Roaring Fork.

City / County: Bland Co. Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological stations located at 6CLAE018.29 was impaired based on the VSCI.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_LAE01A02 / Laurel Creek / Headwaters within Jefferson National Forest upstream of the Roaring Fork confluence through Poor Valley, WQS Section 1, DGIF vi.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	2.65

Laurel Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.65**

Sources:

Unrestricted Cattle Access

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***Cause Group Code:* O10R-08-BEN** **Little Tumbling Creek**

Cause Location: This segment includes from the power line crossing upstream to the Laurel Bed Lake discharge in Clinch Mountain State Wildlife Management Area.

City / County: Smyth Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

Discharge from Laurel Bed Lake into boggy area (possibly created by Beaver dams).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O10R_LTC01A02 / Little Tumbling Creek / Between Clinch Mountain and Flattop Mountain from power line crossing upstream to headwaters in Clinch Mountain State Wildlife Management Area, WQS Section 1, DGIF ii.	4C	Benthic-Macroinvertebrate Bioassessments			5.79

Little Tumbling Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.79**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O11L-01-TEMP** **Hidden Valley Lake**

Cause Location: This is a warm water fishery owned by the Department of Game and Inland Fisheries.

City / County: Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

Station 6CBRU010.91 had a 83% exceedance of the water quality standard for temperature.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11L_BRU01A02 / Hidden Valley Lake / Hidden Valley Lake is a DGIF impoundment situated atop Clinch Mountain. At normal pool elevation, the reservoir has a maximum depth of 24 feet and a mean depth of 14 feet. Section 1	5C	Temperature, water	2010	L	61.10

Hidden Valley Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:		**61.10**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O11L-02-TEMP** **Laurel Bed Lake**

Cause Location: This lake is owned by the Department of Game and Inland Fisheries and lies within Clinch Mountain Wildlife Management Area.

City / County: Russell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

Station 6CLAU001.84 had a 14% exceedance of the water quality standard for temperature.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11L_LAU01A02 / Laurel Bed Lake / This lake is owned by DGIF and lies within Clinch Mountain State Wildlife Management Area. Mountain slope, 20 to 30 degrees, maximum depth 11.3 M, public access by permit, boat ramp, fishing, camping, picnicking, WQS Section 1.	5C	Temperature, water	2010	L	359.43

Laurel Bed Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:		**359.43**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

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Tennessee and Big Sandy River Basins

***Cause Group Code:* O11R-03-BEN** **North Fork Holston River**

Cause Location: This segment extends from the confluence of Robertson Branch downstream to the confluence of Tumbling Creek.

City / County: Scott Co. Smyth Co. Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

A biological station located at 6CNFH080.45 was impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_NFH03A94 / North Fork Holston River / From confluence of Robertson Branch near Allison Gap, downstream to confluence of Tumbling Creek in WQS Section 1a.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	4.92

North Fork Holston River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.92**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O11R-03-CHLR** **North Fork Holston**

Cause Location: This segment of the North Fork Holston River extends from the confluence with Robertson Branch in Saltville to the Tumbling Creek confluence.

City / County: Scott Co. Smyth Co. Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Chloride / 4A

The benthic Total Maximum Daily Load (TMDL) was completed in 2006 and confirmed that there was a chloride impairment due to natural conditions.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_NFH03A94 / North Fork Holston River / From confluence of Robertson Branch near Allison Gap, downstream to confluence of Tumbling Creek in WQS Section 1a.	4A	Chloride	1996	L	4.92

North Fork Holston	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chloride - Total Impaired Size by Water Type:			**4.92**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* O11R-04-BAC** **Logan Creek**

Cause Location: Logan Creek is a North Fork Holston tributary. This segment includes the mainstem from the headwaters to the North Fork Holston confluence.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CLOG000.12 had a 25% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_LOG01A02 / Logan Creek / From headwaters, north of Meadowview through Lindell parallel to Rt. 80, to North Fork Holston River confluence, WQS Section 1.	4A	Escherichia coli	2006	L	5.42

Logan Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.42**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O11R-05-BAC** **Toole Creek**

Cause Location: Toole Creek is a North Fork Holston tributary. This segment includes the mainstem from headwaters to North Fork Holston confluence.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CTOO000.25 had a 25% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_TOO01A98 / Toole Creek / A North Fork Holston tributary. Mainstem from headwaters through Whites Mill community to North Fork Holston confluence, WQS Section 1, DGIF ii.	4A	Escherichia coli	2006	L	5.85

Toole Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.85**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

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***Cause Group Code:* O11R-08-BAC** **Brumley Creek**

Cause Location: From North Fork Holston River confluence upstream 4 miles to Duncanville, WQS Section 1, DGIF ***

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Relisted in 2016: AWQM station 6CBRU000.20 had a 12% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_BRU01B04 / Brumley Creek / From North Fork Holston confluence upstream 4 miles to Duncanville, WQS Section 1, DGIF ***.	4A	Escherichia coli	2008	L	4.17

Brumley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.17**

Sources:

Rural (Residential Areas)

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***Cause Group Code:* O11R-09-BAC** **East Fork Wolf Creek**

Cause Location: This segment parallels Route 80 north of Hayter's Gap.

City / County: Russell Co. Smyth Co. Tazewell Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CEFW000.46 has a 12% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_EWF01A12 / East Fork Wolf Creek / In Poor Valley parallel to Route 80 north of Hayters Gap community.	4A	Escherichia coli	2012	L	3.47

East Fork Wolf Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.47**

Sources:

Unrestricted Cattle Access

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***Cause Group Code:* O11R-11-BAC** **Finley Creek**

Cause Location: This segment is a North Fork Holston River tributary at Glenford parallel to Route 741, west of Lindell.

City / County: Russell Co. Smyth Co. Tazewell Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CFIN001.26 has a 12% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_FIN01A12 / Finley Creek / North Fork Holston River tributary at Glenford, west of Lindell, Parallels Rt. 741 and unmaintained road.	4A	Escherichia coli	2012	L	1.90

Finley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.90**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

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***Cause Group Code:* O11R-12-BAC** **West Fork Wolf Creek**

Cause Location: This segment is west of Hayter's Gap between Little Mountain and Clinch Mountain parallel to Route 689.

City / County: Russell Co. Smyth Co. Tazewell Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station at 6CWOC000.05 had a 33% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O11R_WOC01A12 / West Fork Wolf Creek / Poor Valley between Little Mountain and Clinch Mountain west of Hayters Gap community.	4A	Escherichia coli	2012	L	3.16

West Fork Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.16**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

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***Cause Group Code:* O12R-02-BAC** **Abrams Creek**

Cause Location: Abrams Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CABR001.00 had a 16% exceedance of the water quality standard for E.coli.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O12R_ABR01A00 / Abrams Creek / Mainstem from Burson Place to confluence with North Fork Holston River near Stacher Ford in WQS Section 1.	4A	Escherichia coli	2006	L	11.77

Abrams Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**11.77**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* O12R-03-BAC** **Cove Creek and Tribs**

Cause Location: Cove Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence. Rich Valley Unnamed Tributary is a tributary to Fleenor Branch near Valley Institute Elementary School.

City / County: Scott Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CCOV002.44 had a 27% exceedance and station 6AXEO000.25 had a 50% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O12R_COV01A00 / Cove Creek / From headwaters south of Valley Institute to North Fork Holston River confluence south of Maces Spring in WQS Section 1.	4A	Escherichia coli	2006	L	13.36
VAS-O12R_XEO01A12 / Rich Valley unnamed tributary / Unnamed tributary to Fleenor Branch near Valley Institute, WQS Section 1.	4A	Escherichia coli	2018	L	0.85

Cove Creek and Tribs **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.21**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

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***Cause Group Code:* O12R-03-BEN** **Greendale Creek**

Cause Location: This segment extends from the North Fork Holston River confluence upstream 4.1 miles.

City / County: Washington Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6CGRN003.29 was impaired based on VSCI scores of 53 and 54 in 2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O12R_GRN01A00 / Greendale Creek / Greendale Creek from North Fork Holston confluence east of Rt. 19 bridge, upstream 4.1 miles to Black Hollow Road, WQS Section 1, vi.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	5.03

Greendale Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.03**

Sources:

- Highway/Road/Bridge Runoff (Non-construction Related)
- Livestock (Grazing or Feeding Operations)
- Rural (Residential Areas)

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***Cause Group Code:* O12R-04-BAC** **Little Moccasin Creek**

Cause Location: Little Moccasin Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CLMC000.05 had a 16% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O12R_LMC01A02 / Little Moccasin Creek / Mainstem from headwaters on Brumley Mountain to North Fork Holston River confluence, west of Highway 19 bridge at Holston community, WQS Section 1.	4A	Escherichia coli	2006	L	5.02

Little Moccasin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.02**

Sources:

Rural (Residential Areas)

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***Cause Group Code:* O12R-06-BAC** **Smith Creek and Gaspard Creek**

Cause Location: Smith Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence and Gaspard Creek a Smith Creek tributary near Craigs Mill.

City / County: Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CSMI000.22 had a 41% exceedance and station 6CGAS000.45 had a 35% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O12R_GAS01A16 / Gaspard Creek / Smith Creek tributary near Craigs Mill, Section 1.	4A	Escherichia coli	2016	L	1.37
VAS-O12R_SMI01A02 / Smith Creek / Tributary originating near Withers, confluences with North Fork Holston at Horseshoe Bend, WQS Section 1.	4A	Escherichia coli	2006	L	8.12

Smith Creek and Gaspard Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.49**

Sources:

Grazing in Riparian or Shoreline Zones	Rural (Residential Areas)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O13R-03-BAC** **North Fork Holston River Tributaries**

Cause Location: This segment includes the mainstem of Blue Springs Branch from the headwaters to the confluence of the North Fork Holston River, the mainstem of Dowell Branch downstream to the confluence with the North Fork Holston River, the mainstem of Hilton Creek from the confluence with the North Fork Holston River upstream approximately 1.5 miles, 1.34 miles of an unnamed tributary immediately downstream of Hiltons Creek at Owen Corner, and Possum Creek from the headwaters downstream to the confluence with the North Fork Holston River.

City / County: Scott Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

AWQM station at 6CBLU000.15 had a 83% exceedance of the E.coli water quality standard, station 6CDOW000.02 had a 41% exceedance of the standard, station 6CHIL000.02 had a 27% exceedance, 6CXBV000.21 had a 30% exceedance and 6CPSM000.04 had a 33% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O13R_BLU01A08 / Blue Springs Branch & tributaries / Tributary at Maces Spring, flows through Eddington Gap, WQS Section 1.	4A	Escherichia coli	2008	L	3.73
VAS-O13R_DOW01A08 / Dowell Branch / North Fork Holston tributary that flows through Dowell Gap between Blue Springs Branch and Hilton Creek.	4A	Escherichia coli	2008	L	1.78
VAS-O13R_HIL01A08 / Hilton Creek / Mainstem segment from water intake downstream through Hilton community and Hilton Gap to North Fork Holston confluence, section 1.	4A	Escherichia coli	2008	L	1.85
VAS-O13R_PSM01A02 / Possum Creek / From Jones Branch confluence south of Kermit at SR 634, to North Fork Holston River confluence near Tennessee state line, WQS Section 1.	4A	Escherichia coli	2010	L	15.89
VAS-O13R_XBV01A08 / Unnamed tributary at Owen Corner / Tributary from north confluences with North Fork Holston River at Brickyard Gap downstream of Hiltons Creek.	4A	Escherichia coli	2008	L	1.37

North Fork Holston River Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**24.62**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* O14R-01-BAC** **Big Moccasin Creek**

Cause Location: This segment begins 8.01 miles upstream of the PWS segment and continues downstream to rivermile 18.91 at unnamed tributary. It also includes the mainstem from Red Hill Branch confluence downstream to the North Fork Holston River confluence.

City / County: Scott Co. Washington Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6CBMC000.38 had a 25% exceedance of the E. coli water quality standard. Station 6CBMC002.90 had a 15% exceedance of the bacteria water quality standard. Station 6CBMC026.32 had a 23% exceedance of the E.coli standard, station 6CBMC042.54 had a 41% exceedance and station 6CBMC049.05 had a 50% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-O14R_BMC01A98 / Big Moccasin Creek / From confluence of Big Moccasin and Little Moccasin Creeks downstream to North Fork Holston River confluence in WQS Section 1, Weber City area.	4A	Escherichia coli	2012	L	2.87
VAS-O14R_BMC04A00 / Big Moccasin Creek / From Middle Fork Moccasin Creek and South Fork Moccasin Creek confluence downstream 7.87 miles to Lick Skillet Hollow in WQS Section 1.	4A	Escherichia coli	2010	L	8.24
VAS-O14R_BMC05A02 / Big Moccasin Creek / Upstream of Snowflake and downstream of Dean Branch confluence south of Nickelsville, WQS Section 1.	4A	Escherichia coli	2008	L	10.55
VAS-O14R_BMC06A02 / Big Moccasin Creek / Segment is approximately half in Scott County and half in Russell County in WQS Section 1, upstream at Fugues Hill and ends at Dean Branch confluence.	4A	Escherichia coli	2008	L	9.69
VAS-O14R_BMC07A02 / Big Moccasin Creek / From end of PWS segment at Fugate Hill upstream 8.01 miles to Lick Skillet Hollow, WQS Section 1.	4A	Escherichia coli	2008	L	8.24

Big Moccasin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**39.59**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P01L-03-HG** **Lake Witten**

Cause Location: This Lake is located in Cavitts Creek Park in Tazewell County.

City / County: Tazewell Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Two largemouth fish tissue samples collected in May 2007 exceeded the Virginia Department of Heath's level of concern for Mercury (Hg).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01L_CAV01A10 / Lake Witten / In Cavitts Creek Park this recreation reservoir was constructed by the U.S. Natural Resource Conservation Service, the lake is owned by Tazewell County; in WQS Section 2.	5A	Mercury in Fish Tissue	2010	L	53.17

Lake Witten **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**53.17**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P01R-01-BAC** **Clinch River**

Cause Location: This segment includes the mainstream from Lincolnshire Branch confluence downstream to Deskin Creek.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BCLN346.60 had a 50% exceedance of the E.coli water quality standard and station 6BCLN348.00 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_CLN01A98 / Clinch River / Mainstem from North Fork Clinch River confluence through Town of Tazewell to Plum Creek confluence, WQS Section 2.	4A	Escherichia coli	2010	L	6.14
VAS-P02R_CLN01A98 / Clinch River / Mainstream from Plum Creek near Pisgah downstream to Deskins Creek near Maxwell, WQS Section 2.	4A	Escherichia coli	2010	L	6.11

Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**12.25**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_CLN01A98 / Clinch River / Mainstem from North Fork Clinch River confluence through Town of Tazewell to Plum Creek confluence, WQS Section 2.	4A	Fecal Coliform	2004	L	6.14
VAS-P02R_CLN01A98 / Clinch River / Mainstream from Plum Creek near Pisgah downstream to Deskins Creek near Maxwell, WQS Section 2.	4A	Fecal Coliform	2006	L	6.11

Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**12.25**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P01R-01-BEN** **Clinch River and Cavitts Creek**

Cause Location: This segment includes the mainstream from Lincolnshire Branch confluence downstream to the Plum Creek confluence and the lower mainstem of Cavitts Creek from Johnson Branch to the confluence with the Clinch River at River Jack.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The biological station at 6BCLN346.80 was impaired based on VSCI scores. The biological station at 6BCAV000.05 was impaired based on VSCI scores of 45.72 and 48.14 in 2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_CAV01A00 / Cavitts Creek / Lower mainstem from Johnson Branch to confluence with Clinch River at River Jack in WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2016	L	2.40
VAS-P01R_CLN01A98 / Clinch River / Mainstem from North Fork Clinch River confluence through Town of Tazewell to Plum Creek confluence, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	6.14

Clinch River and Cavitts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.54**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_CLN01A98 / Clinch River / Mainstem from North Fork Clinch River confluence through Town of Tazewell to Plum Creek confluence, WQS Section 2.	4A	Sedimentation/Siltation	2010	L	6.14

Clinch River and Cavitts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**6.14**

Sources:

Animal Feeding Operations (NPS)	Crop Production (Crop Land or Dry Land)	Loss of Riparian Habitat	Rural (Residential Areas)
Unrestricted Cattle Access	Urban Runoff/Storm Sewers		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P01R-02-BAC** **Plum Creek and North Fork Clinch River**

Cause Location: This segment extends from the headwaters of Plum Creek to the Clinch River confluence and North Fork Clinch River downstream to the confluence with the South Fork Clinch River at Fourway.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM stations 6BPLU000.40 and 6BNCL000.30 both had a 16% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_NCL01A04 / North Fork Clinch River / Confluences with South Fork Clinch River at Fourway and extends upstream to unnamed tributary just past the SR 651/US460 intersection, WQS Section 2c.	4A	Escherichia coli	2010	L	2.61
VAS-P01R_PLU01A04 / Plum Creek / Central Tazewell County from Frog Level to Clinch River confluence, WQS Section 2.	4A	Escherichia coli	2010	L	2.88

Plum Creek and North Fork Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.49**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_PLU01A04 / Plum Creek / Central Tazewell County from Frog Level to Clinch River confluence, WQS Section 2.	4A	Fecal Coliform	2004	L	2.88

Plum Creek and North Fork Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**2.88**

Sources:

Grazing in Riparian or Shoreline Zones	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P01R-02-BEN** **Plum Creek**

Cause Location: This segment extends from the headwaters of Plum Creek downstream to the confluence with the Clinch River.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6BPLU002.15 was impaired based on a VSCI score of 41.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_PLU01A04 / Plum Creek / Central Tazewell County from Frog Level to Clinch River confluence, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.88

Plum Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.88**

Sources:

Loss of Riparian Habitat Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P01R-03-BAC** **South Fork Clinch River and Cavitts Creek**

Cause Location: This segment includes the South Fork Clinch River and its tributaries from the Tazewell raw water intake upstream 5 miles and Cavitts Creek from the Johnson Branch confluence downstream to the confluence with the Clinch River at Riverjack.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BSFK000.77 had a 41% exceedance of the E.coli water quality standard and station 6BCAV000.02 had a 25% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P01R_CAV01A00 / Cavitts Creek / Lower mainstem from Johnson Branch to confluence with Clinch River at River Jack in WQS Section 2.	4A	Escherichia coli	2010	M	2.40
VAS-P01R_SFK01A10 / South Fork Clinch River / Portion of South Fork Clinch River from Tazewell raw water intake upstream 5 miles, WQS Section 2c.	4A	Escherichia coli	2010	M	4.17

South Fork Clinch River and Cavitts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.57**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access Wastes from Pets

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P02R-02-BAC** **Laurel Fork**

Cause Location: An Indian Creek tributary parallel to Whetstone Ridge that confluences at the Mouth of Laurel.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BLRF000.03 had a 16% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P02R_LRF01A10 / Laurel Fork / Indian Creek tributary parallel Whetstone Ridge, confluences at Mouth of Laurel, WQS Section 2.	4A	Escherichia coli	2012	L	4.57

Laurel Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.57**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P03R-01-BAC** **Clinch River Tributaries**

Cause Location: This segment includes the lower mainstem of Middle Creek from river mile 2.53 downstream to the Clinch River confluence, Coal Creek from the confluence with Left Fork Coal Creek to the confluence with the Clinch River, Big Creek from the confluence with West Fork to the confluence with the Clinch River, Mudlick Creek from the confluence with Zeke Creek downstream to the confluence with the Clinch River, Town Hill Creek from the confluence with Little Town Hill Creek to the confluence with the Clinch River, Deskin Branch which extends from an unnamed tributary through the golf course in Maxwell to the confluence with the Clinch River, and Pounding Mill Branch, a Clinch River tributary south of Pounding Mill.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BMID000.20 had a 50% exceedance of the E.coli water quality standard, 6BBIG000.12 had a 66% exceedance, 6BCOL000.12 had an 54% exceedance, 6BMCK000.11 had a 16% exceedance, 6BTHC000.03 had a 50% exceedance, 6BDES000.06 had a 41% exceedance and station 6BPON000.04 had a 36% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P02R_DES01A10 / Deskin Branch / Clinch River tributary that flows through Golf Course at Maxwell to Clinch River, WQS Section 2.	4A	Escherichia coli	2010	L	0.53
VAS-P02R_PON01A10 / Pounding Mill Branch / A Clinch River tributary, south of Pounding Mill, WQS Section 2.	4A	Escherichia coli	2018	L	4.34
VAS-P03R_BIG01A10 / Big Creek / Clinch River tributary from north of Richlands, WQS Section 2b.	4A	Escherichia coli	2010	L	1.39
VAS-P03R_COL01A04 / Coal Creek / From confluence with Clinch River, at Raven, upstream through Red Ash to Left Fork Coal Creek confluence, WQS Section 2.	4A	Escherichia coli	2010	L	3.12
VAS-P03R_MCK01A10 / Mudlick Creek / A Clinch River tributary from the north at Doran, WQS Section 2.	4A	Escherichia coli	2010	L	2.11
VAS-P03R_MID01A98 / Middle Creek / Lower mainstem from Stony Ridge downstream to Clinch River confluence near Cedar Bluff, WQS Section 2.	4A	Escherichia coli	2006	L	3.05
VAS-P03R_THC01A10 / Town Hill Creek / Clinch River tributary from the north at Clinch Valley Memorial Cemetery, WQS Section 2.	4A	Escherichia coli	2010	L	0.25

Clinch River Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.79**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P03R-01-BEN** **Clinch River Tributaries**

Cause Location: This segment extends from confluence with Clinch River upstream to the Left Fork Coal Creek confluence, Big Creek from the confluence with West Fork downstream to the confluence with the Clinch River, Mudlick Creek from the confluence with Zeke Creek downstream to the confluence with the Clinch River, and Town Hill Creek from the confluence with Little Town Hill Creek downstream to the confluence with the Clinch River.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Probabilistic Monitoring station at 6BCOL001.93, 6BBIG000.99, 6BMCK000.04, and 6BTHC000.06 were impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P03R_BIG01A10 / Big Creek / Clinch River tributary from north of Richlands, WQS Section 2b.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.39
VAS-P03R_COL01A04 / Coal Creek / From confluence with Clinch River, at Raven, upstream through Red Ash to Left Fork Coal Creek confluence, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	3.12
VAS-P03R_MCK01A10 / Mudlick Creek / A Clinch River tributary from the north at Doran, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.11
VAS-P03R_THC01A10 / Town Hill Creek / Clinch River tributary from the north at Clinch Valley Memorial Cemetery, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	0.25

Clinch River Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.87**

Sources:

Coal Mining | Rural (Residential Areas) | Silviculture Activities | Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P03R-02-BAC** **Clinch River**

Cause Location: The community of Raven is located here and the segment includes the mainstem from just upstream of the Town Hill Creek confluence downstream to the Mill Creek confluence. It also includes the mainstem of the Clinch River from the Mill Creek confluence upstream to former Raven-Doran raw water intake.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM station located at 6BCLN315.11 had a 33% exceedance of the E.coli water quality standard and 6BCLN321.13 had a 16% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P03R_CLN01A98 / Clinch River / From the former raw water intake just upstream of the Town Hill Creek confluence downstream to the Mill Creek confluence south of Raven, WQS Section 2b.	4A	Escherichia coli	2010	L	5.55
VAS-P03R_CLN02A00 / Clinch River / Clinch River from Town of Richlands former raw water raw water intake upstream to Dry Branch confluence, near Cedar Bluff, WQS Section 2b.	4A	Escherichia coli	2004	L	3.01

Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.56**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P03R_CLN01A98 / Clinch River / From the former raw water intake just upstream of the Town Hill Creek confluence downstream to the Mill Creek confluence south of Raven, WQS Section 2b.	4A	Fecal Coliform	2002	L	5.55

Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**5.55**

Sources:

Rural (Residential Areas) Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P03R-02-HG** **Clinch River**

Cause Location: This segment begins just upstream of the Town Hill confluence and continues downstream to the Mill Creek confluence.

City / County: Tazewell Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Three fish samples collected in 2007 exceeded the Department of Environmental Quality's screening value for Mercury.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P03R_CLN01A98 / Clinch River / From the former raw water intake just upstream of the Town Hill Creek confluence downstream to the Mill Creek confluence south of Raven, WQS Section 2b.	5A	Mercury in Fish Tissue	2010	L	5.55

Clinch River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**5.55**

Sources:

Atmospheric Deposition - Toxics

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P04R-01-BAC** **Lewis Creek and Hess Creek**

Cause Location: This segment includes the mainstem from the Stone Branch confluence downstream to the Clinch River confluence.

City / County: Russell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BLWS000.06 had a 100% exceedance of the E.coli water quality standard, station 6BLWS004.84 had a 25% exceedance and 6BHES000.05 had a 33% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P04R_HES01A10 / Hess Creek / A Swords Creek tributary flowing from Groundhog Hollow to the east, south of Dye, WQS Section 2.	4A	Escherichia coli	2010	L	1.04
VAS-P04R_LWS01A10 / Lewis Creek / Grassy Creek confluence downstream to Stone Branch confluence, at Flatrock, WQS Section 2.	4A	Escherichia coli	2010	L	3.45
VAS-P04R_LWS01A98 / Lewis Creek / Mainstem from the Stone Branch confluence downstream through Putnam, to the Clinch River confluence, WQS Section 2.	4A	Escherichia coli	2010	L	4.98

Lewis Creek and Hess Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.47**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P04R_LWS01A98 / Lewis Creek / Mainstem from the Stone Branch confluence downstream through Putnam, to the Clinch River confluence, WQS Section 2.	4A	Fecal Coliform	2006	L	4.98

Lewis Creek and Hess Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.98**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P04R-01-BEN** **Lewis Creek**

Cause Location: This segment includes the mainstem from the Stone Branch confluence downstream to the Clinch River confluence.

City / County: Russell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The biological station located at 6BLWS000.90 and Probabilistic Monitoring station located at 6BLWS003.88 were impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P04R_LWS01A98 / Lewis Creek / Mainstem from the Stone Branch confluence downstream through Putnam, to the Clinch River confluence, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	4.98

Lewis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.98**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P04R_LWS01A98 / Lewis Creek / Mainstem from the Stone Branch confluence downstream through Putnam, to the Clinch River confluence, WQS Section 2.	4A	Sedimentation/Siltation	2010	L	4.98

Lewis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**4.98**

Sources:

Crop Production (Crop Land or Dry Land)	Impacts from Abandoned Mine Lands (Inactive)	Rural (Residential Areas)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P04R-02-BAC** **Swords Creek**

Cause Location: This segment extends from the Sulphur Spring Branch confluence downstream to the confluence with the Clinch River.

City / County: Russell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station 6BSWO001.81 had a 13% exceedance and 6BSWO000.11 had 23% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P04R_SWD01A00 / Swords Creek / Mainstem from Sulphur Spring Branch confluence at Dye downstream to confluence with Clinch River at the Swords Creek community, WQS Section 2.	4A	Escherichia coli	2010	L	2.91

Swords Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.91**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P04R-02-BEN** **Swords Creek**

Cause Location: This segment includes the mainstem from the Sculpture Spring Branch confluence downstream to the confluence with Clinch River.

City / County: Russell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological monitoring station located at 6BSWO000.11 was impaired based on VSCI scores of 47.68 and 68.53.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P04R_SWD01A00 / Swords Creek / Mainstem from Sulphur Spring Branch confluence at Dye downstream to confluence with Clinch River at the Swords Creek community, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2006	L	2.91

Swords Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.91**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P04R-03-BEN** **Mill Creek**

Cause Location: From the Clinch River confluence near West Raven upstream to the confluence of Right Fork Mill Creek.

City / County: Russell Co. Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological monitoring station located at 6BMLG000.55 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P04R_MLG01A00 / Mill Creek / From Clinch River confluence near West Raven upstream 2.7 miles along Tazewell/Russell County line to the confluence of Right Fork Mill Creek, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	3.22

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.22**

Sources:

Rural (Residential Areas)

Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P05R-01-BAC** **Indian Creek**

Cause Location: This segment extends from the Highway 19 bridge to the Little River confluence at Wardell.

City / County: Russell Co. Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BIDN000.69 had a 23% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P05R_IDN01A04 / Indian Creek / Highway 19 crossing to Little River confluence at Wardell, WQS Section 2.	4A	Escherichia coli	2010	L	4.10

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.10**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P05R_IDN01A04 / Indian Creek / Highway 19 crossing to Little River confluence at Wardell, WQS Section 2.	4A	Fecal Coliform	2004	L	4.10

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.10**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P05R-04-BAC** **Little River**

Cause Location: This segment includes the mainstem above the Claypool Hill wastewater treatment plant downstream to the confluence with Grays Branch.

City / County: Russell Co. Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BLTR0018.19 had a 46% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P05R_LTR02A00 / Little River / Little River above Claypool Hill STP downstream to Laurel Creek confluence near Wardell, WQS Section 2g.	4A	Escherichia coli	2010	L	5.25
VAS-P05R_LTR02A02 / Little River / Laurel Creek confluence near Wardell downstream to Grays Branch confluence at Russell/Tazewell County line, WQS Section 2.	4A	Escherichia coli	2012	L	4.12

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.37**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P05R_LTR02A00 / Little River / Little River above Claypool Hill STP downstream to Laurel Creek confluence near Wardell, WQS Section 2g.	4A	Fecal Coliform	2004	L	5.25
VAS-P05R_LTR02A02 / Little River / Laurel Creek confluence near Wardell downstream to Grays Branch confluence at Russell/Tazewell County line, WQS Section 2.	4A	Fecal Coliform	2008	L	4.12

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**9.37**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P05R-05-BAC** **Maiden Spring Creek**

Cause Location: This segment begins at the unnamed tributary at Buchanan Cemetery and continues downstream to the Little River confluence.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station 6BMSC001.53 had a 42% exceedance of the bacteria water quality standard and station 6BMSC008.98 had a 23% exceedance of the bacteria standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P05R_MSC01A02 / Maiden Spring Creek / From the Little River confluence upstream to foot of Morris Knob north of Robbins Gap, WQS Section 2.	4A	Escherichia coli	2016	L	6.70
VAS-P05R_MSC01C04 / Maiden Spring Creek / This is the middle segment of Maiden Spring Creek from unnamed tributary with Buchanan Cemetery downstream through Thompson Valley to a Morris Knob tributary, WQS Section 2.	4A	Escherichia coli	2010	L	9.51

Maiden Spring Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.21**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P05R_MSC01A02 / Maiden Spring Creek / From the Little River confluence upstream to foot of Morris Knob north of Robbins Gap, WQS Section 2.	4A	Fecal Coliform	2004	L	6.70
VAS-P05R_MSC01C04 / Maiden Spring Creek / This is the middle segment of Maiden Spring Creek from unnamed tributary with Buchanan Cemetery downstream through Thompson Valley to a Morris Knob tributary, WQS Section 2.	4A	Fecal Coliform	2004	L	9.51

Maiden Spring Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**16.21**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P05R-07-BEN** **Laurel Creek**

Cause Location: This segment is a Little River tributary from south of Wardell parallel to Route 609.

City / County: Russell Co. Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Benthic special study station located at 6BLUC000.73 was impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P05R_LUC01A10 / Laurel Creek / Little River tributary that flows north draining Clinch Mountain Spur from Brown Gap, south of Wardell, WQS Section 2g.	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	3.41

Laurel Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.41**

Sources:

Rural (Residential Areas)	Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P06R-01-BAC** **Big Cedar Creek and Tributaries**

Cause Location: This segment begins 5 miles upstream of Lebanon's raw water intake and continues downstream to the confluence with the Clinch River, Loop Creek from Route 80 to the Elk Garden Creek confluence, Burgess Creek from the Campbell Branch confluence to the Big Cedar Creek confluence and Elk Garden Creek from Elk Garden to the confluence with Big Cedar Creek.

City / County: Russell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station on Big Cedar Creek at 6BBCD001.89 had a 33% exceedance of the E.coli water quality standard, station 6BBCD006.66 had 41% exceedance of the E.coli standard and station 6BBCD009.83 had a 75% exceedance of the bacteria water quality standard. AWQM station on Burgess Creek at 6BBUG000.10 had a 66% exceedance of the E. coli water quality standard. AWQM stations on Elk Garden Creek had a 75% & 91% exceedance of the E. coli water quality standard. Two AWQM stations on Loop Creek at 6BLOO04.25 and 6BLOO006.03 had a 50% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P06R_BCD01A98 / Big Cedar Creek / From vicinity of Daughertys Cave downstream to confluence with Clinch River, WQS Section 2.	4A	Escherichia coli	2006	L	4.20
VAS-P06R_BCD02A00 / Big Cedar Creek / East of Lebanon, from Lebanon raw water intake downstream to Little Cedar Creek confluence, WQS Section 2.	4A	Escherichia coli	2006	L	2.79
VAS-P06R_BCD02A02 / Big Cedar Creek / North of Lebanon, from Little Cedar Creek confluence to SR 640 bridge near Daughertys Cave, WQS Section 2.	4A	Escherichia coli	2008	L	1.10
VAS-P06R_BCD03A00 / Big Cedar Creek / Big Cedar Creek headwaters from Lebanon's raw water intake to a point 5 miles upstream on Clinch Mountain, WQS Section 2i.	4A	Escherichia coli	2006	L	3.29
VAS-P06R_BUG01A06 / Burgess Creek / South of Lebanon from Campbell Branch confluence to confluence with Big Cedar Creek, WQS Section 2i.	4A	Escherichia coli	2006	L	1.55
VAS-P06R_EKG01A06 / Elk Garden Creek / From Elk Garden to confluence with Big Cedar Creek upstream to the end of PWS segment, WQS Section 2i.	4A	Escherichia coli	2006	L	3.49
VAS-P06R_EKG01A10 / Elk Garden Creek / Enters Big Cedar Creek near Elk Garden to the north above Rosedale, WQS Section 2.	4A	Escherichia coli	2012	L	8.08
VAS-P06R_LOO01A06 / Loop Creek / West of Corn Valley, from near Rt. 80 upstream to Elk Garden Creek confluence, WQS Section 2i.	4A	Escherichia coli	2006	L	2.59
VAS-P06R_LOO01B12 / Loop Creek / East of Lebanon from near Rt. 80, upstream to Sturgeon Branch confluence on the west side of Clinch Mountain.	4A	Escherichia coli	2012	L	3.98

Big Cedar Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**31.07**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P06R_BCD01A98 / Big Cedar Creek / From vicinity of Daughertys Cave downstream to confluence with Clinch River, WQS Section 2.	4A	Fecal Coliform	2006	L	4.20
VAS-P06R_BCD02A02 / Big Cedar Creek / North of Lebanon, from Little Cedar Creek confluence to SR 640 bridge near Daughertys Cave, WQS Section 2.	4A	Fecal Coliform	2004	L	1.10

Big Cedar Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.30**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P06R-02-BAC** **Little Cedar Creek**

Cause Location: This segment includes Little Cedar Creek from the western edge of Lebanon to the confluence with Big Cedar Creek.

City / County: Russell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BLTL001.11 had a 72% exceedance rate of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P06R_LTL01A10 / Little Cedar Creek / Drains Lebanon, from the Campbell Branch confluence, Willis area, upstream to near SR 654, WQS Section 2.	4A	Escherichia coli	2018	M	6.04
VAS-P06R_LTL01A12 / Little Cedar Creek / A Big Cedar Creek tributary east of Lebanon in Section 2.	4A	Escherichia coli	2012	M	2.19

Little Cedar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P07R-01-BAC** **Clinch River and Tributaries**

Cause Location: This segment includes the mainstem from the Big Cedar Creek confluence downstream to the Dumps Creek confluence. It also includes Thompson Creek from Coulwood to the confluence with The Clinch River and Weaver Creek from the confluence with Hart Creek to the confluence with the Clinch River.

City / County: Russell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BCLN271.50 had a 20% exceedance of the E.coli standard. Station 6BTMP003.58 had a 66% exceedance of the E.coli water quality standard and station 6BWEA004.32 had a 50% exceedance of the E.coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P07R_CLN01A00 / Clinch River / Mainstem from Big Cedar Creek confluence downstream to Dumps Creek confluence at Carbo, WQS Section 2.	4A	Escherichia coli	2006	M	14.10
VAS-P07R_TMP01A06 / Thompson Creek / From Coulwood to confluence with Clinch River at Artrip, WQS Section 2.	4A	Escherichia coli	2006	M	4.45
VAS-P07R_TMP02A10 / Thompson Creek / Headwaters, west of Honaker downstream to just east of Coulwood parallel to N&W Railroad, WQS Section 2.	4A	Escherichia coli	2012	M	3.40
VAS-P07R_WEA01A06 / Weaver Creek / From headwaters at Bradley Gap on Big A Mountain to confluence with Clinch River west of Artrip, WQS, Section 2.	4A	Escherichia coli	2006	M	9.50

Clinch River and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**31.45**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P07R-01-BEN** **Clinch River Tributaries**

Cause Location: Thompson Creek from the confluence of an unnamed tributary east of Coulwood upstream 3.25 miles.

City / County: Russell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The biological station located at 6BTMP006.26 was impaired based on a VSCI score of 56.77.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P07R_TMP02A10 / Thompson Creek / Headwaters, west of Honaker downstream to just east of Coulwood parallel to N&W Railroad, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	3.40

Clinch River Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.40**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P07R-02-BEN** **Mill Creek**

Cause Location: A Clinch River tributary, from the headwaters on Copper Ridge to Pennus Hollow.

City / County: Russell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological monitoring station located at 6BMIF003.23 was impaired based on VSCI scores of 53.50 and 56.22.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P07R_MIF01A10 / Mill Creek / A Clinch River tributary, from headwaters on Copper Ridge to Pennus Hollow, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	1.84

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.84**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P09L-01-HG** **Bark Camp Lake**

Cause Location: This lake is also known as Corder Bottom Lake, located in Scott County.

City / County: Scott Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Three fish samples exceeded the Department of Environmental Quality's screening value for Mercury.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P09L_LSR01A02 / Bark Camp Lake / Also known as Corder Bottom Lake; DGIF owned Scott County.	5A	Mercury in Fish Tissue	2010	L	41.06

Bark Camp Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**41.06**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P09R-01-BAC** **Clinch River**

Cause Location: This segment includes the mainstem of the Clinch River from the Guest River confluence downstream to Little Stony Creek and from Little Stony Creek downstream to the Staunton Creek confluence, and from the Dumps Creek confluence downstream of the Lick Creek confluence, and from Lick Creek at St. Paul downstream to PWS segment.

City / County: Russell Co. Scott Co. Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BCLN237.09 had a 16% exceedance of the bacteria water quality standard. Station 6BCLN242.00 had a 33% exceedance, station 6BCLN246.30 had a 10.5% exceedance, and station 6BCLN249.62 had a 10.5% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P09R_CLN01A00 / Clinch River / Mainstem Clinch from Little Stony Creek confluence north of Mill Island downstream, past Dungannon, to Staunton Creek confluence, WQS Section 2.	4A	Escherichia coli	2012	M	5.99
VAS-P09R_CLN01A08 / Clinch River / Mainstem from Lick Creek confluence at Saint Paul downstream to PWS segment, near Craigen Tunnel, WQS Section 2.	4A	Escherichia coli	2014	M	3.31
VAS-P09R_CLN01B00 / Clinch River / Five miles of Clinch River mainstem above Carfax raw water intake, from Bull Run upstream to near Craigen Tunnel, WQS Section 2a.	4A	Escherichia coli	2014	M	4.93
VAS-P09R_CLN02B00 / Clinch River / Mainstem from Bull Run confluence at Carfax downstream to Guest River confluence at Russell/Scott County line, WQS Section 2.	4A	Escherichia coli	2014	M	2.04
VAS-P09R_CLN02B08 / Clinch River / Mainstem from Guest River confluence at Bangor, downstream to confluence of Little Stony Creek near Mill Island, WQS Section 2.	4A	Escherichia coli	2014	M	5.45

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**21.72**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P09R_CLN01A00 / Clinch River / Mainstem Clinch from Little Stony Creek confluence north of Mill Island downstream, past Dungannon, to Staunton Creek confluence, WQS Section 2.	4A	Fecal Coliform	2004	M	5.99

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.99**

Sources:

Rural (Residential Areas) Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P09R-02-BAC** **Clinch River**

Cause Location: The Clinch River mainstem from the Lick Creek confluence at Boody, upstream to an unnamed tributary at rivermile 259.68, includes Kiser Bend, site of the Clinch River Steam Plant and the Clinch River mainstem from an unnamed tributary at rivermile 259.68 upstream to the Dumps Creek confluence, at Kiser Bend.

City / County: Russell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station at 6BCLN256.31 had a 30% exceedance of the bacteria water quality standard and station 6BCLN264.27 had a 19% exceedance of the bacteria water quality standard

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P09R_CLN01C00 / Clinch River / Clinch River mainstem from Lick Creek confluence at Boody, upstream to unnamed tributary @ 259.68, Section 2a, x, includes Kiser Bend, site of Clinch River Steam Plant.	5A	Escherichia coli	2012	M	4.21
VAS-P09R_CLN01C14 / Clinch River / Clinch River mainstem from unnamed tributary @ 259.68, Section 2a, x, upstream to the Dumps Creek confluence, at Kiser Bend.	5A	Escherichia coli	2012	M	7.75

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.96**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P09R-03-BAC** **Staunton Creek & Fall Creek**

Cause Location: This segment includes both Staunton and Fall Creek from their headwaters to their confluences with the Clinch River.

City / County: Scott Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BFLC000.52 had a 41% exceedance of the E.coli water quality standard and station 6BSUT004.66 had a 41% exceedance of the E.coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P09R_FLC01A02 / Fall Creek / Fall Creek from Beaver Hollow confluence to Clinch River east of Dungannon, WQS Section 2, DGIF vi.	4A	Escherichia coli	2006	L	3.01
VAS-P09R_SUT01A02 / Staunton Creek & tributaries / Tributaries to Clinch River from Stone Mountain north of Buckner Ridge in Jefferson National Forest, east of Wood, WQS Section 2.	4A	Escherichia coli	2006	L	9.73

Staunton Creek & Fall Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.74**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P09R-05-BAC** **Russell Creek**

Cause Location: This segment includes the headwaters of Russell Creek downstream to the confluence with the Clinch River.

City / County: Russell Co. Scott Co. Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BRUS001.25 had a 16% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P09R_RUS01A06 / Russell Creek / Clinch River tributary near Shannon Tunnel, through Virginia City from Nancy Ridge, WQS Section 2.	4A	Escherichia coli	2008	L	5.23

Russell Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P09R-08-BAC** **Cowan Creek**

Cause Location: This segment includes from Copper Ridge near Sunny Point at rivermile 2.7 to the confluence with Sinking Creek.

City / County: Scott Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station 6BCOC001.19 had a 16% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P09R_COC01A02 / Cowan Creek / Cowan Creek from Copper Ridge near Sunny Point at 2.7 to confluence with Sinking Creek, WQS Section 2.	5A	Escherichia coli	2018	L	4.15

Cowan Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P10R-01-BAC** **Lick Creek and Tributaries**

Cause Location: This segment includes the headwaters of Lick Creek and continues downstream to the confluence with the Clinch River, it also includes Cigarette Hollow and Right Fork Lick Creek.

City / County: Dickenson Co. Russell Co. Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM station located at 6BLCC006.75 had a 50% exceedance of the E.coli water quality standard, station 6BLCC002.84 had a 55% exceedance of the E.coli standard and station 6BLCC000.09 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P10R_GRV01A10 / Gravel Lick Creek / Lick Creek tributary from Hamlin upstream to Gravel Lick, north of Red Oak Ridge.	4A	Escherichia coli	2012	L	2.49
VAS-P10R_LCC01A98 / Lick Creek / Mainstem from unnamed tributary confluence at river mile 4.83, north of Sun, downstream to Clinch River confluence near Saint Paul, WQS Section 2.	4A	Escherichia coli	2006	L	4.92
VAS-P10R_LCC02A02 / Lick Creek / Mainstem from headwaters south of Trammel, through Dante, downstream to unnamed tributary confluence at river mile 4.85, WQS Section 2.	4A	Escherichia coli	2006	L	4.69

Lick Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.10**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P10R_LCC01A98 / Lick Creek / Mainstem from unnamed tributary confluence at river mile 4.83, north of Sun, downstream to Clinch River confluence near Saint Paul, WQS Section 2.	4A	Fecal Coliform	2002	L	4.92
VAS-P10R_LCC02A02 / Lick Creek / Mainstem from headwaters south of Trammel, through Dante, downstream to unnamed tributary confluence at river mile 4.85, WQS Section 2.	4A	Fecal Coliform	2002	L	4.69
VAS-P10R_LCR01A98 / Right Fork Lick Creek / Headwaters at Flint Gap downstream to Lick Creek confluence in Dante, WQS Section 2.	4A	Fecal Coliform	2004	L	3.04
VAS-P10R_XBM01A98 / Cigarette Hollow / Headwaters on Flat Top Ridge to Right Fork confluence, WQS Section 2.	4A	Fecal Coliform	2004	L	1.14

Lick Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**13.79**

Sources:

Rural (Residential Areas) Septage Disposal Unrestricted Cattle Access

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***Cause Group Code:* P10R-01-BEN** **Lick Creek and Tributaries**

Cause Location: This segment includes the headwaters of Lick Creek and continues downstream to the confluence with the Clinch River, it also includes Cigarette Hollow, Right Fork Lick and Laurel Branch.

City / County: Dickenson Co. Russell Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

Biological stations located at 6BLCC000.09, 6BLCC000.65 and 6BLCC005.99 were all impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P10R_LCC01A98 / Lick Creek / Mainstem from unnamed tributary confluence at river mile 4.83, north of Sun, downstream to Clinch River confluence near Saint Paul, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	4.92
VAS-P10R_LCC02A02 / Lick Creek / Mainstem from headwaters south of Trammel, through Dante, downstream to unnamed tributary confluence at river mile 4.85, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	4.69
VAS-P10R_LCR01A98 / Right Fork Lick Creek / Headwaters at Flint Gap downstream to Lick Creek confluence in Dante, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	3.04
VAS-P10R_LEL01A98 / Laurel Branch / Headwaters of Laurel Branch and Left Fork through West Dante community to Lick Creek confluence at Dante, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	5.52
VAS-P10R_XBM01A98 / Cigarette Hollow / Headwaters on Flat Top Ridge to Right Fork confluence, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	1.14

Lick Creek and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.31**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P10R_LCC01A98 / Lick Creek / Mainstem from unnamed tributary confluence at river mile 4.83, north of Sun, downstream to Clinch River confluence near Saint Paul, WQS Section 2.	4A	Sedimentation/Siltation	2010	L	4.92
VAS-P10R_LCC02A02 / Lick Creek / Mainstem from headwaters south of Trammel, through Dante, downstream to unnamed tributary confluence at river mile 4.85, WQS Section 2.	4A	Sedimentation/Siltation	2010	L	4.69

Lick Creek and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**9.61**

Sources:

Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Loss of Riparian Habitat	Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P10R-06-BAC** **Honey Branch**

Cause Location: A Lick Creek tributary near Morefield, upstream to Honeycomb Branch, WQS Section 2.

City / County: Dickenson Co. Russell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

station 6BHON002.08 had a 23% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P10R_HON01A14 / Honey Branch / A Lick Creek tributary near Morefield, upstream to Honeycomb Branch, WQS Section 2.	5A	Escherichia coli	2018	L	2.89

Honey Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.89**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P11R-01-BEN** **Guest River and Tributaries**

Cause Location: This segment begins at the confluence with Sepulcher Creek and extends downstream to the confluence with the Clinch River and also includes Critical Fork, Bear Creek, and Selcer Branch.

City / County: Norton City Scott Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

DEQ biological stations 6BGUE006.50 and 6BGUE016.54 were impaired based on VSCI scores. Probabilistic monitoring station 6BSEL001.81 was impaired based on VSCI scored. Non agency data for Critical Fork, Bear Creek indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_BER02A00 / Bear Creek / Bear Creek from Town of Wise raw water intake downstream to Yellow Creek confluence, southeast of Wise, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.09
VAS-P11R_CRI01A14 / Critical Fork / Guest River tributary, origin on Indian Mountain and confluence at Dixiana, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.30
VAS-P11R_GUE01A00 / Guest River / Mainstem, from Crab Orchard Branch confluence downstream to confluence with Clinch River near Bangor, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	4.15
VAS-P11R_GUE02A98 / Guest River / Mainstem from Bad Branch confluence south of Coeburn downstream to Crab Orchard Branch confluence, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	3.09
VAS-P11R_GUE03A06 / Guest River / Mainstem from Sepulcher Creek confluence at Addington (mile 26.21) downstream to the Parson Branch confluence, immediately upstream of the Rt. 23 bridge near Esserville, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	2.62
VAS-P11R_GUE03A98 / Guest River / Mainstem from the Parson Branch confluence downstream to the Bad Branch confluence, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	16.78
VAS-P11R_GUE04A96 / Guest River / Mainstem from headwaters near Fox Gap downstream to the confluence of Sepulcher Creek at Addington, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	8.94
VAS-P11R_SEL01A14 / Selcer Branch / Hurricane Creek tributary east of Wise, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.05
VAS-P11R_XHW01A14 / Bear Creek tributary / South of Clinch Valley College, flows north from Gibson Cemetery area, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.21

Guest River and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**43.23**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_GUE02A98 / Guest River / Mainstem from Bad Branch confluence south of Coeburn downstream to Crab Orchard Branch confluence, WQS Section 2.	4A	Sedimentation/Siltation	2012	L	3.09

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VAS-P11R_GUE03A06 / Guest River / Mainstem from Sepulcher Creek confluence at Addington (mile 26.21) downstream to the Parson Branch confluence, immediately upstream of the Rt. 23 bridge near Esserville, WQS Section 2.	A	Sedimentation/Siltation	2010	L	2.62
VAS-P11R_GUE03A98 / Guest River / Mainstem from the Parson Branch confluence downstream to the Bad Branch confluence, WQS Section 2.	A	Sedimentation/Siltation	2010	L	16.78
VAS-P11R_GUE04A96 / Guest River / Mainstem from headwaters near Fox Gap downstream to the confluence of Sepulcher Creek at Addington, WQS Section 2.	A	Sedimentation/Siltation	2010	L	8.94

Guest River and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sedimentation/Siltation - Total Impaired Size by Water Type:			**31.43**

Sources:

Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Rural (Residential Areas)	Silviculture Activities
Source Unknown	Surface Mining		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P11R-03-BAC** **Guest River and Bear Creek**

Cause Location: This segment extends from the Guest River mainstem at the confluence with Crab Orchard Creek downstream to the confluence with the Clinch River and Bear Creek from the confluence with Yellow Creek confluence downstream to the Guest River confluence and also includes Glade Creek and Yellow Creek.

City / County: Norton City Scott Co. Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

DEQ AWQM station 6BBER001.14 had a 33% exceedance of the E.coli water quality standard and station 6BGUE000.23 had an 13% exceedance, station 6BGUE006.50 had a 12% exceedance, station 6BGUE013.71 had a 36% exceedance, station 6BGUE026.55 had a 30% exceedance, station 6BGLA000.18 had a 66% exceedance, and station 6BYLO001.50 had a 41% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_BER01A98 / Bear Creek / Bear Creek from Yellow Creek confluence downstream to the Guest River confluence west of Ramsey, WQS Section 2.	4A	Escherichia coli	2010	M	1.94
VAS-P11R_GLA01A14 / Glade Creek / Yellow Creek tributary, Town of Wise, WQS Section 2.	4A	Escherichia coli	2014	M	1.90
VAS-P11R_GUE01A00 / Guest River / Mainstem, from Crab Orchard Branch confluence downstream to confluence with Clinch River near Bangor, WQS Section 2.	4A	Escherichia coli	2004	M	4.15
VAS-P11R_GUE02A98 / Guest River / Mainstem from Bad Branch confluence south of Coeburn downstream to Crab Orchard Branch confluence, WQS Section 2.	4A	Escherichia coli	2006	M	3.09
VAS-P11R_GUE03A06 / Guest River / Mainstem from Sepulcher Creek confluence at Addington (mile 26.21) downstream to the Parson Branch confluence, immediately upstream of the Rt. 23 bridge near Esserville, WQS Section 2.	4A	Escherichia coli	2012	M	2.62
VAS-P11R_GUE03A98 / Guest River / Mainstem from the Parson Branch confluence downstream to the Bad Branch confluence, WQS Section 2.	4A	Escherichia coli	2012	M	16.78
VAS-P11R_GUE04A96 / Guest River / Mainstem from headwaters near Fox Gap downstream to the confluence of Sepulcher Creek at Addington, WQS Section 2.	4A	Escherichia coli	2012	M	8.94
VAS-P11R_SEP01A98 / Sepulcher Creek / Headwaters at Glamorgan to Guest River confluence near Addington, WQS Section 2.	4A	Escherichia coli	2018	M	2.92
VAS-P11R_YLO01A98 / Yellow Creek / Mainstem from headwaters at Berry Chapel, east of Wise, to Bear Creek confluence, WQS Section 2.	4A	Escherichia coli	2014	M	3.16

Guest River and Bear Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**45.50**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_GUE01A00 / Guest River / Mainstem, from Crab	4A	Fecal Coliform	2002	M	4.15

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Orchard Branch confluence downstream to confluence with Clinch River near Bangor, WQS Section 2.

Guest River and Bear Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.15**

Sources:

Rural (Residential Areas)	Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P11R-03-PCB** **Guest River and Bear Creek**

Cause Location: This segment begins at the confluence with Parson's Branch and continues downstream to the confluence with the Clinch River and Bear Creek from the Yellow Creek confluence downstream to the Guest River confluence.

City / County: Norton City Wise Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

Sediment and Fish Tissue stations located at 6BGUE020.37, 6BGUE014.49 and 6BGUE009.33 indicated levels of polychlorinated biphenyls (PCBs) in carp that exceeded DEQ's screening value for PCBs. Sediment and Fish Tissue stations located at 6BGUE001.14 and 6BGUE006.45 found PCB levels that exceeded the Virginia Department of health's level of concern. PCBs were detected in carp and sediment at station 6BBER001.14.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_BER01A98 / Bear Creek / Bear Creek from Yellow Creek confluence downstream to the Guest River confluence west of Ramsey, WQS Section 2.	5A	PCB in Fish Tissue	2004	L	1.94
VAS-P11R_GUE01A00 / Guest River / Mainstem, from Crab Orchard Branch confluence downstream to confluence with Clinch River near Bangor, WQS Section 2.	5A	PCB in Fish Tissue	2004	L	4.15
VAS-P11R_GUE02A98 / Guest River / Mainstem from Bad Branch confluence south of Coeburn downstream to Crab Orchard Branch confluence, WQS Section 2.	5A	PCB in Fish Tissue	2006	L	3.09
VAS-P11R_GUE03A98 / Guest River / Mainstem from the Parson Branch confluence downstream to the Bad Branch confluence, WQS Section 2.	5A	PCB in Fish Tissue	2006	L	16.78

Guest River and Bear Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**25.96**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P11R-05-BAC** **Crab Orchard Creek**

Cause Location: This segment extends from the headwaters downstream to the Guest River confluence.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BCRA000.31 had a 40% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_CRA01A98 / Crab Orchard (Branch) Creek / Headwaters south of Little Tom Tunnel to Guest River confluence, south of Crab Orchard, WQS Section 2.	4A	Escherichia coli	2006	L	2.75

Crab Orchard Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.75**

Sources:

Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P11R-05-BEN** **Eastland Creek**

Cause Location: This segment of Eastland Creek includes from the headwaters downstream to the confluence with Clear Creek.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6BEAS000.07 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_EAS01A06 / Eastland Creek / Clear Creek tributary south of Norton in Jefferson National Forest, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	2.00

Eastland Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.00**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P11R-06-BAC** **Little Tom's Creek**

Cause Location: This segment includes the headwaters and continues downstream to the Tom's Creek confluence.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BLTF000.68 had a 80% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_LTF01A98 / Little Tom's Creek / From origin on Stone Mountain through Banner to Tom's Creek confluence in Coeburn, WQS Section 2.	4A	Escherichia coli	2006	L	4.79

Little Tom's Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.79**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_LTF01A98 / Little Tom's Creek / From origin on Stone Mountain through Banner to Tom's Creek confluence in Coeburn, WQS Section 2.	4A	Fecal Coliform	2004	L	4.79

Little Tom's Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.79**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P11R-08-BAC** **Toms Creek**

Cause Location: This segment extends from the headwaters of Toms Creek downstream to the Guest River confluence.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BTMS000.35 had a 63% exceedances of the E.coli water quality standard and station 6BTMS000.60 had a 37% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P11R_TMS01A98 / Toms Creek / Lower mainstem from raw water intake downstream to the Guest River confluence near Riverview, WQS Section 2.	4A	Escherichia coli	2006	L	6.35
VAS-P11R_TMS02A00 / Toms Creek & tributaries / Upper Toms Creek from Coeburn's raw water intake to its headwaters on Sandy Ridge including tributaries, WQS Section 2f.	4A	Escherichia coli	2006	L	6.25

Toms Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**12.60**

Sources:

Rural (Residential Areas) Septage Disposal Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P12R-01-BEN** **Bark Camp Branch**

Cause Location: This segment begins at the headwaters, includes the tributary, and continues downstream to the Stony Creek confluence.

City / County: Scott Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

DEQ biological station 6BBAR000.97 was impaired based on the VSCI score. United States Forest Service (USFS) monitoring station 9150 indicated slight impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P12R_BAR01A02 / Bark Camp Branch & tributaries / Headwaters and tributary from Osborne Rock on Stone Mountain downstream to Stony Creek confluence in Glades Wildlife Management Area, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2004	M	3.07

Bark Camp Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.07**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P12R-01-PH** **Bark Camp Branch**

Cause Location: This segment begins at the headwaters, includes the tributary, and continues downstream to the Stony Creek confluence.

City / County: Scott Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The biological station 6BBAR000.97 found that pH did not meet water quality standards.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P12R_BAR01A02 / Bark Camp Branch & tributaries / Headwaters and tributary from Osborne Rock on Stone Mountain downstream to Stony Creek confluence in Glades Wildlife Management Area, WQS Section 2.	5A	pH	2010	M	3.07

Bark Camp Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.07**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P12R-02-BEN** **Devil Fork**

Cause Location: This segment begins at the headwaters of Devil Fork and continues downstream to the confluence with Straight Fork.

City / County: Scott Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

DEQ biological station 6BDEV000.07 was impaired based on the VSCI score of 34 and United States Forest Service monitoring station 9131 was also impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P12R_DEV01A02 / Devil's Fork / Devil Fork is a tributary to Straight Fork in Jefferson National Forest, north of Stone Mountain located on the East Stone Gap USGS Quad Map, WQS Section 2, DGIF vi.	5A	Benthic-Macroinvertebrate Bioassessments	2006	M	4.40

Devil Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.40**

Sources:

Atmospheric Deposition - Acidity	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P12R-02-pH** **Devil Fork**

Cause Location: Devil Fork is a tributary to Straight Fork in Jefferson National Forest, north of Stone Mountain.

City / County: Scott Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The DEQ Biological monitoring station 6BDEV000.07 found that pH did not meet water quality standards.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P12R_DEV01A02 / Devil's Fork / Devil Fork is a tributary to Straight Fork in Jefferson National Forest, north of Stone Mountain located on the East Stone Gap USGS Quad Map, WQS Section 2, DGIF vi.	5A	pH	2014	M	4.40

Devil Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.40**

Sources:

Atmospheric Deposition - Acidity	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P13R-02-PCB** **Stock Creek**

Cause Location: From stream mile 4.56 downstream to the Clinch River confluence at Clinchport.

City / County: Scott Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

AWQM and sediment/fish tissue station located at 6BSTO004.56 had one fish that exceeded the DEQ screening value for Hg.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P13R_STO01A00 / Stock Creek / From stream mile 4.56, near Sunbright, downstream to the Clinch River confluence at Clinchport, WQS Section 2.	5A	PCB in Fish Tissue	2004	L	4.78

Stock Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**4.78**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P13R-03-BAC** **Clinch River, Cove Creek and Stock Creek**

Cause Location: This segment includes the mainstem Clinch River from Copper Creek upstream to the Cove Creek confluence, Lower Cove Creek from its confluence with Millstone Branch to the Clinch River, and Stock Creek from the impoundment east of Sunbright downstream to the Clinch River confluence.

City / County: Scott Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BCOV001.68 had a 25% exceedance of the E.coli standard and station 6BSTO000.45 had a 33% exceedance and station 6BSTO004.56 has a 25% exceedance station 6BCLN202.70 had a 25% exceedance, station 6BCLN206.70 had a 14% exceedance, and station 6BCLN213.02 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P13R_CLN01A02 / Clinch River / Mainstem Clinch River from Copper Creek confluence near Speers Ferry downstream to the Tennessee state line near Shelby Creek, WQS Section 2.	4A	Escherichia coli	2008	M	9.63
VAS-P13R_CLN02A02 / Clinch River / Mainstem Clinch River from Copper Creek confluence upstream to Cove Creek confluence near Starnes Slant, WQS Section 2.	4A	Escherichia coli	2014	M	13.01
VAS-P13R_COV01B08 / Cove Creek / Lower Cove Creek from its confluence with Millstone Branch to confluence with Clinch River north of Starnes Slant.	4A	Escherichia coli	2008	M	7.13
VAS-P13R_STO01A00 / Stock Creek / From stream mile 4.56, near Sunbright, downstream to the Clinch River confluence at Clinchport, WQS Section 2.	4A	Escherichia coli	2008	M	4.78
VAS-P13R_STO02A98 / Stock Creek / From the impoundment east of Sunbright downstream to stream mile 4.56, WQS Section 2.	4A	Escherichia coli	2014	M	0.54

Clinch River, Cove Creek and Stock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**35.09**

Sources:

Sewage Discharges in Unsewered Areas	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P14R-01-BAC** **Copper Creek, Moll Creek and Valley Creek**

Cause Location: This segment extends from just above Dickensonville downstream to the Obeys Creek confluence, the lower most segment of Valley Creek that confluences with Copper Creek and Moll Creek from the headwaters to the confluence with Copper Creek and tributaries.

City / County: Russell Co. Scott Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BCOP047.75 had a 41% exceedance of the E.coli water quality standard, station 6BCOP052.77 had a 50% exceedance, 6BCOP023.91 had a 16% exceedance, 6BVAL000.25 had a 50% exceedance, 6BMOL000.03 had a 66% exceedance, 6BMOL003.98 had a 83% exceedance of the E. coli water quality standard. Station 6BPTR000.02 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P14R_COP02A02 / Copper Creek / From the Valley Creek confluence upstream to the Grassy Creek confluence, WQS Section 2.	4A	Escherichia coli	2014	M	21.25
VAS-P14R_COP02B08 / Copper Creek / From the Grassy Creek confluence upstream to beginning of WQS Class V waters.	4A	Escherichia coli	2008	M	10.01
VAS-P14R_COP03A02 / Copper Creek / Copper Creek from mile 52.5 through Dickensonville to 56.8, WQS Section 2, vi.	4A	Escherichia coli	2008	M	4.53
VAS-P14R_COP03A08 / Copper Creek / From Valley Creek confluence downstream to Obeys Creek confluence.	4A	Escherichia coli	2014	M	7.71
VAS-P14R_MOL01A08 / Moll Creek & tributaries / From Copper Creek upstream, to second tributary, includes Porter Hollow.	4A	Escherichia coli	2008	M	2.78
VAS-P14R_MOL01B10 / Moll Creek & tributaries / Headwaters and tributaries, WQS Section 2.	4A	Escherichia coli	2014	M	9.61
VAS-P14R_PTR01A14 / Porter Hollow / Moll Creek tributary, WQS Section 2.	4A	Escherichia coli	2014	M	1.84
VAS-P14R_VAL01A02 / Valley Creek, lower / Lower segment, from near Farley Chapel to confluence with Copper Creek, WQS Section 2.	4A	Escherichia coli	2008	M	1.04

Copper Creek, Moll Creek and Valley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**58.77**

Sources:

Grazing in Riparian or Shoreline Zones — Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P14R-02-BEN** **Blackoak Branch Tributary**

Cause Location: This segment is north of Spivey Mill parallel to Route 665.

City / County: Scott Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6BXGD000.01 was impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P14R_XGD01A12 / Blackoak Branch tributary / North of Manville School flows from Copper Creek Knobs.	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	0.76

Blackoak Branch Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.76**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P15R-00-BAC** **North Fork Clinch River**

Cause Location: This segment includes the upper mainstem from 5 miles above the Duffield raw water intake at Jasper. It also includes from the Fraley Branch confluence and extends downstream to the Tennessee political boundary and includes Drakes Branch, a North Fork Clinch River tributary near Pattonsville.

City / County: Lee Co. Scott Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BNFC010.65 had a 41% exceedance of the E.coli water quality standard, station 6BNFC018.68 had a 33% exceedance, station 6BNFC003.80 had a 41% exceedance, station 6BNFC022.47 had a 18% exceedance, and station 6BDAK001.71 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P15R_DAK01A10 / Drakes Branch / A North Fork Clinch tributary, south of Pattonsville, WQS Section 2.	4A	Escherichia coli	2014	M	2.46
VAS-P15R_NFC01A00 / North Fork Clinch River / Upper mainstem from 5 miles above Duffield raw water intake at Jasper, WQS Section 2d.	4A	Escherichia coli	2018	M	4.55
VAS-P15R_NFC01B00 / North Fork Clinch River / Mainstem from Pattonsville Branch confluence downstream to Cox Branch confluence, WQS Section 2.	4A	Escherichia coli	2008	M	7.89
VAS-P15R_NFC01B08 / North Fork Clinch River / Mainstem from Fraley Branch confluence downstream to the Pattonsville Branch confluence.	4A	Escherichia coli	2008	M	3.51
VAS-P15R_NFC01C02 / North Fork Clinch River / Mainstem from the Cox Branch confluence near Fairview downstream to Tennessee state line near Dona, WQS Section 2.	4A	Escherichia coli	2010	M	5.73
VAS-P15R_NFC02A10 / North Fork Clinch River / South of Duffield downstream to Fraley Branch confluence, WQS Section 2.	4A	Escherichia coli	2018	M	2.77

North Fork Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**26.91**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P15R_NFC01C02 / North Fork Clinch River / Mainstem from the Cox Branch confluence near Fairview downstream to Tennessee state line near Dona, WQS Section 2.	4A	Fecal Coliform	2002	M	5.73

North Fork Clinch River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**5.73**

Sources:

Rural (Residential Areas) | Sewage Discharges in Unsewered Areas | Source Unknown | Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P16R-01-BAC** **Blackwater Creek**

Cause Location: This segment includes the Blackwater Creek mainstem from the East Fork Blackwater Creek confluence downstream to the Tennessee political boundary and the East Fork Blackwater Creek mainstem from the Confluence of North Fork Blackwater Creek to the Blackwater Creek confluence.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BBKW005.82 had a 41% exceedance of the E.coli water quality standard. Station 6BBCD001.05 had a 16% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P16R_BCE01A00 / East Fork Blackwater Creek / East Fork Blackwater Creek mainstem from the confluence of North Fork Blackwater Creek to the Blackwater Creek confluence, WQS Section 2.	4A	Escherichia coli	2016	L	1.93
VAS-P16R_BKW01A02 / Blackwater Creek / Blackwater Creek mainstem from East Fork Blackwater Creek confluence downstream to Tennessee state line, WQS Section 2.	4A	Escherichia coli	2008	L	2.09

Blackwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.02**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P16R_BKW01A02 / Blackwater Creek / Blackwater Creek mainstem from East Fork Blackwater Creek confluence downstream to Tennessee state line, WQS Section 2.	4A	Fecal Coliform	2004	L	2.09

Blackwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.09**

Sources:

Septage Disposal Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-00-PH** **Dark Hollow**

Cause Location: This segment is a Powell River tributary south of Appalachia.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The biological monitoring station located at 6BDAR000.26 resulted in low VSCI scores. 2 of 2 pH measurements failed to meet water quality standards.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_DAR01A02 / Dark Hollow / A Powell River tributary south of Appalachia and north of Little Stone Mountain, WQS Section 1.	5A	pH	2012	H	1.40

Dark Hollow	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.40**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-01-BAC** **Callahan Creek**

Cause Location: This segment includes the mainstem of Callahan Creek from above Appalachia at Possum Trot Hollow downstream to confluence with Preacher Creek.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BCAL003.19 had a 100% exceedance and station 6BCAL001.57 had a 36% exceedance of the E.coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_CAL01A98 / Callahan Creek / Lower mainstem from the Preacher Creek confluence at Andover, downstream to the confluence with Powell River in Appalachia, WQS Section 1.	4A	Escherichia coli	2008	L	1.68
VAS-P17R_CAL01B04 / Callahan Creek / Above Appalachia from Possum Trot Hollow upstream of Stonega downstream to Preacher Creek confluence at Andover, WQS Section 1.	4A	Escherichia coli	2006	L	3.63

Callahan Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.31**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_CAL01B04 / Callahan Creek / Above Appalachia from Possum Trot Hollow upstream of Stonega downstream to Preacher Creek confluence at Andover, WQS Section 1.	4A	Fecal Coliform	2004	L	3.63

Callahan Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.63**

Sources:

Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-01-BEN** **Callahan Creek and Tributaries**

Cause Location: This segment includes the West Fork of Callahan Creek and the lower mainstem of Callahan Creek from the Preacher Creek confluence downstream to the confluence with Powell River, Mud Lick Creek, Halls Branch, and an unnamed tributary to Callahan Creek that flows from Ninemile Spur upstream of Stonega.

City / County: Norton City Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A
Total Dissolved Solids / 4A

The biological monitoring station located at 6BCAL000.03 was impaired based on VSCI scores. Non agency biological data from Appalachian Technical Services indicates impairment on West Fork Callahan Creek, Mud Lick Creek, Halls Branch and an unnamed tributary to Callahan Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_CAL01A98 / Callahan Creek / Lower mainstem from the Preacher Creek confluence at Andover, downstream to the confluence with Powell River in Appalachia, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	1.68
VAS-P17R_CAL01B04 / Callahan Creek / Above Appalachia from Possum Trot Hollow upstream of Stonega downstream to Preacher Creek confluence at Andover, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	3.63
VAS-P17R_CAL01C14 / Callahan Creek / Origin is near Stonega Gap on Black Mountain, upstream of coal company guard shack, access limited, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.80
VAS-P17R_CLA01A14 / West Fork Callahan Creek / Bluff Spur drainage, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.53
VAS-P17R_HLS01A14 / Halls Branch / A tributary to Mud Lick Creek from Bluff Spur, north of Osaka, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.93
VAS-P17R_MIK01A06 / Mud Lick Creek / From Roda to confluence with Callahan Creek near Osaka, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.90
VAS-P17R_MIK02A14 / Mud Lick Creek / Sawmill Hollow, upstream of Roda, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.13

Callahan Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.60**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_CAL01A98 / Callahan Creek / Lower mainstem from the Preacher Creek confluence at Andover, downstream to the confluence with Powell River in Appalachia, WQS Section 1.	4A	Sedimentation/Siltation	2010	L	1.68
VAS-P17R_CAL01B04 / Callahan Creek / Above Appalachia from Possum Trot Hollow upstream of Stonega downstream to Preacher Creek confluence at Andover, WQS Section 1.	4A	Sedimentation/Siltation	2012	L	3.63

Callahan Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sedimentation/Siltation - Total Impaired Size by Water Type:			**5.31**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_CAL01A98 / Callahan Creek / Lower mainstem from the Preacher Creek confluence at Andover, downstream to the confluence with Powell River in Appalachia, WQS Section 1.	4A	Total Dissolved Solids	2010	L	1.68
VAS-P17R_CAL01B04 / Callahan Creek / Above Appalachia from Possum Trot Hollow upstream of Stonega downstream to Preacher Creek confluence at Andover, WQS Section 1.	4A	Total Dissolved Solids	2012	L	3.63

Callahan Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Total Dissolved Solids - Total Impaired Size by Water Type:			**5.31**

Sources:

Coal Mining	Sewage Discharges in Unsewered Areas	Silviculture Activities	Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-02-BAC** **Powell River**

Cause Location: This segment begins at the Benges Branch confluence and continues downstream to Roaring Fork and includes the mainstem from Pigeon Creek downstream to Dakota Street in Big Stone Gap, river mile 177.53.

City / County: Norton City Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6BPOW180.62 had a 58% exceedance, 6BPOW179.20 had a 47% exceedance of the E.coli water quality standard and 6BPOW193.38 had a 75% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_POW01A94 / Powell River / Powell River from Roaring Branch confluence, 180.83, downstream to South Fork Powell River confluence in the Town of Big Stone Gap, river mile 177.53, WQS Section 1.	4A	Escherichia coli	2006	L	2.71
VAS-P17R_POW01B02 / Powell River / Mainstem Powell River from Benges Branch confluence upstream of Josephine downstream to Roaring Fork confluence at Kent Junction, WQS Section 1.	4A	Escherichia coli	2010	L	5.46
VAS-P17R_POW02C06 / Powell River / The mainstem of Powell River south of Appalachia from Pigeon Creek confluence to Roaring Creek confluence, WQS Section 1.	4A	Escherichia coli	2008	L	1.00

Powell River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.17**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_POW01B02 / Powell River / Mainstem Powell River from Benges Branch confluence upstream of Josephine downstream to Roaring Fork confluence at Kent Junction, WQS Section 1.	4A	Fecal Coliform	2006	L	5.46

Powell River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.46**

Sources:

Agriculture	Sanitary Sewer Overflows (Collection System Failures)	Sewage Discharges in Unsewered Areas	Wastes from Pets

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-02-BEN** **Powell River**

Cause Location: These segments include the headwaters of the mainstem of the Powell River, south of Divides Ridge to the Benges Branch confluence; the mainstem at Appalachia, from the Pigeon Creek confluence to the Roaring Creek confluence; and the Powell River from the Roaring Branch confluence downstream to the South Fork Powell River confluence.

City / County: Norton City Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The biological monitoring stations located at 6BPOW179.20, 6BPOW184.19 and 6BRIN001.84 were impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_POW01A94 / Powell River / Powell River from Roaring Branch confluence, 180.83, downstream to South Fork Powell River confluence in the Town of Big Stone Gap, river mile 177.53, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	2.71
VAS-P17R_POW01C02 / Powell River / Powell River, from the Benges Branch confluence upstream to the Buckeye Branch confluence, north of Rogers Ridge, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	9.02
VAS-P17R_POW02B06 / Powell River / Mainstem at Appalachia, from Pigeon Creek confluence upstream to Roaring Fork confluence at Kent Junction, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2010	L	5.70
VAS-P17R_POW03C14 / Powell River / Headwaters of the mainstem, south of Divides Ridge, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.57

Powell River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.00**

Sources:

Agriculture	Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Mountaintop Mining
Non-Point Source	Rural (Residential Areas)	Silviculture Activities	Streambank Modifications/destabilization
Surface Mining			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-03-BEN** **Black Creek**

Cause Location: This segment includes Black Creek and its tributaries from the impoundment downstream to the Powell River confluence.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Alkalinity, Carbonate as CaCO3 / 4A
Benthic-Macroinvertebrate Bioassessments / 4A
Manganese / 4A

The segment is impaired based on the VSCI scores of 48.22 and 54.18 at station 6BBLK000.13.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_BLK01A96 / Black Creek / Black Creek and tributaries from impoundment downstream to the Powell River confluence north of Blackwood, WQS Section 1.	4A	Alkalinity, Carbonate as CaCO3	2010	L	3.11

Black Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Alkalinity, Carbonate as CaCO3 - Total Impaired Size by Water Type:			**3.11**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_BLK01A96 / Black Creek / Black Creek and tributaries from impoundment downstream to the Powell River confluence north of Blackwood, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	3.11

Black Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.11**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_BLK01A96 / Black Creek / Black Creek and tributaries from impoundment downstream to the Powell River confluence north of Blackwood, WQS Section 1.	4A	Manganese	2002	L	3.11

Black Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Manganese - Total Impaired Size by Water Type:			**3.11**

Sources:

Coal Mining	Coal Mining Discharges (Permitted)	Impacts from Abandoned Mine Lands (Inactive)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-04-BEN** **Unnamed tributary to Callahan Creek**

Cause Location: Flows from Ninemile Spur upstream of Stonega, WQS Section 1.

City / County: Norton City Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_XHO01A14 / Unnamed tributary to Callahan Creek. / Flows from Ninemile Spur upstream of Stonega, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	0.58

Unnamed tributary to Callahan Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.58**

Sources:

Unspecified Land Disturbance

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-07-BEN** **Pigeon Creek**

Cause Location: This segment includes the headwaters of Pigeon Creek from Black Mtn, the KY line, through the Exeter community downstream to the Laurel Creek confluence.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Biological monitoring stations located at 6BPIG003.55 AND 6BPIG005.20 were impaired based on the VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_PIG01B12 / Pigeon Creek / Headwaters from Little Black Mountain, the KY line, through the Exeter community downstream to the Laurel Fork confluence, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2012	H	3.42

Pigeon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.42**

Sources:

Coal Mining Rural (Residential Areas) Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-09-BEN** **Roaring Fork and Potcamp Fork**

Cause Location: This segment includes from the headwaters above the Roaring Fork community to the Powell River confluence at Kent Junction, parallel to Route 603, including Potcamp Fork and Canepatch Creek.

City / County: Norton City Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological monitoring station located at 6BRIN001.84 was impaired based on VSCI scores of 49.15 and 27.84 and non agency biological monitoring data provided by Appalachian Technical Services indicates impairment on Potcamp Fork and Canepatch Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_CPH01A14 / Canepatch Creek / Roaring Fork tributary from Rogers Ridge, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	H	8.72
VAS-P17R_POT01A14 / Potcamp Fork / A Roaring Fork tributary, segment is from headwaters downstream to Dunbar, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	H	2.86
VAS-P17R_RIN01A00 / Roaring Fork / Lower mainstem from Roaring Fork community to the Powell River confluence at Kent Junction, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	5.04
VAS-P17R_RIN01B14 / Roaring Fork / Headwaters on Black Mountain downstream to the Roaring Fork community, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	H	10.15

Roaring Fork and Potcamp Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**26.77**

Sources:

Coal Mining Mountaintop Mining Silviculture Harvesting Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-11-BEN** **Powell River**

Cause Location: This segment includes the mainstem Powell River from the Benges Branch confluence upstream of Josephine downstream to the Roaring Fork confluence and from the Benges Branch confluence upstream to the Buckeye Branch confluence.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological data provided by Appalachian Technical Services indicates impaired VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_POW01B02 / Powell River / Mainstem Powell River from Benges Branch confluence upstream of Josephine downstream to Roaring Fork confluence at Kent Junction, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	5.46

Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.46**

Sources:

Mountaintop Mining Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-12-BEN** **Powell River**

Cause Location: This segment includes the mainstem of the Powell River south of Appalachia from Pigeon Creek to the Roaring Creek confluence

City / County: Norton City Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_POW02C06 / Powell River / The mainstem of Powell River south of Appalachia from Pigeon Creek confluence to Roaring Creek confluence, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	1.00

Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.00**

Sources:

Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-13-BEN** **Looney Creek**

Cause Location: This segment is a Powell River tributary west of Appalachia.

City / County: Norton City Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_LOC01A12 / Looney Creek / Powell River tributary west of Appalachia	5A	Benthic-Macroinvertebrate Bioassessments	2014	H	6.04
VAS-P17R_PIG01A06 / Pigeon Creek / From Laurel Fork confluence to confluence with Powell River south of Appalachia, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	H	2.50

Looney Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.54**

Sources:

Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P17R-14-PH** **Roaring Branch**

Cause Location: North of Big Stone Gap from the headwaters near High Butte downstream to the confluence with the Powell River in Big Stone Gap, WQS Section 1.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

72% of pH measurements failed to meet WQS at 6BRNN000.07.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P17R_RRN01A00 / Roaring Branch / North of Big Stone Gap from headwaters near High Butte downstream to the confluence with Powell River in Big Stone Gap, WQS Section 1.	5A	pH	2018	L	2.91

Roaring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.91**

Sources:

Atmospheric Deposition - Acidity

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18L-01-HG** **Big Cherry Reservoir**

Cause Location: This reservoir is located east of East Stone Gap on Powell Mountain.

City / County: Wise Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Two largemouth bass samples exceeded the Virginia Department of Health's level of concern for Mercury.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18L_PLL01L02 / Big Cherry Reservoir / East of East Stone Gap on Powell Mountain in WQS Section 1c.	5A	Mercury in Fish Tissue	2010	L	104.00

Big Cherry Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**104.00**	

Sources:

Atmospheric Deposition - Toxics

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18L-01-PH** **Big Cherry Reservoir**

Cause Location: This reservoir is located east of East Stone Gap on Powell Mountain.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Category 5C: Monitoring station 6BPLL012.79 had a 61% exceedance of the pH water quality criteria and station 6BPLL012.99 had a 79% exceedance of the pH criteria.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18L_PLL01L02 / Big Cherry Reservoir / East of East Stone Gap on Powell Mountain in WQS Section 1c.	5C	pH	2002	M	104.00

Big Cherry Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:		**104.00**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18R-01-BAC** **South Fork Powell River**

Cause Location: This segment begins at the Big Cherry Reservoir and continues downstream to the confluence with the Powell River.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM station located at 6BPLL006.38 had a 33% exceedance of the bacteria water quality standard, station 6BPLL004.24 had a 50% exceedance of the E.coli water quality standard, station 6BPLL002.55 had a 33% exceedance and station 6BPLL000.27 had a 22% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_PLL02A00 / South Fork Powell River / From Big Cherry Reservoir dam on Little Mountain downstream to Beaverdam Creek confluence southeast of East Stone Gap, WQS Section 1.	4A	Escherichia coli	2012	L	6.45

South Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.45**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_PLL02A00 / South Fork Powell River / From Big Cherry Reservoir dam on Little Mountain downstream to Beaverdam Creek confluence southeast of East Stone Gap, WQS Section 1.	4A	Fecal Coliform	2004	L	6.45

South Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**6.45**

Sources:

- Sewage Discharges in Unsewered Areas
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18R-01-BEN** **South Fork Powell River**

Cause Location: This segment includes the mainstem, from Butcher Fork confluence downstream to confluence with Powell River in Big Stone Gap.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

Biological monitoring stations 6BPLL002.55 and 6BPLL004.40 were impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_PLL01A02 / South Fork Powell River / Mainstem from confluence of Beaverdam Creek downstream to Butcher Fork confluence at East Stone Gap, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	1.97
VAS-P18R_PLL01A98 / South Fork Powell River / Mainstem from Butcher Fork confluence north of East Stone Gap downstream to confluence with Powell River at Three Forks in Big Stone Gap, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	3.83

South Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.80**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_PLL01A02 / South Fork Powell River / Mainstem from confluence of Beaverdam Creek downstream to Butcher Fork confluence at East Stone Gap, WQS Section 1.	4A	Sedimentation/Siltation	2012	L	1.97
VAS-P18R_PLL01A98 / South Fork Powell River / Mainstem from Butcher Fork confluence north of East Stone Gap downstream to confluence with Powell River at Three Forks in Big Stone Gap, WQS Section 1.	4A	Sedimentation/Siltation	2012	L	3.83

South Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**5.80**

Sources:

Loss of Riparian Habitat

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18R-01-PH** **South Fork Powell River**

Cause Location: Mainstem from the Butcher Fork confluence north of East Stone Gap downstream to the confluence with the Powell River at Three Forks in Big Stone Gap.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The AWQM station located at 6BPLL001.61 had a 13% exceedance of the pH water quality criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_PLL01A98 / South Fork Powell River / Mainstem from Butcher Fork confluence north of East Stone Gap downstream to confluence with Powell River at Three Forks in Big Stone Gap, WQS Section 1.	5A	pH	2016	L	3.83

South Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18R-02-BAC** **Butcher Fork**

Cause Location: This segment includes the headwaters downstream to the South Fork Powell River confluence.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM station located at 6BBUH000.76 had a 22% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_BUH01A04 / Butcher Fork / From headwaters north of Buffalo Gap downstream to confluence with South Fork Powell River south of Big Stone Gap, WQS Section 1.	4A	Escherichia coli	2012	L	4.96

Butcher Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.96**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_BUH01A04 / Butcher Fork / From headwaters north of Buffalo Gap downstream to confluence with South Fork Powell River south of Big Stone Gap, WQS Section 1.	4A	Fecal Coliform	2004	L	4.96

Butcher Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**4.96**

Sources:

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18R-03-BAC** **South Fork Powell River**

Cause Location: This segment includes the mainstem from the confluence of Beaverdam Creek, north of East Stone Gap, downstream to the confluence with the Powell River at Three Forks in Big Stone Gap.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

AWQM station at 6BPLL000.27 had a 22% exceedance and station 6BPLL001.61 had a 42% exceedance of the E. coli water quality standard, station 6BPLL002.55 has a 33% exceedance of the E. coli water quality standard. AWQM station 6BPLL004.24 had a 50% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_PLL01A02 / South Fork Powell River / Mainstem from confluence of Beaverdam Creek downstream to Butcher Fork confluence at East Stone Gap, WQS Section 1.	4A	Escherichia coli	2010	L	1.97
VAS-P18R_PLL01A98 / South Fork Powell River / Mainstem from Butcher Fork confluence north of East Stone Gap downstream to confluence with Powell River at Three Forks in Big Stone Gap, WQS Section 1.	4A	Escherichia coli	2010	L	3.83

South Fork Powell River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.80**

Sources:

- Sewage Discharges in Unsewered Areas
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P18R-04-BAC** **Beaverdam Creek**

Cause Location: A South Fork Powell River tributary east of East Stone Gap, from the headwaters near Buffalo Gap downstream, WQS Section 1.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6BBEV000.17 had a 41% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P18R_BEV01A10 / Beaverdam Creek / A South Fork Powell River tributary, east of East Stone Gap, from headwaters near Buffalo Gap, downstream, WQS Section 1.	5A	Escherichia coli	2018	L	4.03

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.03**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P19R-01-BAC** **Mud Creek**

Cause Location: This segment includes the mainstem from the Highway 58 crossing downstream to the Powell River confluence.

City / County: Lee Co. Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

AWQM station located at 6BMDC000.33 had a 25% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P19R_MDC01A10 / Mud Creek / A Powell River tributary from Hwy 58 crossing to Powell River, east of Olinger, WQS Section 1.	4A	Escherichia coli	2010	M	1.81

Mud Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.81**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P19R-01-BEN** **Powell River**

Cause Location: This segment extends from confluence of Poor Valley Creek downstream to the Public Water Supply segment.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The biological station located at 6BPOW166.97 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P19R_POW03A00 / Powell River / Near Dryden from confluence of Poor Valley Creek downstream to PWS segment in WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	6.62

Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.62**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P19R_POW03A00 / Powell River / Near Dryden from confluence of Poor Valley Creek downstream to PWS segment in WQS Section 1.	4A	Sedimentation/Siltation	2012	L	6.62

Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**6.62**

Sources:

Agriculture

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P19R-02-BEN** **Poor Valley Creek**

Cause Location: This segment includes the headwaters of Poor Valley Creek downstream to its confluence with the Powell River.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment was miss-categorized in 2004. USFS monitored site 9120 and found a moderate impairment due to drought conditions.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P19R_PVC01A02 / Poor Valley Creek / Powell River tributary north of Dryden, from headwaters near Dalton Gap, WQS Section 1.	4C	Benthic-Macroinvertebrate Bioassessments			2.82

Poor Valley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.82**

Sources:

Drought-related Impacts	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20L-01-HG** **Lake Keokee**

Cause Location: This lake is located south of Exeter on Stone Mountain.

City / County: Lee Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

A largemouth bass sample exceeded the Virginia Department of Health level of concern for Mercury and one fish tissue sampled exceeded the Department of Environmental Quality's screening value for Mercury.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20L_PWL01L02 / Lake Keokee / This recreation impoundment was constructed in 1975, South of Exeter on Stone Mountain WQS Section 1.	5A	Mercury in Fish Tissue	2010	L	96.21

Lake Keokee **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**96.21**	

Sources:

Atmospheric Deposition - Toxics

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20R-00-BEN** **Straight Creek and Tributaries**

Cause Location: This segment includes not only the headwaters of Straight Creek downstream to the North Fork Powell confluence but also its tributaries including Bailey's Trace, Ely Creek, Lick Branch, and Puckett Creek.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The following DEQ biological stations were found to be moderately impaired: 6BSTA000.11, 6BSTA000.40, 6BSTA000.54, 6BSTA001.10, 6BSTA002.48, 6BSTA003.62, 6BSTC000.06, 6BSTC000.27 and 6BSTC003.27. A special study contracted by the Division o f Mine Land Reclamation and the united States Corp of Engineers verified the benthic impairments of Lick Branch and Ely Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_BAI01A00 / Bailey's Trace & tributaries / Headwaters on Black Mountain downstream to Straight Creek confluence near St Charles, including Fawn Branch in WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	4.69
VAS-P20R_ELC01A00 / Ely Creek & tributaries / Ely Creek and tributaries downstream to the confluence with Stone Creek in WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	3.28
VAS-P20R_LCK01A00 / Lick Branch / Headwaters downstream to Puckett Creek confluence, WQS, Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	0.74
VAS-P20R_PCK01A00 / Puckett Creek & tributaries / A Straight Creek tributary from headwaters to mouth at Maness, including tributaries, west of St. Charles in WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	5.37
VAS-P20R_SRA01A94 / Straight Creek / From headwaters on Little Black Mountain downstream to North Fork Powell confluence near Pockett in WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	6.81
VAS-P20R_STC02A00 / Stone Creek & tributaries / Headwaters and tributaries downstream to the Ely Creek confluence, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	7.21

Straight Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**28.10**

Sources:

- Acid Mine Drainage
- Coal Mining
- Impacts from Abandoned Mine Lands (Inactive)
- Sewage Discharges in Unsewered Areas
- Silviculture Activities

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20R-01-BAC** **North Fork Powell River**

Cause Location: This segment extends from the Straight Creek confluence, river mile 6.25, downstream to the Powell River confluence.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BPWL001.49 had a 27% exceedance of the E.coli water quality standard and station 6BPWLL004.10 had a 45% exceedance of the E.coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_PWL01A00 / North Fork Powell River / From Straight Creek confluence near Pocket, river mile 6.25, through Pennington Gap, downstream to Powell River confluence west of Woodway, WQS Section 1.	4A	Escherichia coli	2004	L	6.05

North Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.05**

Sources:

Septage Disposal

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20R-01-BEN** **North Fork Powell River**

Cause Location: This segment extends form the Straight Creek confluence at river mile 6.25, downstream to the Powell River confluence.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

Biological monitoring stations 6BPWL004.40 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_PWL01A00 / North Fork Powell River / From Straight Creek confluence near Pocket, river mile 6.25, through Pennington Gap, downstream to Powell River confluence west of Woodway, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1994	L	6.05

North Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.05**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_PWL01A00 / North Fork Powell River / From Straight Creek confluence near Pocket, river mile 6.25, through Pennington Gap, downstream to Powell River confluence west of Woodway, WQS Section 1.	4A	Sedimentation/Siltation	2012	L	6.05

North Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**6.05**

Sources:

Loss of Riparian Habitat	Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20R-01-TEMP** **North Fork Powell River**

Cause Location: This segment includes the mainstem from the Payne Branch confluence at Sigma downstream to the confluence with Straight Creek.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

Class V water quality standard for temperature was exceeded in 36% of the samples at the AWQM station located at 6BPWL006.59. Station 6BPWL010.36 had a 22% exceedance of the Class V water quality standard for temperature.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_PWL02A02 / North Fork Powell River / Mainstem from Payne Branch confluence at Sigma downstream to Wolf Harbor Branch confluence, WQS Section 1.	5A	Temperature, water	2016	M	7.67
VAS-P20R_PWL03B02 / North Fork Powell River / Mainstem from Wolf Harbour Branch confluence downstream to confluence of Straight Creek near Pocket, WQS Section 1.	5A	Temperature, water	2014	M	2.98

North Fork Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**10.65**

Sources:

Silviculture Activities Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20R-02-BAC** **Straight Creek and Tributaries**

Cause Location: This segment includes Stone Creek from the confluence of Ely Creek to the Straight Creek confluence at the Stone Creek community and also includes Straight Creek from the headwaters downstream to the North Fork Powell confluence.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BSR001.11 had a 30% exceedance of the E.coli water quality standard. At 6BSRA000.10 63% exceeded WQS. Station 6BSTC000.04 had a 67% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_SRA01A94 / Straight Creek / From headwaters on Little Black Mountain downstream to North Fork Powell confluence near Pockett in WQS Section 1.	4A	Escherichia coli	2002	L	6.81
VAS-P20R_STC01A96 / Stone Creek & tributaries / From the confluence of Ely Creek to the Straight Creek confluence at the Stone Creek community, parallels Rt. 421, WQS Section 1.	4A	Escherichia coli	2016	L	3.33

Straight Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.14**

Sources:

Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20R-03-BAC** **Reeds Creek**

Cause Location: This segment includes Reeds Creek from the Meadow Fork confluence downstream to the Jones Creek confluence parallel to Route 628.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BREE000.22 had a 27% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_REE01A12 / Reeds Creek / Lone Mountain drainage, from Meadow Fork confluence downstream to confluence with North Fork Powell River at Purcell.	4A	Escherichia coli	2012	M	1.35

Reeds Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.35**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P20R-04-BEN** **North Fork Powell River Tributaries**

Cause Location: These segments include the headwaters of Bundy Creek at Calvin; Cox Creek near Delvale; and Jones Creek from the headwaters at Trace Gap to the confluence with Reeds Creek, northeast of Purcell

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P20R_BUY01B14 / Bundy Creek / Headwaters, at Calvin, of a North Fork Powell River tributary, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.53
VAS-P20R_CXR01A14 / Cox Creek / Confluences with North Fork Powell River near Delvale, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.89
VAS-P20R_JON01A12 / Jones Creek / From Mud Creek confluence downstream to the confluence with Reeds Creek, Northeast of Purcell	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.93
VAS-P20R_JON01A14 / Jones Creek / Headwaters at Trace Gap down to the Mud Creek confluence, WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.88

North Fork Powell River Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.23**

Sources:

Silviculture Activities Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P21R-02-BAC** **Hardy Creek**

Cause Location: This segment includes the Hardy Creek mainstem and its tributaries.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6BHAR000.34 had a 27% exceedance and station 6BHAR002.41 has a 33% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P21R_HAR01A02 / Hardy Creek & tributaries / Hardy Creek & tributaries from headwaters near Hagan downstream to Powell River confluence near White Shoals, WQS Section 1, DGIF vi.	5A	Escherichia coli	2006	M	12.52

Hardy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.52**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P21R-03-BAC** **Powell River and Town Creek**

Cause Location: This segment includes the mainstem of Town Creek, just south of Jonesville to the confluence with Batie Creek. It also includes the Powell River from the confluence of Station Creek downstream to the confluence of Batie Creek, south of Jonesville.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Escherichia coli / 5A

The AWQM station located at 6BTOW001.32 had a 8% exceedance, station 6BTOW003.82 had a 63% exceedance and station 6BPOW138.91 had a 11% exceedance of the E.coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P21R_POW02A02 / Powell River / Powell River from the confluence of Station Creek downstream to the confluence of Batie Creek south of Jonesville, WQS Section 1.	4A	Escherichia coli	2006	L	12.74
VAS-P21R_TOW01A06 / Town Creek / A Batie Creek tributary south of Jonesville, WQS Section 1.	5A	Escherichia coli	2006	M	2.69
VAS-P21R_TOW01B12 / Town Creek / Originates on Chestnut Ridge, flows south, then west, draining the Town of Jonesville	5A	Escherichia coli	2012	M	3.73

Powell River and Town Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.16**

Sources:

Rural (Residential Areas)

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P21R-03-BEN** **Powell River**

Cause Location: This segment includes the mainstem of the Powell River from the confluence of North Fork Powell River downstream to the Town Creek confluence.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Probabilistic biological monitoring station 6BPOW156.57 was impaired based on VSCI scores of 50 and 57.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P21R_POW02A02 / Powell River / Powell River from the confluence of Station Creek downstream to the confluence of Batie Creek south of Jonesville, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2012	L	12.74
VAS-P21R_POW03A02 / Powell River / Mainstem Powell River from the confluence of North Fork Powell River west of Woodway downstream to Station Creek confluence near Poteet Ferry Bridge, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	6.46

Powell River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.20**

Sources:

Agriculture	Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P21R-04-BAC** **Dry Creek**

Cause Location: From the Trading Creek confluence, along Route 656, downstream to the confluence with Hardy Creek near Route 650.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6BDBR001.69 had a 18% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P21R_DBR01A02 / Dry Creek / North of The Cedars, Dry Creek is a tributary to Hardy Creek arising south of Cumberland Mountain in Poor Valley, WQS Section 1, DGIF vi.	5A	Escherichia coli	2012	M	8.87

Dry Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.87**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P21R-06-BAC** **Station Creek**

Cause Location: This segment is located north of Wallen Ridge, parallel to U.S. 58, to the confluence with the Powell River at the Poteet Ferry Bridge.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6BSTN000.14 has a 45% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P21R_STN01A12 / Station Creek / A Powell River tributary that confluences at Poteet Ferry Bridge, north of Wallen Ridge.	4A	Escherichia coli	2012	M	2.31

Station Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.31**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P22R-01-BAC** **Wallen Creek**

Cause Location: This segment includes from the headwaters on Powell Mountain downstream, parallel to Route 612, to the Route 70 crossing.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Station 6BWAL014.54 had a 27% exceedance of the E.coli water quality standard and station 6BWAL026.64 had a 36% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P22R_WAL02A02 / Wallen Creek, headwaters and tributaries / Upper Wallen Creek segment from headwaters on Powell Mountain downstream to Rasnic Hollow, WQS Section 1, DGIF vi., WQS Section 1, DGIF vi.	4A	Escherichia coli	2012	M	29.71
VAS-P22R_WAL02B02 / Wallen Creek / Middle Wallen Creek segment from Rasnic Hollow downstream to Route 70 crossing south of Wallen Ridge, WQS Section 1, DGIF vi.	4A	Escherichia coli	2012	M	13.19

Wallen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**42.90**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P22R-01-TEMP** **Wallen Creek**

Cause Location: North of Powell Mountain, from headwaters through Stickleyville, downstream to Rasnic Hollow.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

Class V water quality standard for temperature was exceeded in 18% of the samples at the AWQM stations located at 6BWAL026.64 and 6BWAL014.54.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P22R_WAL02A02 / Wallen Creek, headwaters and tributaries / Upper Wallen Creek segment from headwaters on Powell Mountain downstream to Rasnic Hollow, WQS Section 1, DGIF vi., WQS Section 1, DGIF vi.	5A	Temperature, water	2012	M	29.71
VAS-P22R_WAL02B02 / Wallen Creek / Middle Wallen Creek segment from Rasnic Hollow downstream to Route 70 crossing south of Wallen Ridge, WQS Section 1, DGIF vi.	5A	Temperature, water	2012	M	13.19

Wallen Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**42.90**

Sources:

Grazing in Riparian or Shoreline Zones

Loss of Riparian Habitat

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P23R-02-BAC** **Martin Creek**

Cause Location: This segment includes the headwaters and extends downstream to the Tennessee political boundary.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6BMTN003.56 had a 45% exceedance and station 6BMTN003.94 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P23R_MTN01A00 / Martin Creek / Mainstem; from headwaters near Rose Hill, downstream to Tennessee state line, WQS Section 1, DGIF vi.	5A	Escherichia coli	2008	M	9.66

Martin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.66**

Sources:

- Sewage Discharges in Unsewered Areas
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P23R-03-BAC** **Fourmile Creek**

Cause Location: This segment includes from the headwaters, south of Ingles Chapel, parallel to Route 744 and flows south into Tennessee.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6BFOU003.59 had a 50% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P23R_FOU01A14 / Fourmile Creek / South of Ewing, flows south into TN, WQS Section 1.	5A	Escherichia coli	2014	M	2.36

Fourmile Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.36**

Sources:

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P24R-01-BAC** **Indian Creek**

Cause Location: This segment includes the mainstem from the confluence of Machine Branch downstream to the Tennessee political boundary and the mainstem from Ketron Mill to just south of Elydale School

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6BIND009.12 had a 50% exceedance and station 6BIND010.25 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P24R_IND01A00 / Indian Creek / Mainstem from the confluence of Machine Branch downstream to the Tennessee state line, near Gibson Station, WQS Section 1.	5A	Escherichia coli	2008	M	8.18
VAS-P24R_IND02A14 / Indian Creek / Indian Creek mainstem from the Meek Branch confluence, near Caylor, downstream to the confluence of Machine Branch, near Elydale, WQS Section 1.	5A	Escherichia coli	2014	M	4.44

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.62**

Sources:

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* P24R-02-BAC** **Station Creek**

Cause Location: From Gibson Gap on Cumberland Mountain in Cumberland Gap National Park to the TN line.

City / County: Lee Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

33% of samples collected by the National Park Service exceeded the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-P24R_STT01A14 / Station Creek / From Gibson Gap on Cumberland Mountain, in Cumberland Gap National Park, to TN line, WQS Section 1.	5A	Escherichia coli	2018	L	3.11

Station Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.11**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q01R-01-BAC** **Dry Fork**

Cause Location: This segment includes from the headwaters in upper Baptist Valley to the West Virginia state line near SR 637.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6ADRK035.86 had a 45% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q01R_DRK01A98 / Dry Fork / Mainstem from headwaters in upper Baptist Valley to West Virginia state line near SR 637, WQS Section 2.	5A	Escherichia coli	2018	L	11.61

Dry Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.61**

Sources:

Source Unknown	Unspecified Domestic Waste

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q01R-02-BAC** **Jacobs Fork and Tributaries**

Cause Location: At the West Virginia state line; Jacobs Fork and Brewster Hollow, east and south of Bishop.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

AQWM station 6AJBF010.88 had a 91% exceedance of the E.coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q01R_JBF01A10 / Jacobs Fork & tributaries / At West Virginia state line; Jacobs Fork and Brewster Hollow East and South of Bishop, WQS Section 3.	5A	Escherichia coli	2010	M	2.34

Jacobs Fork and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.34**

Sources:

Rural (Residential Areas)	Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q03R-01-BEN** **Pawpaw Creek**

Cause Location: This segment includes the mainstem from the Kentucky state line downstream to the Knox Creek confluence, along State Route 643.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The biological station located at 6APPW000.50 was impaired based on VSCI scores of 50, 36 and 57 in 2005 and 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q03R_PPW01A94 / Pawpaw Creek / From Kentucky state line near Pawpaw downstream through Kelsa to Knox Creek confluence, along SR 643 in WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	1994	L	4.23

Pawpaw Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.23**

Sources:

Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Silviculture Activities

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q03R-02-BAC** **Knox Creek**

Cause Location: This segment includes the mainstem from the headwaters to the Kentucky political boundary.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6AKOX017.71 had a 33% exceedance of the E.coli water quality standard, 6AKOX014.17 had a 33% exceedance of the E.coli water quality standard and station 6AKOX006.52 had a 27% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q03R_GIE01A04 / Guess Fork / Knox Creek tributary from State Line Ridge, north of Hurley, found on Panther and Hurley quad sheets in WQS Section 3.	4A	Escherichia coli	2010	L	8.70
VAS-Q03R_KOX01A00 / Knox Creek / Mainstem from Straight Fork confluence at Blackey upstream to the headwaters near Paynesville, West Virginia, WQS Section 3.	4A	Escherichia coli	2006	L	7.75
VAS-Q03R_KOX02A98 / Knox Creek / Mainstem from Kentucky state line upstream through Hurley to the Straight Fork confluence at Blackey, WQS Section 3.	4A	Escherichia coli	2002	L	9.53

Knox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**25.98**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q03R_GIE01A04 / Guess Fork / Knox Creek tributary from State Line Ridge, north of Hurley, found on Panther and Hurley quad sheets in WQS Section 3.	4A	Fecal Coliform	2004	L	8.70
VAS-Q03R_KOX01A00 / Knox Creek / Mainstem from Straight Fork confluence at Blackey upstream to the headwaters near Paynesville, West Virginia, WQS Section 3.	4A	Fecal Coliform	2002	L	7.75

Knox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**16.45**

Sources:

Rural (Residential Areas)	Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q03R-02-BEN** **Knox Creek**

Cause Location: This segment includes the mainstem from the headwaters to the Kentucky political boundary.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The biological station located at 6AKOX011.67 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q03R_KOX01A00 / Knox Creek / Mainstem from Straight Fork confluence at Blackey upstream to the headwaters near Paynesville, West Virginia, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	7.75
VAS-Q03R_KOX02A98 / Knox Creek / Mainstem from Kentucky state line upstream through Hurley to the Straight Fork confluence at Blackey, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	9.53

Knox Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**17.28**

Sources:

- Coal Mining
- Impacts from Abandoned Mine Lands (Inactive)
- Mountaintop Mining
- Silviculture Activities
- Surface Mining

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***Cause Group Code:* Q03R-02-PCB** **Knox Creek and Tributaries**

Cause Location: This segment includes the mainstem from the headwaters to the Kentucky political boundary. It also includes all tributaries to Knox Creek that were included in the December 2005 Virginia Department of Health (VDH) Fish Consumption Ban update including Guess Fork, Big Butt Branch and tributaries, Long Bottom Branch and Pawpaw Creek.

City / County: Buchanan Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

Fish Tissue stations located at 6AKOX023.25, 6AKOX020.36, 6AKOX019.30, 6AKOX017.97, 6AKOX014.37, 6AKOX012.06, 6AKOX010.98, 6AKOX008.14 indicated an exceedance of the DEQ screening value for polychlorinated biphenyls (PCBs) and the VDH human health criteria for PCBs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q03R_BBB01A10 / Big Butt Branch & tributaries / A tributary to Knox Creek west of State Line Ridge, WQS Section 3.	5A	PCB in Fish Tissue	2006	L	6.00
VAS-Q03R_CED01A16 / Cedar Branch / Knox Creek tributary NE of Kelsa, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	2.80
VAS-Q03R_GIE01A04 / Guess Fork / Knox Creek tributary from State Line Ridge, north of Hurley, found on Panther and Hurley quad sheets in WQS Section 3.	5A	PCB in Fish Tissue	2006	L	8.70
VAS-Q03R_KOX01A00 / Knox Creek / Mainstem from Straight Fork confluence at Blackey upstream to the headwaters near Paynesville, West Virginia, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	7.75
VAS-Q03R_KOX02A98 / Knox Creek / Mainstem from Kentucky state line upstream through Hurley to the Straight Fork confluence at Blackey, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	9.53
VAS-Q03R_LBT01A10 / Long Bottom Branch / Knox Creek tributary east of Blackey in WQS Section 3.	5A	PCB in Fish Tissue	2004	L	1.41
VAS-Q03R_PPW01A94 / Pawpaw Creek / From Kentucky state line near Pawpaw downstream through Kelsa to Knox Creek confluence, along SR 643 in WQS Section 3.	5A	PCB in Fish Tissue	2004	L	4.23
VAS-Q03R_PUM01A16 / Pumpkin Branch / Guess Fork tributary, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	1.64
VAS-Q03R_RAC02A16 / Race Fork / Knox Creek tributary, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	7.04
VAS-Q03R_VDH01A05 / Unsegmented rivers in BS04 / All tributaries to Knox Creek upstream of Blackey that were included in the December 2005 Virginia Department of Health Fish Consumption ban update, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	49.72
VAS-Q03R_VDH02A05 / Unsegmented rivers in BS05 / All tributaries to Knox Creek between Blackey and Bee Branch that were included in the December 2005 Virginia Department of Health Fish Consumption ban update, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	71.55
VAS-Q03R_VDH03A05 / Unsegmented rivers in BS06 / All tributaries to Pawpaw Creek that were included in the December 2005 Virginia Department of Health Fish Consumption ban update, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	25.24

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VAS-Q03R_VDH04A05 / Unsegmented rivers in BS07 / All tributaries to Knox Creek downstream of Pawpaw Creek that were included in the December 2005 Virginia Department of Health Fish Consumption ban update, WQS Section 3.	5A	PCB in Fish Tissue	2004	L	5.14

Knox Creek and Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**200.75**

Sources:

Source Unknown

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***Cause Group Code:* Q03R-03-BAC** **Pawpaw Creek and Jacobs Fork**

Cause Location: This segment includes the Pawpaw Creek mainstem from the Kentucky political boundary to the confluence with Knox Creek and Jacobs Fork near the West Virginia line.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station 6AJBF010.88 had a 91% exceedance of the E.coli water quality standard. 6APPW000.03 had a 41% exceedance and 6APPW000.49 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q03R_PPW01A94 / Pawpaw Creek / From Kentucky state line near Pawpaw downstream through Kelsa to Knox Creek confluence, along SR 643 in WQS Section 3.	5A	Escherichia coli	2010	M	4.23

Pawpaw Creek and Jacobs Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.23**

Sources:

Rural (Residential Areas)	Sewage Discharges in Unsewered Areas

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***Cause Group Code:* Q04R-01-BAC** **Levisa Fork and Tributaries**

Cause Location: This segment includes the Levisa Fork mainstem from the headwaters downstream to the Slate Creek confluence, from the Bull Creek confluence downstream to the Kentucky state line, Slate Creek from the Upper Rockhouse Branch confluence downstream to the confluence with the Levisa Fork, the mainstem of Dismal Creek from the confluence of Hurricane Branch to the confluence with Levisa Fork and Little Prater Creek, a Levisa Fork tributary west of Tookland.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6ALEV156.82 had a 60% exceedance of the E.coli water quality standard, station 6ALEV143.80 had a 40% exceedance of the E. coli water quality standard, station 6ASAT000.26 had a 16% exceedance, station 6ALRA000.10 had a 25% exceedance and station 6ALEV131.52 had a 16% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_LEV01A94 / Levisa Fork / Mainstem from the confluence of Garden Creek, river mile 155.94 at Oakwood, to the confluence of Dismal Creek at Route 460 crossing, river mile 151.84, WQS Section 3.	4A	Escherichia coli	2010	L	3.95
VAS-Q04R_LEV01B02 / Levisa Fork / Levisa Fork downstream of Contrary Creek confluence through Keen Mountain to Garden Creek confluence, WQS Section 3.	4A	Escherichia coli	2010	L	3.94
VAS-Q06R_LEV01A98 / Levisa Fork / Mainstem from Dismal Creek confluence, river mile 151.84, downstream to Slate Creek confluence in Grundy, river mile 143.71 in WQS Section 3.	4A	Escherichia coli	2010	L	8.26
VAS-Q06R_LRA01A12 / Little Prater Creek / Levisa Fork tributary west of Tookland, Section 3.	4A	Escherichia coli	2018	L	3.23
VAS-Q07R_SAT01A00 / Slate Creek / Mainstem from the Upper Rockhouse Branch confluence near Matney downstream to the confluence with Levisa Fork in Grundy, WQS Section 3.	4A	Escherichia coli	2008	L	9.36
VAS-Q08R_LEV01A00 / Levisa Fork / From Rocklick Branch at Big Rock downstream to the Kentucky state line. VPDES permit for Buchanan County PSA/Conaway WWTP is in this segment, WQS Section 3.	4A	Escherichia coli	2006	L	2.68
VAS-Q08R_LEV02A00 / Levisa Fork / From Rocklick Branch at Big Rock upstream parallel Route 460 to Bull Creek confluence near Harman Junction, WQS Section 3.	4A	Escherichia coli	2008	L	4.72

Levisa Fork and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**36.14**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_LEV01A94 / Levisa Fork / Mainstem from the confluence of Garden Creek, river mile 155.94 at Oakwood, to the confluence of Dismal Creek at Route 460 crossing, river mile 151.84, WQS Section 3.	4A	Fecal Coliform	2004	L	3.95

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VAS-Q04R_LEV01B02 / Levisa Fork / Levisa Fork downstream of Contrary Creek confluence through Keen Mountain to Garden Creek confluence, WQS Section 3.	4A	Fecal Coliform	2004	L	3.94
VAS-Q06R_LEV01A98 / Levisa Fork / Mainstem from Dismal Creek confluence, river mile 151.84, downstream to Slate Creek confluence in Grundy, river mile 143.71 in WQS Section 3.	4A	Fecal Coliform	2004	L	8.26
VAS-Q07R_SAT01A00 / Slate Creek / Mainstem from the Upper Rockhouse Branch confluence near Matney downstream to the confluence with Levisa Fork in Grundy, WQS Section 3.	4A	Fecal Coliform	2002	L	9.36

Levisa Fork and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**25.51**

Sources:

Sewage Discharges in Unsewered Areas

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***Cause Group Code:* Q04R-01-BEN** **Levisa Fork and Slate Creek**

Cause Location: This segment includes the Levisa Fork mainstem from the confluence of Garden Creek, river mile 155.94, downstream to the confluence of Bull Creek and from the Rocklick Branch confluence downstream to the Kentucky state line. It also includes the Slate Creek mainstem from the Upper Rockhouse Branch confluence downstream to the confluence with the Levisa Fork and Home Creek from the confluence with the Levisa Fork upstream to the Spencer Fork confluence.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The AWQM station located at 6ASAT000.05, 6ASAT004.52, 6ASAT007.71 and 6AHME002.16 were impaired based on VSCI scores. Station 6ALEV152.46 was impaired based on VSCI scores of 41 and 57 in 2007 and station 6ALEV130.29 was impaired based on VSCI scored of 38 and 54 in 2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_LEV01A94 / Levisa Fork / Mainstem from the confluence of Garden Creek, river mile 155.94 at Oakwood, to the confluence of Dismal Creek at Route 460 crossing, river mile 151.84, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	3.95
VAS-Q06R_LEV01A98 / Levisa Fork / Mainstem from Dismal Creek confluence, river mile 151.84, downstream to Slate Creek confluence in Grundy, river mile 143.71 in WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	8.26
VAS-Q07R_SAT01A00 / Slate Creek / Mainstem from the Upper Rockhouse Branch confluence near Matney downstream to the confluence with Levisa Fork in Grundy, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	9.36
VAS-Q08R_LEV01A00 / Levisa Fork / From Rocklick Branch at Big Rock downstream to the Kentucky state line. VPDES permit for Buchanan County PSA/Conaway WWTP is in this segment, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	2.68
VAS-Q08R_LEV03A02 / Levisa Fork / From Slate Creek confluence in Grundy downstream parallel Route 460 to Bull Creek confluence, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2006	L	6.31

Levisa Fork and Slate Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**30.56**

Sources:

Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q04R-01-PCB** **Levisa Fork and Garden Creek**

Cause Location: This segment begins at the Levisa Fork headwaters and continues downstream to the Kentucky state line and Garden Creek from the confluence of Right Fork Garden Creek downstream to the confluence with Levisa Fork.

City / County: Buchanan Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 4A

The Fish Tissue station locate at 6AGAR000.16 found polychlorinated biphenyls (PCBs) in the sediment and station 6AGAR001.78 exceeded DEQ's screening value for PCBs. Station 6ALEV130.00 exceeded the Virginia Department of Health's (VDH) human health criteria for PCBs. PCBs were also detected a Fish Tissue station 6ALEV151.26, 6ALEV145.86, 6ALEV134.82, and 6ALEV130.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_GAR01A98 / Garden Creek / Garden Creek from confluence with Levisa Fork, upstream through Mavisdale to confluence of Right Fork Garden Creek near Mount Heron, WQS Section 3.	4A	PCB in Fish Tissue	2004	L	1.84
VAS-Q04R_LEV01A94 / Levisa Fork / Mainstem from the confluence of Garden Creek, river mile 155.94 at Oakwood, to the confluence of Dismal Creek at Route 460 crossing, river mile 151.84, WQS Section 3.	4A	PCB in Fish Tissue	2006	L	3.95
VAS-Q04R_LEV01B02 / Levisa Fork / Levisa Fork downstream of Contrary Creek confluence through Keen Mountain to Garden Creek confluence, WQS Section 3.	4A	PCB in Fish Tissue	2006	L	3.94
VAS-Q06R_LEV01A98 / Levisa Fork / Mainstem from Dismal Creek confluence, river mile 151.84, downstream to Slate Creek confluence in Grundy, river mile 143.71 in WQS Section 3.	4A	PCB in Fish Tissue	2006	L	8.26
VAS-Q08R_LEV01A00 / Levisa Fork / From Rocklick Branch at Big Rock downstream to the Kentucky state line. VPDES permit for Buchanan County PSA/Conaway WWTP is in this segment, WQS Section 3.	4A	PCB in Fish Tissue	2006	L	2.68
VAS-Q08R_LEV02A00 / Levisa Fork / From Rocklick Branch at Big Rock upstream parallel Route 460 to Bull Creek confluence near Harman Junction, WQS Section 3.	4A	PCB in Fish Tissue	2006	L	4.72
VAS-Q08R_LEV03A02 / Levisa Fork / From Slate Creek confluence in Grundy downstream parallel Route 460 to Bull Creek confluence, WQS Section 3.	4A	PCB in Fish Tissue	2006	L	6.31

Levisa Fork and Garden Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			**31.70**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q04R-02-BAC** **Garden Creek**

Cause Location: This segment includes the headwaters of Garden Creek downstream to the confluence with Levisa Fork and Right Fork Garden Creek from the headwaters downstream to the confluence with Garden Creek.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 6AGAR000.16 had a 18% exceedance of the E.coli water quality standard, station 6AGRF002.36 had a 46% exceedance, station 6AGAR005.25 had a 25% exceedance of the E.coli standard, station 6AGRF004.97 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_GAR01A98 / Garden Creek / Garden Creek from confluence with Levisa Fork, upstream through Mavisdale to confluence of Right Fork Garden Creek near Mount Heron, WQS Section 3.	4A	Escherichia coli	2008	L	1.84
VAS-Q04R_GAR01B02 / Garden Creek / From headwaters of Garden Creek near Lynn Spring Gap downstream to Right Fork confluence near Mount Heron, WQS Section 3.	4A	Escherichia coli	2008	L	6.01
VAS-Q04R_GRF01A02 / Right Fork Garden Creek / Headwaters of Right Fork Garden Creek downstream to Garden Creek confluence at Mount Heron, WQS Section 3.	4A	Escherichia coli	2008	L	10.39

Garden Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.24**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_GAR01A98 / Garden Creek / Garden Creek from confluence with Levisa Fork, upstream through Mavisdale to confluence of Right Fork Garden Creek near Mount Heron, WQS Section 3.	4A	Fecal Coliform	2002	L	1.84

Garden Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.84**

Sources:

Rural (Residential Areas)

Sanitary Sewer Overflows (Collection System Failures)

Sewage Discharges in Unsewered Areas

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***Cause Group Code:* Q04R-02-BEN** **Garden Creek**

Cause Location: This segment includes the headwaters of Garden Creek downstream to the confluence with Levisa Fork and Right Fork Garden Creek from the headwaters downstream to the confluence with Garden Creek.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Total Dissolved Solids / 4A

The biological stations located at 6AGAR000.16, 6AGAR002.00, 6AGAR005.25, 6AGRF000.56 and 6AGRF004.97 were impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_GAR01A98 / Garden Creek / Garden Creek from confluence with Levisa Fork, upstream through Mavisdale to confluence of Right Fork Garden Creek near Mount Heron, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	1.84
VAS-Q04R_GAR01B02 / Garden Creek / From headwaters of Garden Creek near Lynn Spring Gap downstream to Right Fork confluence near Mount Heron, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	6.01
VAS-Q04R_GRF01A02 / Right Fork Garden Creek / Headwaters of Right Fork Garden Creek downstream to Garden Creek confluence at Mount Heron, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	10.39

Garden Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**18.24**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q04R_GAR01B02 / Garden Creek / From headwaters of Garden Creek near Lynn Spring Gap downstream to Right Fork confluence near Mount Heron, WQS Section 3.	4A	Total Dissolved Solids	2010	L	6.01

Garden Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Total Dissolved Solids - Total Impaired Size by Water Type:			**6.01**

Sources:

Coal Mining	Impacts from Abandoned Mine Lands (Inactive)	Rural (Residential Areas)	Sewage Discharges in Unsewered Areas
Source Unknown			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* Q05R-00-BEN** **Dismal Creek**

Cause Location: This segment includes the headwaters of Dismal Creek near Redoak Ridge downstream through Jewell Valley and Whitewood to the Laurel Fork confluence.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The biological monitoring station located at 6ADIS022.34 was impaired based on VSCI scores of 48.84 and 52.93 in 2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q05R_DIS02A00 / Dismal Creek / Headwaters of Dismal Creek near Redoak Ridge downstream through Jewell Valley and Whitewood to Laurel Fork confluence, WQS Section 3, DGIF vi.	4A	Benthic-Macroinvertebrate Bioassessments	2016	L	9.14

Dismal Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.14**

Sources:

Unspecified Land Disturbance

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* Q05R-00-TEMP** **Dismal Creek**

Cause Location: This segment includes Dismal Creek from the confluence of Long Branch to the confluence with Levisa Fork.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

The AWQM station located at 6ADIS001.24 had a 16% exceedance of the temperature water quality standard for WQS Class V waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q05R_DIS01A00 / Dismal Creek / Dismal River from confluence of Long Branch downstream parallel SR 638 to confluence with Levisa Fork in WQS Section 3, DGIF vi.	5A	Temperature, water	2008	M	5.38

Dismal Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**5.38**

Sources:

- Loss of Riparian Habitat
- Silviculture Activities
- Unspecified Land Disturbance

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* Q05R-01-BAC** **Dismal Creek**

Cause Location: This segment includes the mainstem of Dismal Creek from the Laurel Fork confluence downstream to the Long Branch confluence.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

AWQM station 6ADIS014.33 had an 18% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q05R_DIS01B02 / Dismal Creek / Mainstem parallel to SR 638 from Laurel Fork confluence near Whitewood downstream through Pilgrims Knob to the Long Branch confluence in WQS Section 3, DGIF vi.	4A	Escherichia coli	2010	M	12.44

Dismal Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**12.44**

Sources:

Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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***Cause Group Code:* Q08R-01-BAC** **Bull Creek, Poplar Creek, and Home Creek**

Cause Location: This segment includes the Bull Creek mainstem and tributaries, including Convict Hollow, Belcher Branch, Deel Fork, Cove Hollow. This segment also includes Poplar Creek at the confluence with Knotty Poplar Fork and continues downstream to the confluence with Levisa Fork. This segment also includes Home Creek, a tributary to the Levisa Fork.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 6ABLC000.85 had a 25% exceedance of the E.coli water quality standard and station 6ABLC002.30 had an 84% exceedance of the E.coli water quality standard. Station 6APLR000.06 had a 25% exceedance of the E.coli standard. Station 6AHME000.42 has a 16% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_BLC01A98 / Bull Creek & tributaries / Bull Creek mainstem and tributaries, including Convict Hollow, Belcher Branch, Deel Fork, Cove Hollow in WQS Section 3.	4A	Escherichia coli	2008	M	28.45
VAS-Q08R_HME01A04 / Home Creek / Levisa Fork tributary south of Big Rock upstream to Spencer Fork confluence, WQS Section 3.	4A	Escherichia coli	2014	M	4.79
VAS-Q08R_PLR01A08 / Poplar Creek / Mainstem from Poplar Fork confluence downstream to 0.19 river mile above confluence with Levisa Fork near Harman Junction, Section 3	4A	Escherichia coli	2008	M	3.03
VAS-Q08R_PLR01A14 / Poplar Creek / Mainstem from Levisa Fork near Harman Junction upstream to first tributary at river mile 0.19.	4A	Escherichia coli	2008	M	0.19

Bull Creek, Poplar Creek, and Home Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**36.46**

Sources:

Inappropriate Waste Disposal	Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-01-BEN** **Bull Creek and Tributaries**

Cause Location: This segment includes the Bull Creek mainstem and tributaries, including Convict Hollow, Belcher Branch, Deel Fork and Cove Hollow.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The biological station located at 6ABLC002.30 was impaired based on the VSCI scores. Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_BLC01A98 / Bull Creek & tributaries / Bull Creek mainstem and tributaries, including Convict Hollow, Belcher Branch, Deel Fork, Cove Hollow in WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	1998	L	28.45

Bull Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**28.45**

Sources:

Coal Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-02-BEN** **Home Creek**

Cause Location: This segment is a Levisa Fork tributary south of Big Rock, upstream to the Spencer Fork confluence, parallel to Route 650.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Biological monitoring station at 6AHME002.16 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_HME01A04 / Home Creek / Levisa Fork tributary south of Big Rock upstream to Spencer Fork confluence, WQS Section 3.	4A	Benthic-Macroinvertebrate Bioassessments	2010	M	4.79

Home Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.79**

Sources:

Coal Mining
Rural (Residential Areas)
Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-05-BAC** **Conaway Creek**

Cause Location: This segment is a Levisa Fork tributary at Conaway near Kentucky state line upstream to Caney Fork confluence.

City / County: Buchanan Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

AWQM station 6ACNW000.07 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_CNW01A08 / Conaway Creek / Levisa Fork tributary at Conaway near Kentucky state line upstream to Caney Fork confluence.	4A	Escherichia coli	2016	L	2.62

Conaway Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.62**

Sources:

- Inappropriate Waste Disposal
- Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-05-BEN** **Conaway Creek**

Cause Location: Levisa Fork Tributary at Conaway near the Kentucky state line upstream to the Caney Fork confluence.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Biological monitoring station at 6ACNW000.07 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_CNW01A08 / Conaway Creek / Levisa Fork tributary at Conaway near Kentucky state line upstream to Caney Fork confluence.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	2.62

Conaway Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.62**

Sources:

Coal Mining Mountaintop Mining Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-06-BEN** **State Line Branch**

Cause Location: A tributary to Levisa Fork in KY north of Conaway.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_SLB01A14 / State Line Branch / Tributary to Levisa Fork in KY north of Conaway, Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	1.35

State Line Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.35**

Sources:

Coal Mining Mountaintop Mining Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-07-BEN** **Home Creek Headwaters**

Cause Location: This segment includes the headwaters of Home Creek.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_HME01B14 / Home Creek / Headwaters of Home Creek, Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	0.80

Home Creek Headwaters	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.80**

Sources:

Coal Mining Rural (Residential Areas) Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-08-BEN** **Conaway Creek and Tributaries**

Cause Location: Headwaters of Conaway Creek.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_CNW02A14 / Conaway Creek and tributaries / Headwaters of Conaway Creek, Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	6.99

Conaway Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.99**

Sources:

Coal Mining Mountaintop Mining Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q08R-09-BEN** **Poplar Creek**

Cause Location: This segment includes the mainstem of Poplar Creek from the Poplar Fork confluence downstream to rivermile 0.19, above the confluence with the Levisa Fork near Harman Junction.

City / County: Buchanan Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q08R_PLR01A08 / Poplar Creek / Mainstem from Poplar Fork confluence downstream to 0.19 river mile above confluence with Levisa Fork near Harman Junction, Section 3	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.03

Poplar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.03**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q09R-01-BAC** **Russell Fork**

Cause Location: This segment includes the unassessed stream segments in the headwaters of Russell Fork downstream to the confluence of the Pound River near Bartlick and from the Kentucky state line upstream 2.2 miles. Hurricane Creek from the confluence of Carver Branch downstream to the confluence with Russell Fork. It also includes Little Pawpaw Creek, a Russell Fork tributary north of Cannady and Sullivan Branch, an Indian Creek tributary from the headwaters on Long Ridge north of Duty.

City / County: Buchanan Co. Dickenson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6ARSS047.10 had a 16% exceedance of the E.coli water quality standard, station 6ARSS041.08 had a 50% exceedance, station 6ARSS024.30 had a 13% exceedance, station 6ARSS014.15 had a 14% exceedance and Level III citizen monitoring station 6ARSS-RT722-MRRP had a 66% exceedance. Station 6AHRC000.05 had a 72% exceedance and station 6ALPP01A18 had a 15% exceedance and station 6ASLV000.05 had a 54% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q09R_HUR01A02 / Hurricane Creek / Mainstem from confluence of Carver Branch downstream to the confluence with Russell Fork at Davenport, WQS Section 4.	5A	Escherichia coli	2010	H, 2yr	0.85
VAS-Q09R_RSS01A00 / Russell Fork / Russell Fork mainstem form Hollow Poplar Creek downstream following Buchanan/ Dickenson County line to confluence of Pawpaw Creek near Cannady in WQS Section 4.	5A	Escherichia coli	2010	H, 2yr	7.46
VAS-Q09R_RSS02A00 / Russell Fork headwaters / Headwaters of Russell Fork on Big A Mountain downstream through Davenport to the confluence of Hollow Poplar Branch, WQS Section 4.	5A	Escherichia coli	2004	H, 2yr	8.87
VAS-Q09R_SLV01A08 / Sullivan Branch / Indian Creek tributary from headwaters on Long Ridge north of Duty.	5A	Escherichia coli	2018	H, 2yr	1.62
VAS-Q10R_LPP01A18 / Little Pawpaw Creek / Russell Fork tributary, north of Cannady	5A	Escherichia coli	2018	H, 2yr	2.93
VAS-Q10R_RSS01A00 / Russell Fork / Upper mainstem from confluence of Pawpaw Creek at the county line, downstream to Fryingpan Creek confluence in WQS Section 4.	5A	Escherichia coli	2010	H, 2yr	4.34
VAS-Q12R_RSS02A04 / Russell Fork / From Kentucky state line upstream 2.2 miles to protect Elkhorn City, Kentucky, raw water intake, WQS Section 4e.	5A	Escherichia coli	2006	H, 2yr	2.25
VAS-Q12R_RSS03A02 / Russell Fork / Mainstem from the Pound River confluence near Bartlick, upstream through Splashdam to the McClure River confluence in Haysi, WQS Section 4.	5A	Escherichia coli	2012	H, 2yr	3.90

Russell Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**32.22**

Sources:

Rural (Residential Areas) Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q09R-01-BEN** **Indian Creek**

Cause Location: A Russell Fork tributary from the Cane Creek confluence at Duty, parallel to Route 602, downstream to the Russell Fork confluence at the Buchanan/Dickenson County line.

City / County: Buchanan Co. Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The probabilistic monitoring station located at 6AIND000.52 was impaired based on VSCI scores of 48.32 and 51.50.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q09R_IND01A10 / Indian Creek / Russell Fork tributary from Cane Creek confluence at Duty downstream to the Russell Fork confluence on Buchanan/Dickenson County line between Indian Ridge and Long Ridge, WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2012	M	2.69

Indian Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.69**

Sources:

Coal Mining | Mountaintop Mining | Rural (Residential Areas) | Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q10R-01-BEN** **Fryingpan Creek**

Cause Location: From headwaters on Sandy Ridge near Carrie downstream to the Priest Fork confluence.

City / County: Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The probabilistic monitoring station 6AFRY006.70 indicates impairment based on VSCI scores of 42.64 and 36.89 in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q10R_FRY02A04 / Fryingpan Creek / From headwaters on Sandy Ridge near Carrie downstream to the Priest Fork confluence, west of Sportsman Lake in WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	9.45

Fryingpan Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.45**

Sources:

- Coal Mining
- Unspecified Land Disturbance

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q11R-02-BAC** **McClure River and Tributaries**

Cause Location: This segment begins at the Buffalo Creek confluence and continues downstream to the Road Branch confluence and Buffalo Creek from the headwaters downstream to the confluence with McClure River and includes Roaring Fork

City / County: Dickenson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The station identified as BC on Buffalo Creek had a 50% exceedance of the E.coli water quality standard and station 6AMCR007.46 had a 16% exceedance and station 6AMCR014.69 had a 58% exceedance and station 6AROR-RF-MRRP had a 12% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q11R_BFF01A08 / Buffalo Creek / A McClure River tributary north of Nora, confluence is at Buffalo Tunnel, Section 4	5A	Escherichia coli	2008	L	3.25
VAS-Q11R_BSB01A10 / Big Spraddle Branch / A McClure River tributary, west of Stratton, WQS Section 4.	5A	Escherichia coli	2012	L	2.31
VAS-Q11R_MCR02A00 / McClure River / West of Reedy Ridge, from Caney Creek confluence north of McClure, downstream to Road Branch confluence near Steinman, WQS Section 4	5A	Escherichia coli	2006	L	9.68
VAS-Q11R_MCR03A06 / McClure River / Upstream of Caney Creek confluence at McClure through Stratton to the Buffalo Creek confluence near Buffalo Tunnel, includes the communities of McClure and Stratton, WQS Section 4.	5A	Escherichia coli	2006	L	3.38
VAS-Q11R_MCR04A06 / McClure River / From Buffalo Creek confluence north of Nora upstream to headwaters, parallels Sandy Ridge to the west, WQS Section 4.	5A	Escherichia coli	2012	L	8.70
VAS-Q11R_ROR01A14 / Roaring Fork / Tributary to McClure Creek upstream of Nora to Dark Hollow, Section 4.	5A	Escherichia coli	2014	L	1.08

McClure River and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**28.40**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q11R-02-BEN** **Wakenva Branch**

Cause Location: A Honey Branch tributary, west of Trammel.

City / County: Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q11R_WAK01A14 / Wakenva Branch / Honey Branch tributary, Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	1.80

Wakenva Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.80**

Sources:

Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q11R-04-BEN** **Cowan Rose Branch**

Cause Location: This segment includes Cowan Rose Branch, a tributary to Open Fork west of Carrico Ridge.

City / County: Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q11R_CRC01A14 / Cowan Rose Branch / Spring Fork tributary west of Carico Ridge	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	3.30

Cowan Rose Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.30**

Sources:

Coal Mining	Unspecified Land Disturbance

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q11R-05-BEN** **Dismal Fork**

Cause Location: This segment includes Dismal Fork, a Neece Creek tributary between Brushy Ridge and Dismal Ridge.

City / County: Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological monitoring data indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q11R_DIL01A14 / Dismal Fork / Neece Creek tributaries from Dismal Ridge, Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	4.51

Dismal Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.51**

Sources:

Coal Mining (Subsurface) Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q12R-01-BAC** **Russell Prater Creek**

Cause Location: This segment extends from the headwaters at Poplar Gap downstream to the confluence with Russell Fork.

City / County: Buchanan Co. Dickenson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6ARPC000.40 had a 58% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q12R_RPC01A96 / Russell Prater Creek / Flows west from the headwaters at Poplar Gap downstream to Russell Fork confluence in Haysi, WQS Section 4.	5A	Escherichia coli	2008	L	11.72

Russell Prater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.72**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q12R-01-BEN** **Russell Prater Creek**

Cause Location: This segment extends from the headwaters of Russell Prater Creek downstream to the confluence with Russell Fork.

City / County: Buchanan Co. Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A
Total Dissolved Solids / 4A

The biological station located at 6ARPC000.52 was impaired based on VSCI scores of 54.85 and 44.47 in 2010. 6ARPC002.45 was impaired based on VSCI scores of 33 and 46 in 2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q12R_RPC01A96 / Russell Prater Creek / Flows west from the headwaters at Poplar Gap downstream to Russell Fork confluence in Haysi, WQS Section 4.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	11.72

Russell Prater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.72**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q12R_RPC01A96 / Russell Prater Creek / Flows west from the headwaters at Poplar Gap downstream to Russell Fork confluence in Haysi, WQS Section 4.	4A	Sedimentation/Siltation	2010	L	11.72

Russell Prater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sedimentation/Siltation - Total Impaired Size by Water Type:			**11.72**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q12R_RPC01A96 / Russell Prater Creek / Flows west from the headwaters at Poplar Gap downstream to Russell Fork confluence in Haysi, WQS Section 4.	4A	Total Dissolved Solids	2010	L	11.72

Russell Prater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Total Dissolved Solids - Total Impaired Size by Water Type:			**11.72**

Sources:

Coal Mining	Impacts from Abandoned Mine Lands (Inactive)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q12R-05-BEN** **Middle Fork (Hunts Creek)**

Cause Location: This segment is located parallel to Route 631 near Breaks.

City / County: Buchanan Co. Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q12R_XGN01A12 / Middle Fork (Hunts Creek) / A Hunts Creek tributary north of Breaks in WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2014	M	2.93

Middle Fork (Hunts Creek)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.93**

Sources:

Loss of Riparian Habitat Silviculture Activities Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13L-01-HG** **John Flannagan Reservoir**

Cause Location: This reservoir is located Northeast of Clintwood near the Kentucky state line.

City / County: Dickenson Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Fish tissue sampling done in 2008 found one largemouth bass that exceeded the Virginia Department of Health's level of concern and one exceeded the DEQ screening value for Mercury.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13L_PNR01A02 / John Flannagan Reservoir / This reservoir was built by USACOE to provide flood control, pollution abatement, fish and wildlife habitat, and recreational opportunities.NE of Clintwood near Kentucky state line, WQS Section 4a.	5A	Mercury in Fish Tissue	2010	L	######

John Flannagan Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,177.21**	

Sources:

Atmospheric Deposition - Toxics

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-01-BEN** **South Fork Pound River and Tributaries**

Cause Location: This segment includes the South Fork of the Pound River at the headwaters and continues downstream to the confluence with the North Fork Pound River including Phillips Creek, Hays Branch, and Glady Fork.

City / County: Dickenson Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Biological stations located at 6APNS008.73, 6APNS004.98 and 6APNS000.40 were impaired based on VSCI scores. Non agency biological monitoring data provided by Appalachian Technical Services indicated impairment based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_GLD01A14 / Glady Fork / Tributaries to South Fork Pound River near Glady Fork School, Section 4.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.91
VAS-Q13R_HAY01A14 / Hays Branch / Tributary to South Fork Pound River south of Pound, Section 4.	4A	Benthic-Macroinvertebrate Bioassessments	2014	L	0.86
VAS-Q13R_PNS01A02 / South Fork Pound River / From unnamed tributary parallel to SR 620 immediately upstream of Rat Creek at Dewey, downstream to the Glady Fork confluence, WQS Section 4.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	3.44
VAS-Q13R_PNS01A94 / South Fork Pound River / Mainstem from Glady Fork confluence downstream to confluence with Pound River west of Town of Pound, WQS Section 4.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	3.59
VAS-Q13R_PNS02A02 / Phillips Creek (no longer exists) / Strip Mine at 37 03 25/-82 42 20	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	1.70
VAS-Q13R_PNS02B04 / South Fork Pound River / Mainstem only from Donald Branch downstream to unnamed tributary just upstream of Rat Creek, in Wise County, WQS Section 4.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	2.21

South Fork Pound River and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.71**

Sources:

Mountaintop Mining Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-02-BEN** **North Fork Pound River**

Cause Location: This segment includes the mainstem from the headwaters downstream to the North Fork Pound Reservoir intake and from the backwaters of the North Fork Pound Lake downstream to the confluence with the Pound River.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The biological station located at 6APNK000.08 was impaired based on 2006 VSCI scores of 53 and 58; most recent was 79.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNK01A96 / North Fork Pound River / Mainstem south of Horse Gap from the dam of North Fork Pound Lake, river mile 1.08, downstream to the confluence with Pound River, WQS Section 4, DGIF vi.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	1.29

North Fork Pound River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.29**

Sources:

Dam or Impoundment Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-02-TEMP** **North Fork Pound River**

Cause Location: This segment extends from the PWS segment at the intake in the North Fork Pound Reservoir, upstream five miles on all tributaries.

City / County: Dickenson Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

Station 6APNK000.08 had a 33% exceedance of the water quality standard for temperature.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNK01A00 / North Fork Pound River tributaries / PWS segment from raw water intake in North Fork Pound Reservoir, upstream five miles on all tributaries, WQS Section 4b.	5C	Temperature, water	2012	H	10.25

North Fork Pound River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**10.25**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-03-BAC** **Pound River**

Cause Location: This segment includes from the Georges Fork confluence upstream to the confluence with the North and South Fork Pound Rivers west of the Town of Pound and from the Georges Fork confluence downstream to the lake backwaters at Jerry Branch.

City / County: Dickenson Co. Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6APNR017.79 had a 16% exceedance, station 6APNR023.86 had a 18% exceedance and 6APNR028.76 and 30% exceedance of the E.coli water quality standard. Station 6APNR035.66 had a 18% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNR01A00 / Pound River / Pound River flows west from the Georges Fork confluence upstream to the confluence of North Fork and South Fork Pound Rivers west of the Town of Pound, WQS Section 4.	5A	Escherichia coli	2008	H	16.94
VAS-Q13R_PNR02B02 / Pound River / From Georges Fork confluence downstream to lake backwaters near Jerry Branch, WQS Section 4.	5A	Escherichia coli	2006	H	3.22

Pound River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.16**

Sources:

Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-03-TEMP** **North Fork Pound River**

Cause Location: This segment includes the mainstem, south of Horse Gap from the dam of North Fork Pound Lake, downstream to the confluence with the Pound River.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

Station 6APNK000.08 had a 16% exceedance and 6APNK001.10 has 30% exceedance of the water quality standard for temperature.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNK01A96 / North Fork Pound River / Mainstem south of Horse Gap from the dam of North Fork Pound Lake, river mile 1.08, downstream to the confluence with Pound River, WQS Section 4, DGIF vi.	5C	Temperature, water	2010	L	1.29

North Fork Pound River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**1.29**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-04-BEN** **Indian Creek**

Cause Location: Pound River tributary south of the Town of Pound upstream to Barn Branch confluence.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station 6AIAC000.42 was impaired based on VSCI scores of 34.01 and 32.55 in 2010. SOS monitoring at 6BIAC-Indian Creek-SOS in 2007 detected an unacceptable benthic community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_IAC01A10 / Indian Creek / Lower segment, Pound River tributary that is parallel to Hwy 23, south of the Town of Pound upstream to Barn Branch confluence in WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H	2.98

Indian Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.98**

Sources:

Coal Mining Rural (Residential Areas) Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-06-BEN** **Pound River**

Cause Location: This segment includes the Pound River from Georges Fork confluence upstream to the confluence of the North Fork and South Fork Pound Rivers.

City / County: Dickenson Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6APNR034.58 was impaired based on VSCI scores. Station 6APNR023.86 was impaired based on VSCI scores of 51.97 and 31.98 in 2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNR01A00 / Pound River / Pound River flows west from the Georges Fork confluence upstream to the confluence of North Fork and South Fork Pound Rivers west of the Town of Pound, WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2004	H	16.94

Pound River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**16.94**

Sources:

Coal Mining Rural (Residential Areas) Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-07-TEMP** **Pound River**

Cause Location: This segment includes from the Georges Fork confluence downstream to lake backwaters near Jerry Branch.

City / County: Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

6APNR017.79 had a 33% exceedance of the temperature WQS for Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNR02B02 / Pound River / From Georges Fork confluence downstream to lake backwaters near Jerry Branch, WQS Section 4.	5A	Temperature, water	2018	L	3.22

Pound River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**3.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-08-BEN** **North Fork Pound River Tributaries**

Cause Location: This segment includes the PWS segment from the raw water intake in the North Fork Powell Reservoir, upstream five miles on all tributaries, including Bad Creek, Rumley Branch and an unnamed tributary near Laurel Fork.

City / County: Dickenson Co. Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Biological monitoring station 6APNK000.08 was impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNK01A00 / North Fork Pound River tributaries / PWS segment from raw water intake in North Fork Pound Reservoir, upstream five miles on all tributaries, WQS Section 4b.	4A	Benthic-Macroinvertebrate Bioassessments	2010	H	10.25

North Fork Pound River Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.25**

Sources:

Coal Mining

Silviculture Harvesting

Unspecified Land Disturbance

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-09-BAC** **Big Branch**

Cause Location: This segment includes Big Branch, a tributary to the South Fork Pound River off Route 671.

City / County: Dickenson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Citizen monitoring station 6A-BIGBR-NF-MRRP has a 33% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_BID01A14 / Big Branch / Tributary to South Fork Pound River south of North Fork Pound River Lake, Section 4.	5A	Escherichia coli	2014	M	1.46

Big Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.46**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-09-BEN** **North Fork Pound River**

Cause Location: This segment includes the headwaters of the North Fork Pound River north of Flat Gap, including Bear Fork, downstream to Bad Creek confluence at Gilley.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Biological Monitoring station at 6APNK008.28 was impaired based on VSCI scores of 59.41 and 50.51 in 2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNK01A06 / North Fork Pound River / Headwaters of North Fork Pound River north of Flat Gap, downstream to Bad Creek confluence at Gilley, WQS Section 4b.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H	4.29

North Fork Pound River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.29**

Sources:

Coal Mining | Mountaintop Mining | Silviculture Activities | Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q13R-10-BAC** **South Fork Pound River**

Cause Location: This segment includes the mainstem from the Donald Branch downstream to confluence with the Pound River west of the Town of Pound.

City / County: Wise Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The citizen monitoring station located at 6APNS-RM-MRRP had a 80% exceedance of the E. coli water quality standard AWQM station 6APNS003.38 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q13R_PNS01A02 / South Fork Pound River / From unnamed tributary parallel to SR 620 immediately upstream of Rat Creek at Dewey, downstream to the Glady Fork confluence, WQS Section 4.	5A	Escherichia coli	2016	L	3.44
VAS-Q13R_PNS01A94 / South Fork Pound River / Mainstem from Glady Fork confluence downstream to confluence with Pound River west of Town of Pound, WQS Section 4.	5A	Escherichia coli	2014	L	3.59
VAS-Q13R_PNS02B04 / South Fork Pound River / Mainstem only from Donald Branch downstream to unnamed tributary just upstream of Rat Creek, in Wise County, WQS Section 4.	5A	Escherichia coli	2014	L	2.21

South Fork Pound River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.24**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q14R-01-BAC** **Cranesnest River**

Cause Location: This segment extends from the headwaters downstream to the confluence with Bartley Branch at the backwaters of the Flannagan Reservoir.

City / County: Dickenson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 6ACNR021.72 had a 41% exceedance, station 6ACNR011.66 had a 16% exceedance, and station 6ACNR009.17 had a 23% exceedance of the E.coli standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q14R_CNR01A00 / Cranesnest River / Mainstem Cranesnest River from headwaters southeast of Hurricane downstream to the Honeycamp Branch confluence, upstream of Clintwood, WQS Section 4.	5A	Escherichia coli	2010	H, 2yr	12.93
VAS-Q14R_CNR02A02 / Cranesnest River / Mainstem Cranesnest River from Honeycamp Branch downstream to the Bartley Branch confluence at the backwaters of Flannagan Reservoir in WQS Section 4.	5A	Escherichia coli	2004	H, 2yr	7.52

Cranesnest River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.45**

Sources:

Rural (Residential Areas)	Sewage Discharges in Unsewered Areas

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q14R-01-BEN** **Birchfield Creek and Cranesnest River**

Cause Location: This segment includes the mainstem of the Cranesnest River from the headwaters downstream to the Honeycamp Branch confluence and Birchfield Creek from the confluence with Happy Hollow downstream to the Cranesnest River.

City / County: Dickenson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic stations 66ACNR017.24, 6ACNR018.89 and 6ABLD000.90 were impaired based on VSCI scores.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q14R_BLD01A10 / Birchfield Creek / A Cranesnest River tributary from confluence of Happy Hollow downstream parallel to SR 634 to Cranesnest River, south of Darwin, WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H, 2yr	2.52
VAS-Q14R_CNR01A00 / Cranesnest River / Mainstem Cranesnest River from headwaters southeast of Hurricane downstream to the Honeycamp Branch confluence, upstream of Clintwood, WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2010	H, 2yr	12.93

Birchfield Creek and Cranesnest River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.45**

Sources:

Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Tennessee and Big Sandy River Basins

***Cause Group Code:* Q14R-02-BEN** **Dotson Creek**

Cause Location: A Birchfield Creek tributary parallel to Route 636.

City / County: Wise Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological monitoring station at 6ADOT000.46 was impaired based on VSCI scores of 53.73 and 54.65 in 2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-Q14R_DOT01A12 / Dotson Creek / A Birchfield Creek tributary from the Hurricane Branch confluence, parallel to SR 636 south of Bold Camp Mountain in WQS Section 4.	5A	Benthic-Macroinvertebrate Bioassessments	2012	H, 2yr	3.81

Dotson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.81**

Sources:

Coal Mining Surface Mining

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* AO23-01-BAC** **Atlantic Ocean Beaches - Croatan**

Cause Location: This cause encompasses the Croatan Beach along shore of City of Virginia Beach. VDH bathing beach areas.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired for Croatan Beach based on Enterococcus bacteria data from the VDH-Beach station VA723069 (1 viol. / 26 Geo-mean obs.) along with multiple swimming advisories between the years 2009-2014. In 2014, Tidewater beaches experienced a wide spread precipitation event on Sept 8 with a total of 5 inches of rainfall. Since the event is within the last two years of the assessment period, the beach will be listed in the 2016 IR as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-AO23_ATL02A16 / Atlantic Ocean Beaches - Croatan / Croatan Beach along shore of City of Virginia Beach. VDH bathing beach areas.	5A	Enterococcus	2016	L	0.410

Atlantic Ocean Beaches - Croatan	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.410**		

Sources:

Wet Weather Discharges
(Non-Point Source)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-01-SF** **Great Wicomico River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 89A, 5/28/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-089A, 4/28/2016

The upstream portion of the Great Wicomico River was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89A, 5/28/1997. Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. The TMDL was approved by the EPA on 6/8/2006. As the segment first expanded in the 2004 cycle, the TMDL is due in 2016 (see C01E-01-SF2).

During the 2010 cycle, it was determined that a portion of the 1998 condemnation is considered an administrative closure by the VDH; therefore, the Shellfish Use was removed from the administrative portion and the segment was partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_BMS01A12 / Bush Mill Stream / Tidal limit to mouth at Great Wicomico River	4A	Fecal Coliform	1998	L	0.095
CB5MH					
VAP-C01E_GWR01A98 / Great Wicomico River / Portion of condemnation notice 089A, 5/28/1997 which is not administratively closed, excluding Head River Branch and Bush Mill Stream	4A	Fecal Coliform	1998	L	0.268
CB5MH					
VAP-C01E_HRB01A12 / Head River Branch / Tidal limit to mouth at Bush Mill Stream.	4A	Fecal Coliform	1998	L	0.020
CB5MH					

Great Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.382**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-01-SF2** **Great Wicomico River / Blackwells Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Numbers 013-089A & 013-089G, 4/28/2016 not included in the 5/28/1997 condemnation.

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-089A & Notice 013-089G, 4/28/2016

The upstream portion of the Great Wicomico River was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89A, 5/28/1997. Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. As the segment first expanded in the 2004 cycle, the TMDL for this expanded portion is due in 2016.

During the 2010 cycle, the condemnation was reduced and split into sections A & I. The condemnation shrank further in the 2012 cycle and an additional 0.3305 square miles was reopened for harvest. Condemnation I was opened and the impaired area is now limited to Blackwells Creek and a 0.0695 square mile segment on the Great Wicomico River.

The impairment is nested within the Great Wicomico River Shellfish TMDL, which was approved by the EPA on 6/8/2006. It is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_GWR01B08 / Great Wicomico River / Blackwells Creek / Portion of condemnations 013-089A & 013-089G, 4/28/2016 not included in 089A, 5/28/1997	4A	Fecal Coliform	2004	L	0.125

CB5MH

Great Wicomico River / Blackwells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.125**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-02-SF** **Balls Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 89B, 5/28/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-089F, 4/28/2016

The upstream portion of Balls Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89B, 5/28/1997. The impairment was addressed in the Great Wicomico River Shellfish TMDL Report, which was approved by the EPA on 6/8/2006.

Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. As the segment first expanded in the 2002 cycle, the TMDL for the expansion will be due in 2014 (see C01E-02-SF2).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_BLS01A02 / Balls Creek / Described in the condemnation notice 89B, 5/28/1997.	4A	Fecal Coliform	1998	L	0.064

CB5MH

Balls Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.064**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-02-SF2 Balls Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 013-089F, 4/28/2016 not included in the 5/28/1997 condemnation.

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-089F, 4/28/2016

The upstream portion of Balls Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89B, 5/28/1997. Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. As the segment first expanded in the 2002 cycle, the TMDL for the expansion is due in 2014.

The impairment is considered nested in the Great Wicomico River Shellfish TMDL Report, which was approved by the EPA on 6/8/2006.

Segment expanded again in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_BLS02A08 / Balls Creek / Portion of condemnation notice 013-089F, 4/28/2016 not included in 89B, 5/28/1997.	4A	Fecal Coliform	2002	L	0.113

CB5MH

Balls Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.113**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-03-SF** **Tipers Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 89C, 5/28/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-089E, 4/28/2016

The upstream portion of Tipers Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89C, 5/28/1997. The TMDL was approved by the EPA on 6/8/2006.

Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. The lower portion is addressed in fact sheet C01E-03-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_TIP01A98 / Tipers Creek / Described in the condemnation notice 89C, 5/28/1997	4A	Fecal Coliform	1998	L	0.083

CB5MH

Tipers Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.083**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-03-SF2 Tipers Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 013-089E, 4/28/2016 not included in the 5/28/1997 condemnation.

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-089E, 4/28/2016

The upstream portion of Tipers Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89C, 5/28/1997. Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. As the segment first expanded in the 2002 cycle, the TMDL will be due in 2014.

The impairment is considered nested within the Tipers Creek Shellfish TMDL. The TMDL was developed in the Great Wicomico River Watershed TMDL Report and was approved by the EPA on 6/8/2006.

Segment expanded in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_TIP02A08 / Tipers Creek / Portion of condemnation notice 013-089E, 4/28/2016 not included in 89C, 5/28/1997	4A	Fecal Coliform	2002	L	0.039

CB5MH

Tipers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.039**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-04-SF** **Henrys Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 016-057D, 12/19/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 016-057D, 12/19/2016

The TMDL for Henrys Creek was developed as part of the Indian Creek Shellfish TMDL, which was approved by the EPA on 4/8/2009 and by the SWCB on 7/27/2009. The TMDL was developed for the maximum extent of the condemnations, which occurred on 1/28/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_HEN01A00 / Henrys Creek / Described in VDH condemnation 016-057D, 12/19/2016.	4A	Fecal Coliform	2018	L	0.017

Shrank in the 2018 cycle.

CB5MH

Henrys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.017**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-05-SF** **Whays Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 089E, 4/3/2002

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 013-220B, 4/28/2016

The upstream portion of Whays Creek was included on the 1998 303(d) list as impaired of the Shellfish Consumption Use due to VDH Condemnation 89F, 5/28/1997. The shellfish TMDL was approved by the EPA on 6/8/2006 based on condemnation 089D, 4/3/2002.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_WHY01A98 / Whays Creek / Described in the condemnation notice 089D, 4/3/2002	4A	Fecal Coliform	1998	L	0.041

CB5MH

Whays Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.041**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-06-SF** **Warehouse Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 089E, 5/28/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-220A, 4/28/2016

The upper portion of Warehouse Creek was included on the 1998 303(d) list due to VDH Condemnation 89E, 5/28/1997. Although the condemnation has since expanded, the bacteria TMDL was completed only for the original upstream portion. The TMDL was approved by the EPA on 6/8/2006. The upper portion will be considered Category 4A. The lower portion is addressed in fact sheet C01E-06-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_WCO01A98 / Warehouse Creek / Described in the condemnation notice 89E, 5/28/1997	4A	Fecal Coliform	1998	L	0.069

CB5MH

Warehouse Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.069**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-06-SF2** **Warehouse Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 013-220A, 4/28/2016 not included in condemnation 89E, 5/28/1997.

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 013-220A, 4/28/2016

The upper portion of Warehouse Creek was included on the 1998 303(d) list due to VDH Condemnation 89E, 5/28/1997. Although the condemnation has since expanded, the bacteria TMDL was completed only for the original upstream portion. The TMDL was approved by the EPA on 6/8/2006. The TMDL is due in 2018 since it first expanded in the 2006 cycle.

The impairment is considered nested within the adjacent Warehouse Creek Shellfish TMDL. The TMDL was developed as part of the Great Wicomico River Watershed TMDL report and was approved by the EPA on 6/8/2006.

Size reduced in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_WCO02A08 / Warehouse Creek / Portion of VDH condemnation notice 013-220A, 4/28/2016 not included in 89E, 5/28/1997	4A	Fecal Coliform	2006	L	0.008

CB5MH

Warehouse Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.008**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-07-SF** **Horn Harbor**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 013-089D, 428/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 013-089D, 4/26/2018

The impairment is nested within the Tipers Creek Shellfish TMDL. The TMDL was developed in the Great Wicomico River Watershed TMDL Report and was approved by the EPA on 6/8/2006.

The condemnation grew slightly in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_HHB01A98 / Horn Harbor / Described in the condemnation notice 013-089D, 4/28/2016.	4A	Fecal Coliform	2002	L	0.071

CB5MH

Horn Harbor **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.071**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-08-BAC** **Cockrell Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 012-002A, 9/22/2005.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Due to monitoring around the Omega Protein facility during development of the Cockrell Creek Shellfish TMDL, the segment was listed for the Recreation Use due to enterococci exceedances at several stations. The enterococci TMDL is due in 2020, however it was addressed during the Shellfish TMDL, which was approved by the EPA on 12/8/08 and by the SWCB on 4/28/09. The segment is considered Category 4A.

Note: monitoring at downstream station 7-COC000.27 is acceptable.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_COC04B10 / Cockrell Creek / VDH-DSS Condemnation Notice 012-002A, 9/22/2005	4A	Enterococcus	2008	L	0.470

CB5MH

Cockrell Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.470**		

Sources:

Industrial Point Source Discharge

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-09-SF** **Prentice Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 022D, 2/27/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation 015-022E, 5/9/2016

This portion of Prentice Creek was included on the 1998 303(d) list due to condemnation 022D, 2/27/1997. The bacteria TMDL for the 1998 impairment was completed as part of the Dividing Creek and Prentice Creek Bacteria TMDL report; the TMDL was approved by the EPA on 6/8/2006.

During the 2010 cycle, the condemnation expanded and merged with another 1998 condemnation on an unnamed tributary. The 1998 segment is considered Category 4A for the Shellfish Use; the TMDL for the expanded area is addressed in fact sheet C01E-09-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_PNT03A02 / Prentice Creek / Described in condemnation notice 022D, 2/27/1997.	4A	Fecal Coliform	1998	L	0.015

CB5MH

Prentice Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.015**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-09-SF2** **Prentice Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 015-022E, 5/9/2016 not included in 022D or 022C, 2/27/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation 015-022E, 5/9/2016

Two portions of Prentice Creek was included on the 1998 303(d) list due to condemnations 022C & 022D, 2/27/1997. The bacteria TMDL for the 1998 impairment was completed during the 2008 cycle as part of the Dividing Creek and Prentice Creek Bacteria TMDL report; the TMDL was approved by the EPA on 6/8/2006.

During the 2010 cycle, the condemnations expanded and merged. The 1998 segments are considered Category 4A for the Shellfish Use; the TMDL for the expanded area is due in 2022. The impairment is nested in the Prentice Creek Bacterial TMDL and is considered Category 4A.

The impairment expanded further in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_PNT02B10 / Prentice Creek / Downstream limit of DSS condemnation 022C & D, 2/27/1997 to limit of 015-022E, 5/9/2016.	4A	Fecal Coliform	2010	L	0.014

CB5MH

Prentice Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.014**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-11-SF** **Little Taskmakers Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 011-190B, 7/24/2014

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 011-190B, 7/24/2014

Little Taskmakers Creek was listed on the 1998 303(d) list due to VDH condemnation 190, 4/13/1993.

The Shellfish TMDL was approved by the EPA on 6/19/2009 and by the SWCB on 11/14/2009. The segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_LTM01A98 / Little Taskmakers Creek / Described in the condemnation notice 011-190B, 7/24/2014.	4A	Fecal Coliform	2008	L	0.049

CB5MH

Little Taskmakers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-12-BAC** **Mill Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 123, 6/2/1997

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The upper portion of Mill Creek was assessed as impaired of the Recreation Use during the 2010 cycle due to an enterococci violation rate of 5/12 at 7-MIL004.00, which is located at the end of Rt. 830.

During the 2012 cycle, additional sampling at 7-MIL005.19 confirmed the impairment (5/12).

Because bacteria reductions are already required due to the Mill Creek Shellfish TMDL, the enterococci impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_MIL01A98 / Mill Creek / Described in the condemnation notice 123, 6/2/1997	4A	Enterococcus	2010	L	0.241

CB5MH

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.241**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-12-SF** **Mill Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 123, 6/2/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 014-123A, 5/9/2016

The upper portion of Mill Creek was included on the 1998 303(d) list due to shellfish condemnation 123, 6/2/1997. The segment has expanded since then, however only the original portion was included in the TMDL for Mill Creek, which was approved by the EPA on 8/22/2007. The original upstream segment is considered Category 4A; the fact sheet for the downstream portion is C01E-12-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_MIL01A98 / Mill Creek / Described in the condemnation notice 123, 6/2/1997	4A	Fecal Coliform	1998	L	0.241

CB5MH

Mill Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.241**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-12-SF2** **Mill Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 014-123A, 5/9/2016 not included in 123, 6/2/1997.

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Notice 014-123A, 5/9/2016

The upper portion of Mill Creek was included on the 1998 303(d) list due to shellfish condemnation 123, 6/2/1997. The segment has since expanded; however, only the original portion was included in the TMDL for Mill Creek, which was approved by the EPA on 8/22/2007. As the segment first expanded during the 2004 cycle, the TMDL is due in 2016.

The impairment is nested within the upstream Mill Creek Shellfish TMDL and is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_MIL02A08 / Mill Creek / Portion of VDH Condemnation 014-123A, 5/9/2016 not included in the notice 123, 6/2/1997	4A	Fecal Coliform	2004	L	0.135

CB5MH

Mill Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.135**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-14-SF** **Gaskin Pond**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 011-122A, 8/31/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 011-122A, 8/31/2016

Gaskin Pond is considered nested in the TMDL for the neighboring Owens Pond shellfish condemnation. The TMDL was approved by the EPA on 6/19/2009.

The condemnation shrank in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_GSK01A10 / Gaskin Pond / As described in VDH-DSS condemnation 011-122A, 8/31/2016	4A	Fecal Coliform	2010	L	0.061

Size reduced in the 2018 cycle.

Gaskin Pond	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.061**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-15-SF** **Dividing Creek, Lawrence Creek, Natty Point Cove**

Cause Location: Described in VDH Shellfish Condemnation Number 22A, 2/27/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnations 015-022A, -B, -C, -D, and -G, 5/9/2016

The upstream section of Dividing Creek was included on the 1998 303(d) list for the Shellfish Use due to VDH condemnation 22A, 2/27/1997. Although the condemnation has shrunk and split over several assessment cycles, the bacterial TMDL was completed for the entire 1998 impairment.

The open area that is within the TMDL study area is considered Category 2C. The closed areas remain Category 4A.

The condemnations shrank again in the 2016 cycle. Expanded slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_DIV01A98 / Dividing Creek / Described in VDH-DSS condemnation 015-022A, 5/9/2016.	4A	Fecal Coliform	1998	L	0.091
Segment expanded in the 2018 cycle.					
VAP-C01E_DIV01C14 / Dividing Creek, UT / VDH-DSS condemnation 015-022G, 5/9/2016	4A	Fecal Coliform	2014	L	0.009
CB5MH					
VAP-C01E_LRC01A12 / Lawrence Cove / Described in the VDH-DSS condemnation 015-022B, 5/9/2016.	4A	Fecal Coliform	1998	L	0.744
Shortened slightly in the 2018 cycle.					
CB5MH					
VAP-C01E_NPC01A16 / Natty Point Cove / Described in VDH-DSS condemnation 015-022C, 5/9/2016.	4A	Fecal Coliform	1998	L	0.018
CB5MH					
VAP-C01E_XES01A12 / XES - Dividing Creek, UT / Described in the VDH-DSS condemnation 015-022D, 5/9/2016.	4A	Fecal Coliform	1998	L	0.029
CB5MH					

Dividing Creek, Lawrence Creek, Natty Point Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.891**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-16-SF** **Great Wicomico River, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 013-089H, 4/28/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 013-089H, 4/28/2016

The impairment is nested in the Great Wicomico River Shellfish TMDL, which was approved by the EPA on 6/8/2006 and by the SWCB on 3/23/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_GWR02E16 / Great Wicomico River, UT / Described in VDH-DSS condemnation 013-089H, 4/28/2016	4A	Fecal Coliform	2016	L	0.033

CB5MH

Great Wicomico River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.033**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-17-PCB** **Chesapeake Bay and Tidal Tributaries**

Cause Location: Chesapeake Bay mainstem and its small coastal tidal tributaries

City / County: Accomack Co. Chesapeake Bay - County not applicable. Gloucester Co. Lancaster Co. Mathews Co.
Middlesex Co. Norfolk City Northampton Co. Northumberland Co. Poquoson City.
Virginia Beach City York Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Chesapeake Bay and its small coastal tidal tributaries are included under the 12/13/2004 VDH Fish Consumption Advisories for PCBs. No more than 2 meals/month are recommended of anadromous (coastal) striped bass.

Also, VDH issued additional fish consumption advisory for PCBs in the Mobjack Bay and its tributaries, particularly the East, West, and Ware Rivers (on 12/13/2004) and in the Piankatank River from Rt. 17 to Deep Point Boat Landing (10/7/2009). No more than two meals/month of gizzard shad are recommended.

The advisories are based on the results of DEQ's fish tissue monitoring program, which show elevated PCBs levels in several monitoring sites within the basin, including:

7-GWR007.97 in the Great Wicomico River
7-COC000.40 in Cockrell Creek
7-IND001.80 in Indian Creek
7-DYM000.00 in Dymer Creek
7-PNK019.85 in the Piankatank River
7-MLF002.45 in Milford Haven
7-WIN000.88 in Winter Harbor
7-EST002.65 in the East River
7-NOR003.65 in the North River
7-WAR005.77 in the Ware River

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-C10E_POC01A18 / Pocomoke Sound / Pocomoke Sound - VDH DSS #075-033 (Open)	5A	PCB in Fish Tissue	2006	L	0.205
VACB-C10E_POC01B18 / Pocomoke Sound / Pocomoke Sound - VDH DSS condemnation #075-033 (Restricted)	5A	PCB in Fish Tissue	2006	L	0.111
VACB-C10E_TNN01A06 / Tangier North Channel and Adjacent Waters, DSS Area A and B. / Waters surrounding Tangier Island. Portion of CBP segment TANMH. DSS (ADMINISTRATIVE) shellfish condemnation # 078-086, section A effective 11/6/2013	5A	PCB in Fish Tissue	2006	L	1.366
VACB-C10E_TNN01B06 / Tangier North Channel and Adjacent Waters, DSS Area C. / Waters surrounding Tangier Island. Portion of CBP segment TANMH. DSS (ADMINISTRATIVE) shellfish condemnation # 078-086, section B effective 11/6/2013	5A	PCB in Fish Tissue	2006	L	0.039
VACB-C10E_TNN01C16 / Tangier North Channel and Adjacent Waters, Open waters / Waters surrounding Tangier Island. Portion of CBP segment TANMH. Open waters of the DSS cond # 078-86 eff 11/06/2013. Split from VAC-C10E_TNN01A06 (2016).	5A	PCB in Fish Tissue	2006	L	0.196
VACB-C10E_TNN01D18 / Tyler Creek, Shanks Creek, Tangier Sound / Tyler Creek, Shanks Creek, Tangier Sound - Portion of CBP segment TANMH. Restricted waters of the DSS cond # 074-226 eff 2/26/2015. Split from VACB-C10E-TAN.	5A	PCB in Fish Tissue	2006	L	2.169
VACB-C10E-POC / Chesapeake Bay - VA portion of CBP segment	5A	PCB in Fish Tissue	2006	L	46.558

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

POCMH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment POCMH, located in the mesohaline area of Pocomoke sound. HUC: 02080101.					
VACB-C10E-TAN / Chesapeake Bay - VA portion of CBP Segment TANMH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment TANMH, located in the northern part of the Virginia mainstem Bay around Tangier Sound. HUC: 02080101	5A	PCB in Fish Tissue	2006	L	118.980
VACB-R01E-04CE / Chesapeake Bay - Cape Charles BSS #089-011, Section A. / Va Dept of Health Shellfish (administrative) condemnation #089-011, Opposite Cape Charles City, Section A. HUC: 02080101.[effective 2005-3-08]	5A	PCB in Fish Tissue	2006	L	0.312
VACB-R01E-04DE / Chesapeake Bay - S. Thimble Island BSS Condemnation #163 / Va Dept of Health Shellfish zone #163. Open to shellfish harvesting as of 4/25/2007. S. Thimble Island. HUC: 02080101	5A	PCB in Fish Tissue	2006	L	0.027
VACB-R01E-04EE / Chesapeake Bay - Off Little Creek BSS #068-017, Section C. / Va Dept of Health Shellfish (administrative) closure #068-017, A portion of section C. Off Little Creek. HUC: 02080101.[effective 2005-3-08]	5A	PCB in Fish Tissue	2006	L	0.540
VACB-R01E-04GE / Chesapeake Bay - Off Little Creek BSS #068-017, Areas A & B / Va Dept of Health Shellfish (administrative) closure #068-017, Off Little Creek, Sections A and B. HUC: 02080101.[effective 2005-3-08]	5A	PCB in Fish Tissue	2006	L	1.355
VACB-R01E-CB5 / Chesapeake Bay - VA portion of CBP Segment CB5MH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment CB5MH, located in the northern part of the Virginia mainstem Bay from the mouth of the Rappahannock River and northward. HUC: 02080101.	5A	PCB in Fish Tissue	2006	L	185.848
VACB-R01E-CB6N / Chesapeake Bay - Northern portion of CBP Segment CB6PH / This assessment unit is the mainstem northern portion of Chesapeake Bay Program segment CB6PH, located in the northeastern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	5A	PCB in Fish Tissue	2006	L	127.195
VACB-R01E-CB6S / Chesapeake Bay - Southern portion of CBP Segment CB6PH / This assessment unit is the mainstem southern portion of Chesapeake Bay Program segment CB6PH, located in the northeastern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	5A	PCB in Fish Tissue	2006	L	160.307
VACB-R01E-CB7N / Chesapeake Bay - Northern portion of CBP Segment CB7PH / This assessment unit is the mainstem northern portion of Chesapeake Bay Program segment CB7PH, located in the northwestern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	5A	PCB in Fish Tissue	2006	L	168.626
VACB-R01E-CB7S / Chesapeake Bay - Southern portion of CBP Segment CB7PH / This assessment unit is the mainstem southern portion of Chesapeake Bay Program segment CB7PH, located in the southwestern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	5A	PCB in Fish Tissue	2006	L	372.814
VACB-R01E-CB8 / Chesapeake Bay - CBP Segment CB8PH / This assessment unit is the mainstem portion of Chesapeake Bay Program segment CB8PH, located in the Virginia Chesapeake Bay between the mouths of the James River and mouth of Chesapeake Bay. HUC: 02080101.	5A	PCB in Fish Tissue	2006	L	141.796

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VACB-R01E-MOB / Chesapeake Bay - CBP Segment MOBPH / This assessment unit is the mainstem Chesapeake Bay and Mobjack Bay portions of Chesapeake Bay Program segment MOBPH, located off the mouth of the York River including Mobjack Bay. HUC: 02080101.	5A	PCB in Fish Tissue	2006	L	92.951
	5A	PCB in Fish Tissue	2006	L	92.951
	5A	PCB in Fish Tissue	2006	L	92.951
	5A	PCB in Fish Tissue	2006	L	92.951
VAP-C01E_ANT01A98 / Antipoison Creek / Described in the condemnation notice 017-188A, 12/16/2014.	5A	PCB in Fish Tissue	2006	L	0.042
CB5MH					
VAP-C01E_ANT01B08 / Antipoison Creek, UT / Described in the condemnation notice 017-188C, 12/16/2014.	5A	PCB in Fish Tissue	2006	L	0.004
CB5MH					
VAP-C01E_ANT01C08 / Antipoison Creek, UT / Described in the condemnation notice 017-188B, 12/16/2014.	5A	PCB in Fish Tissue	2006	L	0.013
CB5MH					
VAP-C01E_ANT02A08 / Antipoison Creek / Downstream of condemnation notice 017-188A, 12/16/2014.	5A	PCB in Fish Tissue	2006	L	0.361
CB5MH					
VAP-C01E_ANT02B12 / Antipoison Creek / Described in condemnation notice 017-188M1, 12/16/2014.	5A	PCB in Fish Tissue	2006	L	0.007
CB5MH					
VAP-C01E_ASH01A10 / Ashleys Cove / Described in VDH-DSS condemnation 016-024D, 1/28/2005	5A	PCB in Fish Tissue	2006	L	0.056
CB5MH					
VAP-C01E_BAI01A16 / Bailey Prong / Described in VDH-DSS condemnation 013-220H, 4/1/2014.	5A	PCB in Fish Tissue	2006	L	0.052
CB5MH					
VAP-C01E_BAL01A02 / Ball Creek / VDH condemnation notice 014-124B, 5/15/2001	5A	PCB in Fish Tissue	2006	L	0.080
CB5MH					
VAP-C01E_BAL02A02 / Ball Creek / From VDH-DSS SFC 014-124B, 5/15/2001, downstream to its mouth.	5A	PCB in Fish Tissue	2006	L	0.128
CB5MH					
VAP-C01E_BAR01A98 / Barrett Creek / Described in the condemnation notice, 013-089I, 7/31/2012.	5A	PCB in Fish Tissue	2006	L	0.038
CB5MH					
VAP-C01E_BAR02A08 / Barrett Creek / Described in VDH-DSS SFC 013-089H, 7/31/2012	5A	PCB in Fish Tissue	2006	L	0.008
CB5MH					

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VAP-C01E_BEL01A08 / Bells Creek / Described in VDH condemnation 016-057B, 12/13/2006.	A	PCB in Fish Tissue	2006	L	0.042
CB5MH					
VAP-C01E_BLS01A02 / Balls Creek / Described in the condemnation notice 89B, 5/28/1997.	A	PCB in Fish Tissue	2006	L	0.064
CB5MH					
VAP-C01E_BLS02A08 / Balls Creek / Portion of condemnation notice 013-089F, 4/28/2016 not included in 89B, 5/28/1997.	A	PCB in Fish Tissue	2006	L	0.113
CB5MH					
VAP-C01E_BMC01A04 / Betts Mill Creek / Described in the VDH Shellfish Condemnation 013-089B, 4/28/2016	A	PCB in Fish Tissue	2006	L	0.082
CB5MH					
VAP-C01E_BMS01A12 / Bush Mill Stream / Tidal limit to mouth at Great Wicomico River	A	PCB in Fish Tissue	2006	L	0.095
CB5MH					
VAP-C01E_BRS01A08 / Barnes Creek / Tidal portion of Barnes Creek	A	PCB in Fish Tissue	2006	L	0.331
CB5MH					
VAP-C01E_CHA01A08 / Dymer Creek, UT / Described in condemnation notice 016-024B, 12/30/2015.	A	PCB in Fish Tissue	2006	L	0.018
CB5MH					
VAP-C01E_CHA01B12 / Chases Cove / Described in condemnation notices 016-024D, 12/30/2015	A	PCB in Fish Tissue	2006	L	0.023
CB5MH					
VAP-C01E_CLE01A98 / Cloverdale Creek / Described in the condemnation notice 014-124A, 6/2/1997.	A	PCB in Fish Tissue	2006	L	0.021
CB5MH					
VAP-C01E_CLE02A06 / Cloverdale Creek / Downstream of condemnation notice 014-124A, 6/2/1997.	A	PCB in Fish Tissue	2006	L	0.055
CB5MH					
VAP-C01E_COC01A98 / Cockrell Creek / As described in VDH-DSS Shellfish Condemnation 012-002B, 9/22/2005.	A	PCB in Fish Tissue	2006	L	0.612
CB5MH					
VAP-C01E_COC03A98 / Cockrell Creek / Described in the condemnation notice. VDH-DSS SFC 012-002C, 9/22/2005.	A	PCB in Fish Tissue	2006	L	0.035
CB5MH					
VAP-C01E_COC04B10 / Cockrell Creek / VDH-DSS Condemnation Notice 012-002A, 9/22/2005	A	PCB in Fish Tissue	2006	L	0.470
CB5MH					
VAP-C01E_COC05A06 / Cockrell Creek / From VDH-DSS SFC 012-	A	PCB in Fish Tissue	2006	L	0.152

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002A, 9/22/2005, downstream to mouth at Fleet Point.

CB5MH VAP-C01E_COL01A08 / Coles Creek / Described in VDH-DSS SFC 013-089C, 4/28/2016	5A	PCB in Fish Tissue	2006	L	0.019
CB5MH VAP-C01E_CRN01A06 / Cranes Creek / Described in VDH-DSS Shellfish Condemnation 013-220C, 4/28/2016	5A	PCB in Fish Tissue	2006	L	0.019
CB5MH VAP-C01E_CRN01B06 / Cranes Creek / Described in VDH-DSS Shellfish Condemnation 013-220M1, 8/9/2011	5A	PCB in Fish Tissue	2006	L	0.016
CB5MH VAP-C01E_DIV01A98 / Dividing Creek / Described in VDH-DSS condemnation 015-022A, 5/9/2016. Segment expanded in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.091
VAP-C01E_DIV01B12 / Dividing Creek / Portion of VDH-DSS condemnation 022, 2/27/1997 open on 015-022, 5/9/2016. Shortened in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.201
CB5MH VAP-C01E_DIV01C14 / Dividing Creek, UT / VDH-DSS condemnation 015-022G, 5/9/2016	5A	PCB in Fish Tissue	2006	L	0.009
CB5MH VAP-C01E_DIV03A00 / Dividing Creek / From the downstream limit of VDH-DSS SFC 022, 2/27/1997, to the mouth at Chesapeake Bay.	5A	PCB in Fish Tissue	2006	L	0.816
CB5MH VAP-C01E_DVN01A04 / Davenport Creek / Described in VDH Shellfish Condemnation 017-188A, 5/12/2012.	5A	PCB in Fish Tissue	2006	L	0.019
CB5MH VAP-C01E_DYM01A98 / Dymer Creek / Described in the condemnation notice 016-024A, 12/30/2015. Shrank in 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.177
CB5MH VAP-C01E_DYM02A00 / Dymer Creek / Dymer Creek downstream of VDH-DSS SFC 016-024A 1/28/2005, to start of deep water at Grog Island unless otherwise segmented.	5A	PCB in Fish Tissue	2006	L	0.595
CB5MH VAP-C01E_DYM02B14 / Dymer Creek / Portion of VDH-DSS SFC 016-024A 1/28/2005 open 12/30/2015. Expanded in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.135
CB5MH					

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VAP-C01E_DYM03A06 / Dymer Creek / Mouth of Dymer Creek at Grog Island	5A	PCB in Fish Tissue	2006	L	0.090
CB5MH					
VAP-C01E_FLB01A00 / Fleets Bay / Fleets Bay north of Bluff Point at Barnes Creek south to Fleets Island.	5A	PCB in Fish Tissue	2006	L	5.187
CB5MH					
Size adjusted in 2006 cycle.					
VAP-C01E_GEO01A98 / Georges Cove / Described in condemnation notice 016-024E, 1/28/2005.	5A	PCB in Fish Tissue	2006	L	0.034
CB5MH					
VAP-C01E_GOU01A06 / Gougher Creek / Described in VDH-DSS Shellfish Condemnation 013-220G, 4/28/2016	5A	PCB in Fish Tissue	2006	L	0.036
CB5MH					
VAP-C01E_GSK01A10 / Gaskin Pond / As described in VDH-DSS condemnation 011-122A, 8/31/2016	5A	PCB in Fish Tissue	2006	L	0.061
Size reduced in the 2018 cycle.					
VAP-C01E_GWR01A98 / Great Wicomico River / Portion of condemnation notice 089A, 5/28/1997 which is not administratively closed, excluding Head River Branch and Bush Mill Stream	5A	PCB in Fish Tissue	2006	L	0.268
CB5MH					
VAP-C01E_GWR01B08 / Great Wicomico River / Blackwells Creek / Portion of condemnations 013-089A & 013-089G, 4/28/2016 not included in 089A, 5/28/1997	5A	PCB in Fish Tissue	2006	L	0.125
CB5MH					
VAP-C01E_GWR01C10 / Great Wicomico River / Portion of condemnation notice 089A, 5/28/1997 which is administratively closed	5A	PCB in Fish Tissue	2006	L	0.058
CB5MH					
VAP-C01E_GWR02A00 / Great Wicomico River / From VDH-DSS SFC 013-089A, 4/28/2016, downstream to Rogue Point unless otherwise segmented.	5A	PCB in Fish Tissue	2006	L	2.065
CB5MH					
VAP-C01E_GWR02B06 / Great Wicomico River / As described in VDH-DSS Shellfish Condemnation 013-089M2, 4/28/2018	5A	PCB in Fish Tissue	2006	L	0.017
CB5MH					
VAP-C01E_GWR02C06 / Great Wicomico River at Coles Creek / As described in VDH-DSS Shellfish Condemnation 013-089M1, 4/28/2016	5A	PCB in Fish Tissue	2006	L	0.008
CB5MH					
VAP-C01E_GWR02D12 / Great Wicomico River / VDH-DSS SFC 013-089M3, 4/28/2016	5A	PCB in Fish Tissue	2006	L	0.008
CB5MH					

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VAP-C01E_GWR02E16 / Great Wicomico River, UT / Described in VDH-DSS condemnation 013-089H, 4/28/2016	A	PCB in Fish Tissue	2006	L	0.033
CB5MH					
VAP-C01E_GWR03A06 / Great Wicomico River / From Rogue Point (GWR02A00) downstream to Ingram Bay at Dameron Marsh.	A	PCB in Fish Tissue	2006	L	5.800
CB5MH					
VAP-C01E_GWR03B16 / Great Wicomico River / Described in VDH-DSS condemnation 013-220F, 4/28/2016	A	PCB in Fish Tissue	2006	L	0.004
CB5MH					
VAP-C01E_HAP01B10 / Harpers Creek / Described in the condemnation notice 017-188M2. 12/16/2014.	A	PCB in Fish Tissue	2006	L	0.022
CB5MH					
VAP-C01E_HAV01A08 / Harveys Creek / Described in VDH Shellfish Condemnation 014-123B, 5/9/2016.	A	PCB in Fish Tissue	2006	L	0.045
CB5MH					
VAP-C01E_HEN01A00 / Henrys Creek / Described in VDH condemnation 016-057D, 12/19/2016.	A	PCB in Fish Tissue	2006	L	0.017
Shrank in the 2018 cycle.					
CB5MH					
VAP-C01E_HEN01B14 / Henrys Creek / Portion of VDH condemnation 016-057C, 1/28/2005 open on 12/19/2016.	A	PCB in Fish Tissue	2006	L	0.053
Expanded in the 2018 cycle.					
CB5MH					
VAP-C01E_HEN02A14 / Henrys Creek / Downstream of 016-057C, 1/28/2005	A	PCB in Fish Tissue	2006	L	0.103
CB5MH					
VAP-C01E_HHB01A98 / Horn Harbor / Described in the condemnation notice 013-089D, 4/28/2016.	A	PCB in Fish Tissue	2006	L	0.071
CB5MH					
VAP-C01E_HNT01A98 / Hunts Cove / Described in the condemnation notice 016-024B, 1/28/2005.	A	PCB in Fish Tissue	2006	L	0.040
CB5MH					
VAP-C01E_HRB01A12 / Head River Branch / Tidal limit to mouth at Bush Mill Stream.	A	PCB in Fish Tissue	2006	L	0.020
CB5MH					
VAP-C01E_IND01A98 / Indian Creek / VDH-DSS condemnation notice 016-057E, 12/19/2016 (not administratively condemned) and 016-057C, 12/19/2016	A	PCB in Fish Tissue	2006	L	0.147
Shrank in the 2018 cycle.					

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CB5MH

VAP-C01E_IND01B10 / Indian Creek / VDH-DSS condemnation notice 016-057A, 12/19/2016 (administratively condemned). 5A PCB in Fish Tissue 2006 L 0.037

CB5MH

VAP-C01E_IND01C10 / Indian Creek / Downstream portion of condemnation notice 016-057A, 12/13/2006 open on 12/19/2016. 5A PCB in Fish Tissue 2006 L 0.137

CB5MH

VAP-C01E_IND01D14 / Indian Creek / Described in condemnation notice 016-057M2, 12/19/2016. 5A PCB in Fish Tissue 2006 L 0.131

Expanded upstream in the 2018 cycle.

CB5MH

VAP-C01E_IND01E16 / Indian Creek / Portion of condemnation notice 016-057A, 12/28/2012 that is open 12/19/2016. 5A PCB in Fish Tissue 2006 L 0.040

CB5MH

VAP-C01E_IND02A98 / Indian Creek / Described in the condemnation notice 016-057F, 12/19/2016. 5A PCB in Fish Tissue 2006 L 0.015

CB5MH

VAP-C01E_IND03A00 / Indian Creek / Indian Creek from end of condemnation 016-057A, 12/13/2006, downstream to mouth unless otherwise segmented. 5A PCB in Fish Tissue 2006 L 0.600

CB5MH

VAP-C01E_IND03B06 / Indian Creek / As described in VDH-DSS Seasonal Shellfish Condemnation 016-057M1, 12/19/2016 5A PCB in Fish Tissue 2006 L 0.017

CB5MH

VAP-C01E_JAR01A02 / Jarvis Creek, UT / As described in the condemnation notice 015-022F, 5/5/2014. 5A PCB in Fish Tissue 2006 L 0.026

CB5MH

VAP-C01E_JAR01B08 / Jarvis Creek / As described in VDH-DSS condemnation 015-022H, 5/9/2016. 5A PCB in Fish Tissue 2006 L 0.016

CB5MH

VAP-C01E_JAR02A10 / Jarvis Creek / Downstream of VDH condemnations 5A PCB in Fish Tissue 2006 L 0.200

CB5MH

VAP-C01E_JOH01A06 / Johnson Creek / As described in VDH-DSS SFC 016-024C, 12/30/2015 5A PCB in Fish Tissue 2006 L 0.029

CB5MH

VAP-C01E_LEE01A02 / Lees Cove / As described in the condemnation notice 016-024C, 1/28/2005 5A PCB in Fish Tissue 2006 L 0.015

CB5MH

VAP-C01E_LEE02A12 / Lees Cove / Portion of VDH-DSS SFC 016-5A PCB in Fish Tissue 2006 L 0.010

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024B, 12/16/2014 not impaired in 016-024C, 1/28/2005.

CB5MH VAP-C01E_LOC01A08 / Long Creek / Described in VDH condemnation 016-057D, 12/13/2006.	5A	PCB in Fish Tissue	2006	L	0.017
CB5MH VAP-C01E_LRC01A12 / Lawrence Cove / Described in the VDH-DSS condemnation 015-022B, 5/9/2016. Shortened slightly in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.744
CB5MH VAP-C01E_LTB01A02 / Little Bay / Little Bay	5A	PCB in Fish Tissue	2006	L	1.178
CB5MH VAP-C01E_LTM01A98 / Little Taskmakers Creek / Described in the condemnation notice 011-190B, 7/24/2014.	5A	PCB in Fish Tissue	2006	L	0.049
CB5MH VAP-C01E_MIL01A98 / Mill Creek / Described in the condemnation notice 123, 6/2/1997	5A	PCB in Fish Tissue	2006	L	0.241
CB5MH VAP-C01E_MIL01B06 / Mill Creek / Mouth of Mill Creek at Ingram Bay	5A	PCB in Fish Tissue	2006	L	1.173
CB5MH VAP-C01E_MIL02A08 / Mill Creek / Portion of VDH Condemnation 014-123A, 5/9/2016 not included in the notice 123, 6/2/1997	5A	PCB in Fish Tissue	2006	L	0.135
CB5MH VAP-C01E_MIL03A08 / Mill Creek / Middle Mill Creek downstream of condemnation to Ingrams Bay	5A	PCB in Fish Tissue	2006	L	0.356
CB5MH VAP-C01E_NPC01A16 / Natty Point Cove / Described in VDH-DSS condemnation 015-022C, 5/9/2016.	5A	PCB in Fish Tissue	2006	L	0.018
CB5MH VAP-C01E_OHC01A08 / Old House Cove / Described in VDH-DSS SFC 015-022F, 5/9/2016.	5A	PCB in Fish Tissue	2006	L	0.024
CB5MH VAP-C01E_OWP01A98 / Owens Pond / Downstream of VDH-DSS condemnations 011-122B and 011-122C, 8/31/2016.	5A	PCB in Fish Tissue	2006	L	0.076
CB5MH VAP-C01E_OWP02B12 / Owens Pond / VDH-DSS condemnation 011-122B, 8/31/2016.	5A	PCB in Fish Tissue	2006	L	0.037
CB5MH					

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VAP-C01E_OWP02C12 / Owens Pond / VDH-DSS condemnation 011-122C, 8/31/2016.	SA	PCB in Fish Tissue	2006	L	0.073
CB5MH					
VAP-C01E_OYS01A08 / Oyster Creek / Described in VDH condemnation 018-053A, 1/4/2005	SA	PCB in Fish Tissue	2006	L	0.103
CB5MH					
VAP-C01E_PEN01A12 / Penny Creek / Described in VDH-DSS Condemnation 013-220D, 4/28/2016	SA	PCB in Fish Tissue	2006	L	0.009
CB5MH					
VAP-C01E_PIT01A14 / Pitmans Cove / Described in condemnation notice 016-057B, 12/19/2016.	SA	PCB in Fish Tissue	2006	L	0.035
CB5MH					
VAP-C01E_PNT02A02 / Prentice Creek / Downstream of DSS condemnation 015-022E, 5/9/2016 to its mouth.	SA	PCB in Fish Tissue	2006	L	0.159
CB5MH					
VAP-C01E_PNT02B10 / Prentice Creek / Downstream limit of DSS condemnation 022C & D, 2/27/1997 to limit of 015-022E, 5/9/2016.	SA	PCB in Fish Tissue	2006	L	0.014
CB5MH					
VAP-C01E_PNT03A02 / Prentice Creek / Described in condemnation notice 022D, 2/27/1997.	SA	PCB in Fish Tissue	2006	L	0.015
CB5MH					
VAP-C01E_REA01A10 / Reason Creek / Described in VDH-DSS condemnation 013-220C, 8/23/2010	SA	PCB in Fish Tissue	2006	L	0.025
CB5MH					
VAP-C01E_TBS01A14 / Tabbs Creek, UT / Described in VDH-DSS condemnation notice 016-133B, 12/28/2012	SA	PCB in Fish Tissue	2006	L	0.016
CB5MH					
VAP-C01E_TBS01A98 / Tabbs Creek / Described in VDH-DSS condemnation notice 016-133A, 12/19/2016	SA	PCB in Fish Tissue	2006	L	0.054
Segment shrunk in the 2018 cycle.					
CB5MH					
VAP-C01E_TBS01B10 / Tabbs Creek / Portion of the condemnation notice 016-133A, 12/13/2006 open on 12/19/2016.	SA	PCB in Fish Tissue	2006	L	0.123
Size increased in the 2018 cycle.					
CB5MH					
VAP-C01E_TBS02A00 / Tabbs Creek / Tabbs Creek downstream of VDH-DSS SFC 016-133, 12/13/2006.	SA	PCB in Fish Tissue	2006	L	0.175

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CB5MH

Size adjusted in 2006 cycle.

VAP-C01E_TIP01A98 / Tipers Creek / Described in the condemnation notice 89C, 5/28/1997	5A	PCB in Fish Tissue	2006	L	0.083

CB5MH

VAP-C01E_TIP02A08 / Tipers Creek / Portion of condemnation notice 013-089E, 4/28/2016 not included in 89C, 5/28/1997	5A	PCB in Fish Tissue	2006	L	0.039

CB5MH

VAP-C01E_TOW01A06 / Towles Creek / Described in VDH-DSS Shellfish Condemnation 014-123M1, 5/9/2016.	5A	PCB in Fish Tissue	2006	L	0.027

CB5MH

VAP-C01E_TSK01A14 / Taskmakers Creek / As described in VDH-DSS condemnation 011-190C, 10/10/2012	5A	PCB in Fish Tissue	2006	L	0.021

CB5MH

VAP-C01E_WCO01A98 / Warehouse Creek / Described in the condemnation notice 89E, 5/28/1997	5A	PCB in Fish Tissue	2006	L	0.069

CB5MH

VAP-C01E_WCO02A08 / Warehouse Creek / Portion of VDH condemnation notice 013-220A, 4/28/2016 not included in 89E, 5/28/1997	5A	PCB in Fish Tissue	2006	L	0.008

CB5MH

VAP-C01E_WHY01A98 / Whays Creek / Described in the condemnation notice 089D, 4/3/2002	5A	PCB in Fish Tissue	2006	L	0.041

CB5MH

VAP-C01E_WHY03A10 / Whays Creek / Downstream of condemnation notice 089D, 4/3/2002.	5A	PCB in Fish Tissue	2006	L	0.099

CB5MH

VAP-C01E_XDL01A02 / XDL - Chesapeake Bay, UT (aka Big Fleets Pond) / As described in condemnation notice 011-190A, 7/24/2014.	5A	PCB in Fish Tissue	2006	L	0.018

CB5MH

VAP-C01E_XDZ01A10 / XDZ - Mill Creek, UT (Gascony Cove) / Tidal limit to mouth at Mill Creek	5A	PCB in Fish Tissue	2006	L	0.028
VAP-C01E_XEO01A10 / XEO - Reason Creek, UT / Described in VDH-DSS Condemnation 013-220E, 4/28/2016	5A	PCB in Fish Tissue	2006	L	0.001

CB5MH

VAP-C01E_XES01A12 / XES - Dividing Creek, UT / Described in the VDH-DSS condemnation 015-022D, 5/9/2016.	5A	PCB in Fish Tissue	2006	L	0.029

CB5MH

VAP-C01E_XEU01A02 / XEU - Prentice Creek, UT / Described in the condemnation notice 022C, 2/27/1997	5A	PCB in Fish Tissue	2006	L	0.011

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CB5MH VAP-C01E_XEV01A12 / XEV - Mill Creek, UT / Described in VDH-DSS condemnation 014-123C, 5/9/2016.	5A	PCB in Fish Tissue	2006	L	0.007
CB5MH VAP-C01E_XEW01A14 / XEW - Chesapeake Bay, UT / Tidal limit to mouth	5A	PCB in Fish Tissue	2006	L	0.022
VAP-C01E_XFC02C12 / XFC - Antipoison Creek, UT / Described in VDH-DSS condemnation 017-188D, 12/16/2014.	5A	PCB in Fish Tissue	2006	L	0.002
CB5MH VAP-C01E_XUC01A98 / XUC - Dividing Creek, UT / Described in the condemnation notice 015-022C, 4/17/2008.	5A	PCB in Fish Tissue	2006	L	0.013
CB5MH VAP-C01E_ZZZ01B14 / Unsegmented estuaries in C01 / Unsegmented portion of watershed CB03.	5A	PCB in Fish Tissue	2006	L	0.058
CB5MH VAP-C01E_ZZZ01C14 / Unsegmented estuaries in C01 / Unsegmented portion of watershed CB04.	5A	PCB in Fish Tissue	2006	L	0.823
CB5MH VAP-C01E_ZZZ01D14 / Unsegmented estuaries in C01 / Unsegmented portion of watershed CB05.	5A	PCB in Fish Tissue	2006	L	0.034
CB5MH VAP-C02E_DRN01A02 / Dragon Swamp / The tidal portion of Dragon Swamp to its mouth at the Piankatank River.	5A	PCB in Fish Tissue	2006	L	0.823
PIAMH VAP-C03E_COB02C10 / Cobbs Creek / Described in VDH-DSS condemnation 034-126B, 11/12/2014	5A	PCB in Fish Tissue	2006	L	0.086
PIAMH VAP-C03E_COR01A08 / Cores Creek / Described in VDH-DSS condemnation 034-208D, 11/21/2016.	5A	PCB in Fish Tissue	2006	L	0.018
PIAMH VAP-C03E_DAN01A08 / Dancing Creek / Described in VDH condemnation 025-076C, 11/21/2016	5A	PCB in Fish Tissue	2006	L	0.034
PIAMH VAP-C03E_FER01A98 / Ferry Creek / Described in the condemnation notice 035-076B, 11/21/2016. Expanded in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.125
PIAMH VAP-C03E_FRE01A02 / Frenchs Creek / As described in the condemnation notice 035-076D, 11/12/2016.	5A	PCB in Fish Tissue	2006	L	0.010
PIAMH					

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Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C03E_HEA01A02 / Healy Creek / Described in the VDH-DSS Shellfish Condemnation Notice 034-208C, 11/21/2016	5A	PCB in Fish Tissue	2006	L	0.071
PIAMH					
VAP-C03E_HRP01A98 / Harper Creek / Described in the condemnation notice 076B, 6/10/1997.	5A	PCB in Fish Tissue	2006	L	0.062
PIAMH					
VAP-C03E_JCK01A98 / Jackson Creek / Described in the condemnation notice 84A, 11/1/1996	5A	PCB in Fish Tissue	2006	L	0.019
PIAMH					
VAP-C03E_JCK01B08 / Jackson Creek / Described in the condemnation notice 033-084B, 11/12/2014.	5A	PCB in Fish Tissue	2006	L	0.013
PIAMH					
VAP-C03E_JCK01B14 / Jackson Creek / Portion of condemnation notice 84B, 11/1/1996 within 033-084M1, 11/12/2014.	5A	PCB in Fish Tissue	2006	L	0.003
PIAMH					
VAP-C03E_JCK01C08 / Jackson Creek / Portion of condemnation notice 033-084A, 11/12/2014 not included in 84A, 11/1/1996	5A	PCB in Fish Tissue	2006	L	0.002
PIAMH					
VAP-C03E_JCK01C14 / Jackson Creek, UT / Described in VDH-DSS condemnation notice 033-084C, 11/12/2014.	5A	PCB in Fish Tissue	2006	L	0.033
PIAMH					
VAP-C03E_JCK02B16 / Jackson Creek / Described in VDH-DSS condemnation notice 033-084E, 11/12/2014.	5A	PCB in Fish Tissue	2006	L	0.011
PIAMH					
VAP-C03E_JCK02C10 / Jackson Creek / Portion of VDH-DSS condemnation notice 033-084M1, 11/12/2014 not included in 084B, 11/1/1996.	5A	PCB in Fish Tissue	2006	L	0.212
PIAMH					
VAP-C03E_JCK03C10 / Jackson Creek / Described in condemnation notice 033-084D, 11/12/2014	5A	PCB in Fish Tissue	2006	L	0.013
PIAMH					
VAP-C03E_MRE01A02 / Moore Creek / As described in the condemnation notice 034-208A, 11/21/2016.	5A	PCB in Fish Tissue	2006	L	0.040
Size reduced in the 2018 cycle.					
PIAMH					
VAP-C03E_PNK01A02 / Piankatank River / Portions of VDH-DSS condemnation 035-076A, 11/21/2016 open on 6/10/1997. Segment ends at Deep Point Boat Landing.	5A	PCB in Fish Tissue	2006	L	0.558
Expanded in the 2018 cycle.					
PIAMH					

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VAP-C03E_PNK01A98 / Piankatank River / Watershed limit (start of Piankatank River) downstream to limit of SFC 035-076A, 6/10/1997.	5A	PCB in Fish Tissue	2006	L	1.280
PIAMH					
VAP-C03E_PNK02A00 / Piankatank River / Mainstem Piankatank from Deep Point Boat Landing downstream to PNK03A00, excluding the Berkley Island area.	5A	PCB in Fish Tissue	2006	L	4.007
PIAMH					
VAP-C03E_PNK02B08 / Piankatank River / Bend around Berkley Island	5A	PCB in Fish Tissue	2006	L	0.785
PIAMH					
VAP-C03E_PNK03A00 / Piankatank River / One-half mile radius around monitoring station 7-PNK005.36 on the Piankatank River between Pond Point and Iron Point.	5A	PCB in Fish Tissue	2006	L	1.167
PIAMH					
VAP-C03E_PNK04A00 / Piankatank River / Mainstem Piankatank River from PNK03A00 downstream to the point at Fishing Bay.	5A	PCB in Fish Tissue	2006	L	3.528
PIAMH					
VAP-C03E_PNK04B06 / Piankatank River / As described in VDH-DSS SFC 034-208M1, 11/21/2016.	5A	PCB in Fish Tissue	2006	L	0.040
PIAMH					
VAP-C03E_PNK04C06 / Piankatank River, Fishing Bay / As described in VDH-DSS SFC 034-208 M2, 11/21/2016.	5A	PCB in Fish Tissue	2006	L	0.085
PIAMH					
VAP-C03E_PNK04D08 / Porpoise Cove / As described in VDH-DSS SFC 034-208B, 11/21/2016	5A	PCB in Fish Tissue	2006	L	0.011
PIAMH					
VAP-C03E_PNK05A02 / Piankatank River / Piankatank River downstream of Fishing Bay at Stove Point to mouth at Chesapeake Bay	5A	PCB in Fish Tissue	2006	L	4.942
PIAMH					
VAP-C03E_PNK07B08 / Piankatank River, UT / Described in VDH-DSS SFC 034-126C, 11/12/2014.	5A	PCB in Fish Tissue	2006	L	0.007
PIAMH					
VAP-C03E_PNK08B08 / Piankatank River, UT / Described in VDH-DSS SFC 034-126D, 11/12/2014	5A	PCB in Fish Tissue	2006	L	0.003
PIAMH					
VAP-C03E_WLT01A98 / Wilton Creek / Described in the condemnation notice 034-126A, 11/12/2014	5A	PCB in Fish Tissue	2006	L	0.134
PIAMH					
VAP-C03E_ZZZ01B14 / Unsegmented estuaries in C03 / Unsegmented portion of watershed CB11.	5A	PCB in Fish Tissue	2006	L	0.175

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Chesapeake Bay/Atlantic/Small Coastal Basins

PIAMH

VAP-C04E_BEV01A08 / Belleville Creek / Described in VDH Shellfish Condemnation 042-157B, 5/27/2015.	5A	PCB in Fish Tissue	2006	L	0.037

MOBPH

VAP-C04E_BKA01A98 / Back Creek / Described in VDH condemnation notice 042-157C, 5/27/2015	5A	PCB in Fish Tissue	2006	L	0.071

MOBPH

VAP-C04E_BKA01B12 / Back Creek / Portion of VDH condemnation notice 157C, 6/3/1997 open on 5/27/2015	5A	PCB in Fish Tissue	2006	L	0.014

MOBPH

VAP-C04E_BLL01A16 / Billups Creek / Portion of condemnation notice 204, 4/4/1997 open 1/31/2014.	5A	PCB in Fish Tissue	2006	L	0.017

PIAMH

VAP-C04E_BLL01A98 / Billups Creek / Described in the condemnation notice 037-061B, 1/31/2014.	5A	PCB in Fish Tissue	2006	L	0.029

PIAMH

VAP-C04E_BLL02A16 / Billups Creek / Billups Creek not otherwise segmented.	5A	PCB in Fish Tissue	2006	L	0.312

PIAMH

VAP-C04E_BLL02C12 / Billups Creek / Described in condemnation notice 037-061M3, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.005

PIAMH

VAP-C04E_BLW01A98 / Blackwater Creek / Described in the condemnation notice 042-131A, 6/3/1997.	5A	PCB in Fish Tissue	2006	L	0.101

MOBPH

VAP-C04E_BOR01A18 / Borum Creek / Described in VDH-DSS condemnation 039-026C, 3/7/2016.	5A	PCB in Fish Tissue	2006	L	0.028

CB6PH

VAP-C04E_BRN01A04 / Barn Creek / Described in VDH-DSS condemnation notice 036-197C, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.020

PIAMH

VAP-C04E_BUR01A00 / Burke Mill Stream / From extent of tide to North River	5A	PCB in Fish Tissue	2010	L	0.025

MOBPH

VAP-C04E_DAV01A98 / Davis Creek / Described in the condemnation notice 042-131C, 6/30/2016.	5A	PCB in Fish Tissue	2006	L	0.012

Size reduced in the 2018 cycle.

MOBPH

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VAP-C04E_DAV02A14 / Davis Creek, UT / Described in VDH-DSS condemnation 042-131B, 7/12/2012.	5A	PCB in Fish Tissue	2006	L	0.024
MOBPH					
VAP-C04E_DOC01A98 / Doctors Creek / Portion of VDH condemnation notice 26B, 2/25/1997 open in 039-026, 3/7/2016.	5A	PCB in Fish Tissue	2006	L	0.010
CB6PH					
VAP-C04E_DOC01B14 / Doctors Creek / Described in VDH-DSS condemnation notice 039-026B, 3/7/2016.	5A	PCB in Fish Tissue	2006	L	0.005
CB6PH					
VAP-C04E_DVS01A98 / Davis Creek / Described in the condemnation notice 040-085B, 9/29/2015.	5A	PCB in Fish Tissue	2006	L	0.006
MOBPH					
VAP-C04E_DVS01B08 / Davis Creek / Described in the condemnation notice 040-085M2, 9/21/2010.	5A	PCB in Fish Tissue	2006	L	0.011
MOBPH					
VAP-C04E_DVS02A12 / Davis Creek / Described in the condemnation notice 040-085M1, 9/29/2015.	5A	PCB in Fish Tissue	2006	L	0.011
MOBPH					
VAP-C04E_DVS03A12 / Davis Creek / Described in VDH-DSS condemnation 040-085A, 9/29/2015	5A	PCB in Fish Tissue	2006	L	0.009
MOBPH					
VAP-C04E_DYE01A08 / Dyer Creek / Described in VDH-DSS Condemnation 039-100A, 2/24/2011.	5A	PCB in Fish Tissue	2006	L	0.015
CB6PH					
VAP-C04E_DYE02A04 / Dyer Creek / Downstream limit of condemnation to mouth.	5A	PCB in Fish Tissue	2006	L	0.272
CB6PH					
VAP-C04E_EDW01A98 / Edwards Creek / Portion of VDH condemnation notice 197A, 1/21/1997 open in 036-197, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.006
Segment split in the 2018 cycle.					
PIAMH					
VAP-C04E_EDW01B18 / Edwards Creek / Described in VDH condemnation notice 036-197D, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.021
PIAMH					
VAP-C04E_EDW02A98 / Edwards Creek / Described in the condemnation notice 036-197B, 1/21/1997.	5A	PCB in Fish Tissue	2006	L	0.047
PIAMH					
VAP-C04E_ELM01A98 / Elmington Creek / Described in the condemnation notice 157B, 6/3/1997.	5A	PCB in Fish Tissue	2006	L	0.023
MOBPH					

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VAP-C04E_ELM01B08 / Elmington Creek / Portion of VDH condemnation notice 042-157D, 5/27/2015 not included in 157B, 6/3/1997.	5A	PCB in Fish Tissue	2006	L	0.009
MOBPH					
VAP-C04E_EST01A98 / East River / Described in the condemnation notice 92, 1/3/1995.	5A	PCB in Fish Tissue	2006	L	0.198
MOBPH					
VAP-C04E_EST01B10 / East River / Portion of condemnation notice 041-092A, 9/30/2016 open in 92, 1/3/1995.	5A	PCB in Fish Tissue	2006	L	0.101
MOBPH					
VAP-C04E_EST01D10 / East River, UT / Described in the condemnation notice 041-092C, 12/16/2010.	5A	PCB in Fish Tissue	2006	L	0.023
MOBPH					
VAP-C04E_EST02A00 / East River / East River from SFC 92 to mouth, not otherwise segmented.	5A	PCB in Fish Tissue	2006	L	2.519
MOBPH					
VAP-C04E_EST03A06 / East River, UT / Described in VDH-DSS SFC 041-212M1, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.016
MOBPH					
VAP-C04E_EST04A02 / East River, UT / As described in condemnation notice 041-212B, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.026
MOBPH					
VAP-C04E_EST05A06 / East River, UT (aka Mill Creek) / Described in VDH-DSS SFC 041-212M2, 9/25/2014.	5A	PCB in Fish Tissue	2006	L	0.010
MOBPH					
VAP-C04E_EST06A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212G, 10/25/2005.	5A	PCB in Fish Tissue	2006	L	0.020
MOBPH					
VAP-C04E_EST07A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212C, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.014
MOBPH					
VAP-C04E_EST08A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212E, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.004
MOBPH					
VAP-C04E_GDN01A06 / Garden Creek / Tidal limit to mouth.	5A	PCB in Fish Tissue	2006	L	0.373
CB6PH					
VAP-C04E_GRE01A08 / Greenmansion Cove / Described in VDH-DSS condemnation notice 042-131E, 6/12/2014.	5A	PCB in Fish Tissue	2006	L	0.027
MOBPH					
VAP-C04E_GRE01B10 / Greenmansion Cove / Portion of VDH-	5A	PCB in Fish Tissue	2006	L	0.027

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Chesapeake Bay/Atlantic/Small Coastal Basins

DSS condemnation notice 042-131M1, 6/30/2016 not included in 042-131E, 6/12/2014.

MOBPH

VAP-C04E_HAH01A98 / Horn Harbor / Described in VDH condemnation notices 039-026A and -026E, 3/7/2016. 5A PCB in Fish Tissue 2006 L 0.146

Size increased in the 2018 cycle.

CB6PH

VAP-C04E_HAH02A02 / Horn Harbor / From VDH-DSS condemnation 26A, 2/25/1997 downstream to the mouth, unless otherwise segmented. 5A PCB in Fish Tissue 2006 L 1.474

CB6PH

VAP-C04E_HAH02B12 / Horn Harbor, UT / Described in VDH-DSS condemnation 039-026M2, 3/7/2016. 5A PCB in Fish Tissue 2006 L 0.004

CB6PH

VAP-C04E_HAH02C12 / Horn Harbor / Portion of VDH-DSS condemnation 26A, 2/25/1997 open in the 039-026, 3/7/2016 condemnation. 5A PCB in Fish Tissue 2006 L 0.054

Size reduced in the 2018 cycle.

CB6PH

VAP-C04E_HAH02D18 / Horn Harbor, UT / Described in VDH-DSS condemnation 039-026D, 3/7/2016. 5A PCB in Fish Tissue 2006 L 0.005

CB6PH

VAP-C04E_HAH03A06 / Horn Harbor / Described in VDH-DSS SFC 039-026M1, 3/7/2016. 5A PCB in Fish Tissue 2006 L 0.035

Size decreased in the 2018 cycle.

CB6PH

VAP-C04E_HAH04A06 / Horn Harbor, UT (Jacks Creek) / Described in VDH Shellfish Condemnation 039-100M1, 3/6/2013. 5A PCB in Fish Tissue 2006 L 0.016

CB6PH

VAP-C04E_HKC01A08 / Hickorynut Cove / Tidal limit to mouth at Milford Haven 5A PCB in Fish Tissue 2006 L 0.023

PIAMH

VAP-C04E_HUD01A08 / Hudgins Creek / Described in VDH-DSS Condemnation 037-061D, 2/7/2012 5A PCB in Fish Tissue 2006 L 0.016

PIAMH

VAP-C04E_LAN01A02 / Lanes Creek / As described in condemnation notice 037-099E, 1/31/2014. 5A PCB in Fish Tissue 2006 L 0.020

PIAMH

VAP-C04E_LAN01B08 / Lanes Creek, UT / Described in VDH Shellfish Condemnation 037-099C, 2/16/2016. 5A PCB in Fish Tissue 2006 L 0.002

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Chesapeake Bay/Atlantic/Small Coastal Basins

PIAMH VAP-C04E_MID01A02 / Winder Creek / As described in the condemnation notice 037-099B, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.025
PIAMH VAP-C04E_MIS01A04 / Miles Creek / Described in VDH Condemnation Notice 041-212D, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.030
MOBPH VAP-C04E_MLF01A98 / Milford Haven / Described in the condemnation notice 036-197A, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.029
PIAMH VAP-C04E_MLF02A98 / Milford Haven / Described in the condemnation notice 036-197E, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.030
PIAMH VAP-C04E_MLF03A00 / Milford Haven / Downstream of SFC 036-197, 2/16/2016 except as otherwise segmented.	5A	PCB in Fish Tissue	2006	L	1.411
PIAMH VAP-C04E_MLF04A06 / Milford Haven / Hills Bay	5A	PCB in Fish Tissue	2006	L	2.283
PIAMH VAP-C04E_MLF05A06 / Milford Haven / Described in VDH-DSS condemnation 036-197M1, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.041
PIAMH VAP-C04E_MRC01A98 / Morris Creek / Described in condemnation notice 61B, 4/4/1997.	5A	PCB in Fish Tissue	2006	L	0.034
PIAMH VAP-C04E_NOR01A02 / North River / Described in condemnation notice 042-157A, 5/27/2015, excluding tidal Burke Mill Stream. Split in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.250
MOBPH VAP-C04E_NOR01B08 / North River / Portion of condemnation notice 042-157A, 6/21/2013 not included on the 6/3/1997 condemnation	5A	PCB in Fish Tissue	2006	L	0.135
MOBPH VAP-C04E_NOR01C18 / North River / Portion of condemnation notice 157A, 6/3/1997 open 5/27/2015.	5A	PCB in Fish Tissue	2006	L	0.067
MOBPH VAP-C04E_NOR02A02 / North River / North River and tribs from SFC 157A to Mobjack Bay, except as otherwise segmented.	5A	PCB in Fish Tissue	2006	L	5.392
MOBPH VAP-C04E_OAK01A08 / Oakland Creek / Described in the	5A	PCB in Fish Tissue	2006	L	0.030

condemnation notice 042-131B, 6/12/2014.

MOBPH

VAP-C04E_PEP01A06 / Pepper Creek / As described in the condemnation notice 040-085B, 9/26/2006.	5A	PCB in Fish Tissue	2006	L	0.031

MOBPH

VAP-C04E_PUT01A98 / Put In Creek / Portion of VDH-DSS condemnation notice 041-005A, 9/29/2015 not included in 5B, 6/5/1996.	5A	PCB in Fish Tissue	2006	L	0.095

Expanded slightly in the 2018 cycle.

MOBPH

VAP-C04E_PUT01C10 / Put In Creek / Portion of condemnation notice 5A, 6/5/1996 open on 041-005, 9/29/2015.	5A	PCB in Fish Tissue	2006	L	0.032

Shrank in the 2018 cycle.

MOBPH

VAP-C04E_PUT01D16 / Put In Creek / Described in condemnation notice 041-005B, 9/29/2015.	5A	PCB in Fish Tissue	2006	L	0.005

MOBPH

VAP-C04E_PUT02A98 / Put In Creek / Described in the condemnation notice 5B, 6/5/1996.	5A	PCB in Fish Tissue	2006	L	0.021

MOBPH

VAP-C04E_QUE01A98 / Queens Creek / Described in condemnation notices 037-099A, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.063

Size reduced in the 2018 cycle.

PIAMH

VAP-C04E_QUE01B10 / Queens Creek / Described in condemnation notices 037-099M1, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.031

PIAMH

VAP-C04E_QUE01C10 / Queens Creek / Below condemnation notices 99A, 4/7/1997 and 037-099, 2/16/2016	5A	PCB in Fish Tissue	2006	L	0.061

PIAMH

VAP-C04E_QUE01D12 / Queens Creek / Portion of condemnation notice 99A, 4/9/1997 not included in 037-099A, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.100

Expanded in the 2018 cycle.

PIAMH

VAP-C04E_QUE02A12 / Queens Creek, UT / Described in condemnation notice 037-099C, 1/31/2014.	5A	PCB in Fish Tissue	2006	L	0.019

PIAMH

VAP-C04E_RAN01A08 / Raines Creek / VDH Shellfish Condemnation 041-212I, 10/25/2005	5A	PCB in Fish Tissue	2006	L	0.039

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MOBPH VAP-C04E_RAY01A12 / Raymond Creek / Described in VDH-DSS condemnation 042-131B, 6/30/2016.	5A	PCB in Fish Tissue	2006	L	0.026
MOBPH VAP-C04E_SLO01A08 / Sloop Creek / Tidal extent of Sloop Creek.	5A	PCB in Fish Tissue	2006	L	0.050
MOBPH VAP-C04E_STO01A08 / Stoakes Creek / Described in VDH Shellfish Condemnation 037-061M1, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.006
PIAMH VAP-C04E_STO01B14 / Stoakes Creek / Tidal limit to mouth unless otherwise segmented.	5A	PCB in Fish Tissue	2006	L	0.289
PIAMH VAP-C04E_STT01A14 / Stutts Creek / Portion of condemnation notice 061A, 4/4/1997 open 2/16/2016. Expanded in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.028
PIAMH VAP-C04E_STT01A98 / Stutts Creek / Described in condemnation notice 037-061A and -061B, 2/16/2016. Size reduced in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.062
PIAMH VAP-C04E_STT01B06 / Stutts Creek, UT (Hole in the Wall) / Described in VDH-DSS condemnation 037-061M5, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.016
PIAMH VAP-C04E_STT01B10 / Stutts Creek/Morris Creek / Portion of VDH condemnation notice 037-061C, 2/16/2016 not condemned on 4/4/1997. Shrank considerably in the 2018 cycle.	5A	PCB in Fish Tissue	2006	L	0.005
PIAMH VAP-C04E_STT01C14 / Stutts Creek / Described in VDH condemnation notice 037-061M4, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.013
PIAMH VAP-C04E_STT02A00 / Stutts Creek / Morris Creek / Downstream limit of condemnation to Fanneys Point, except as otherwise segmented.	5A	PCB in Fish Tissue	2006	L	0.229
PIAMH VAP-C04E_STT04A06 / Stutts Creek / Described in VDH-DSS SFC 037-061M2, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.025
PIAMH VAP-C04E_STT05A10 / Stutts Creek (Hole in the Wall) / From Point	5A	PCB in Fish Tissue	2006	L	1.037

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Chesapeake Bay/Atlantic/Small Coastal Basins

Breeze downstream to its mouth at the Chesapeake Bay.

PIAMH

VAP-C04E_TAB01A08 / Tabbs Creek / Described in VDH Shellfish Condemnation 041-212F, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.034

Size reduced in the 2018 cycle.

MOBPH

VAP-C04E_THO01A08 / Thomas Creek / Described in VDH Shellfish Condemnation 041-212B, 9/25/2014.	5A	PCB in Fish Tissue	2006	L	0.014

MOBPH

VAP-C04E_WHA01A06 / Wharf Creek / Described in VDH-DSS SFC 036-197M2, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.018

PIAMH

VAP-C04E_WHI01A08 / Whites Creek / Whites Creek around Festival Beach	5A	PCB in Fish Tissue	2006	L	0.046

PIAMH

VAP-C04E_WHI01B12 / Whites Creek / Stutts Creek to Festival Beach	5A	PCB in Fish Tissue	2006	L	0.271

PIAMH

VAP-C04E_WIN01A06 / Winter Harbor, UT / Described in the condemnation notice 038-178B, 3/7/2016.	5A	PCB in Fish Tissue	2006	L	0.108

Expanded in the 2018 cycle.

CB6PH

VAP-C04E_WIN01B00 / Winter Harbor / Lower Winter Harbor, not otherwise segmented.	5A	PCB in Fish Tissue	2006	L	0.183

CB6PH

VAP-C04E_WIN02B06 / Winter Harbor / Described in VDH-DSS SFC 038-178M1, 3/7/2016.	5A	PCB in Fish Tissue	2006	L	0.037

CB6PH

VAP-C04E_WIN03A06 / Winter Harbor / Northern portion of Winter Harbor	5A	PCB in Fish Tissue	2006	L	0.736

CB6PH

VAP-C04E_WIN03B18 / Winter Harbor / Described in VDH-DSS condemnation 038-176A, 3/7/2016.	5A	PCB in Fish Tissue	2006	L	0.422

CB6PH

VAP-C04E_WON01A08 / Weston Creek / Described in VDH Shellfish Condemnation 041-212A, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.025

MOBPH

VAP-C04E_WOO01A10 / Woodas Creek / Described in the condemnation notice 041-092B, 9/30/2016.	5A	PCB in Fish Tissue	2006	L	0.029

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Shrank slightly in the 2018 cycle.

MOBPH					
VAP-C04E_WTS01A08 / Whites Creek / Described in VDH Shellfish Condemnation 041-212E, 10/25/2005.	5A	PCB in Fish Tissue	2006	L	0.018
MOBPH					
VAP-C04E_XFA03A14 / XFA - North River, UT / Described in VDH-DSS condemnation 042-131A, 6/30/2016.	5A	PCB in Fish Tissue	2006	L	0.020
MOBPH					
VAP-C04E_XFE01A16 / XFE - Piankatank River, UT (aka Kibble Pond) / Described in VDH-DSS condemnation 036-197B, 2/16/2016.	5A	PCB in Fish Tissue	2006	L	0.016
PIAMH					
VAP-C04E_ZZZ01A00 / Unsegmented estuaries in C04 / Unsegmented portion of the watershed within PIAMH	5A	PCB in Fish Tissue	2006	L	0.766
VAP-C04E_ZZZ02A06 / Unsegmented estuaries in C04 / Unsegmented portion within CB6PH	5A	PCB in Fish Tissue	2006	L	0.076
VAP-C04E_ZZZ03A06 / Unsegmented estuaries in C04 / Unsegmented portion within MOBPH	5A	PCB in Fish Tissue	2006	L	0.409
VAP-C05E_FOX01A08 / Fox Mill Run / Described in the condemnation notice 96B, 8/12/1996.	5A	PCB in Fish Tissue	2006	L	0.085
MOBPH					
VAP-C05E_OLD01A12 / Oldhouse Creek / Tidal limit to mouth at Ware River	5A	PCB in Fish Tissue	2006	L	0.102
MOBPH					
VAP-C05E_WAR01A02 / Ware River / Described in the condemnation notice 096A, 8/12/1996.	5A	PCB in Fish Tissue	2006	L	0.257
MOBPH					
VAP-C05E_WAR01B08 / Ware River / Portion of VDH condemnation notice 043-096A, 5/27/2015 not included in condemnation 96A and 96B, 8/12/1996.	5A	PCB in Fish Tissue	2006	L	0.262
Shortened in the 2018 cycle.					
MOBPH					
VAP-C05E_WAR02A02 / Ware River / Ware River downstream of SFC 096.	5A	PCB in Fish Tissue	2006	L	6.309
MOBPH					
VAP-C05E_WAR02B18 / Ware River / Described in VDH-DSS condemnation 043-096C, 5/27/2015.	5A	PCB in Fish Tissue	2006	L	0.010
MOBPH					
VAP-C05E_WIL01A98 / Wilson Creek / Described in the condemnation notice 106, 8/12/1996.	5A	PCB in Fish Tissue	2006	L	0.033
MOBPH					
VAP-C05E_WIL01B08 / Wilson Creek / Portion of VDH	5A	PCB in Fish Tissue	2006	L	0.241

condemnation notice 043-096B, 5/27/2015 not included in condemnation notice 106, 8/12/1996.

Expanded in the 2018 cycle.

MOBPH

VAP-C05E_XDJ01A08 / Wilson Creek, UT / Tidal limit to mouth at Wilson Creek.	5A	PCB in Fish Tissue	2006	L	0.010

MOBPH

VAP-C05E_ZZZ01A00 / Unsegmented estuaries in C05 / Unsegmented portion of the watershed.	5A	PCB in Fish Tissue	2006	L	0.154

MOBPH

VAP-C06E_BRB01A08 / Browns Bay / Described in VDH Shellfish Condemnation 125B, 12/31/1996.	5A	PCB in Fish Tissue	2006	L	0.021

MOBPH

VAP-C06E_BRB01B12 / Browns Bay / Portion of VDH Shellfish Condemnation 045-125M1, 12/9/2015 not included in 125B, 12/31/1996.	5A	PCB in Fish Tissue	2006	L	0.024

MOBPH

VAP-C06E_FSC01A98 / Free School Creek / Described in VDH Shellfish Condemnation 044-093A, 6/9/2016.	5A	PCB in Fish Tissue	2006	L	0.039

Shrank in the 2018 cycle.

MOBPH

VAP-C06E_FSC01B12 / Free School Creek / Portion of TMDL study area open for harvest on 044-093, 6/9/2016.	5A	PCB in Fish Tissue	2006	L	0.028

MOBPH

VAP-C06E_HEY01A98 / Heywood Creek / Described in the condemnation notice 044-054B, 4/2/2014.	5A	PCB in Fish Tissue	2006	L	0.081

MOBPH

VAP-C06E_HEY01B10 / Heywood Creek / Portion of condemnation notice 101, 4/1/1997 open in condemnation 044-054, 4/2/2014.	5A	PCB in Fish Tissue	2006	L	0.085

MOBPH

VAP-C06E_MNC01A98 / Monday Creek / Portion of VDH-DSS condemnation notice 25A, 12/31/1996 open 12/9/2015.	5A	PCB in Fish Tissue	2006	L	0.030

Split in the 2018 cycle.

MOBPH

VAP-C06E_MNC01B18 / Monday Creek / Described in VDH-DSS condemnation notice 045-125A, 12/9/2015.	5A	PCB in Fish Tissue	2006	L	0.053

MOBPH

VAP-C06E_ROW01A06 / Rowes Creek / Described in VDH-DSS Shellfish Condemnation 044-054M2, 4/2/2014.	5A	PCB in Fish Tissue	2006	L	0.067

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Chesapeake Bay/Atlantic/Small Coastal Basins

MOBPH

VAP-C06E_SEN01A02 / Northwest Branch Severn River / Described in condemnation notice 044-093B, 6/9/2016, excluding tributary XEE. 5A PCB in Fish Tissue 2006 L 0.092

MOBPH

VAP-C06E_SEN01B16 / Northwest Branch Severn River, UT / Described in VDH-DSS condemnation notice 044-093D, 6/9/2016. 5A PCB in Fish Tissue 2006 L 0.034

MOBPH

VAP-C06E_SEN01C10 / Northwest Branch Severn River / Portion of condemnation notice 93A, 4/1/1997 open on 044-093, 6/9/2016. 5A PCB in Fish Tissue 2006 L 0.202

MOBPH

VAP-C06E_SEN02A06 / Northwest Branch Severn River / Mainstem and tribs not otherwise segmented 5A PCB in Fish Tissue 2006 L 0.441

MOBPH

VAP-C06E_SES01A00 / Southwest Branch Severn River / Mainstem 5A PCB in Fish Tissue 2006 L 0.635

MOBPH

VAP-C06E_SEV02A00 / Severn River / End of NW Branch to mouth, unless otherwise segmented. 5A PCB in Fish Tissue 2006 L 3.258

MOBPH

VAP-C06E_STR01A08 / Sterling Creek / Described in VDH Shellfish Condemnation 044-093E, 4/2/2014. 5A PCB in Fish Tissue 2006 L 0.021

MOBPH

VAP-C06E_THC01A98 / Thorntons Creek / Described in the condemnation notice 044-054A, 4/2/2014. 5A PCB in Fish Tissue 2006 L 0.052

MOBPH

VAP-C06E_THC01B10 / Thorntons Creek / Portion of condemnation notice 054, 4/1/1997 open in condemnation 044-054, 4/2/2014. 5A PCB in Fish Tissue 2006 L 0.027

MOBPH

VAP-C06E_VGH01A98 / Vaughans Creek / Described in the condemnation notice 044-093C, 6/9/2016. 5A PCB in Fish Tissue 2006 L 0.061

Shrank in the 2018 cycle.

MOBPH

VAP-C06E_VGH01B10 / Vaughans Creek / Portion of condemnation notice 093B, 4/1/1997 open on 6/9/2016. 5A PCB in Fish Tissue 2006 L 0.060

MOBPH

VAP-C06E_WET01A06 / Willetts Creek / Described in VDH Shellfish Condemnation 044-054M1, 4/2/2014. 5A PCB in Fish Tissue 2006 L 0.033

MOBPH

VAP-C06E_WET01B08 / Willetts Creek / Described in VDH 5A PCB in Fish Tissue 2006 L 0.128

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Condemnation 044-054C, 2/15/2006.

MOBPH

VAP-C06E_WTT01A08 / Whitaker Creek / Tidal extent of Whitaker Creek.	5A	PCB in Fish Tissue	2006	L	0.066

MOBPH

VAP-C06E_XEE01A10 / Northwest Branch Severn River, UT / Tidal limit to mouth at NW Branch Severn River	5A	PCB in Fish Tissue	2012	L	0.003

MOBPH

VAP-C06E_ZZZ01A00 / Unsegmented estuaries in C06 / Unsegmented portion of the watershed.	5A	PCB in Fish Tissue	2006	L	1.352

MOBPH

VAT-C07E_FMB01A12 / Fort Monroe Beaches / All of Fort Monroe Beach from the start of Mill Cr south to Lighthouse Old Point Comfort. Portion of CBP Segment CB8PH. No DSS shellfish condemnations.	5A	PCB in Fish Tissue	2006	L	0.333
VAT-C08E_LCC01A08 / Little Creek & Harbor / Entire area of Little Creek and upper portion of Little Creek Harbor. From headwaters of Little Cr. downstream to lower portion of Harbor at mouth of Bay. CBP segment CB8PH. DSS (ADMINISTRATIVE) condemnation # 068-017 C (effective 20050308).	5A	PCB in Fish Tissue	2006	L	1.064
VAT-C09E_BLB01A06 / Bullbegger Creek / Located southeast of Pitts Neck area. From estuarine/riverine transition (end of tidal waters) downstream to mouth (confluence with Pocomoke Sound). Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.134
VAT-C09E_POC01A06 / Pocomoke River / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line downstream to mouth (confluence with Pocomoke Sound) within VA. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.240
VAT-C09E_POC02A08 / Pocomoke Sound [C09 portion] / Pocomoke Sound downstream of the Pocomoke River (VA portion). Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.726
VAT-C09E_PTT01A06 / Pitts Creek / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line downstream to mouth (confluence with Pocomoke River) within VA. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.127
VAT-C09E_PTT01B10 / Pitts Creek - Upper [Admin Cond] / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line upstream to headwaters within VA at Dunns Swamp Road. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.069
VAT-C09E_ZZZ01A06 / Unsegmented tidal tributaries in C09E-POCOH / Evaluated non segmented portions of C09E. Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.006
VAT-C10E_BAG01A00 / Bagwell Creek / Northwest of Town of Justisville. Entirety of creek. Portion of CBP segment POCMH. DSS shellfish direct harvesting condemnation # 077-138 A (effective	5A	PCB in Fish Tissue	2006	L	0.102

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Chesapeake Bay/Atlantic/Small Coastal Basins

20150708).					
VAT-C10E_BAG02A10 / Bagwell Creek - Lower / Northwest of Town of Justisville. Lower DSS OPEN portion of Cr. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting area # 077-138 (effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.114
VAT-C10E_DEP01A06 / Deep Creek - Middle / East of town of Bayside. Middle portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.090
VAT-C10E_DEP01B10 / Deep Creek - Upper / East of town of Bayside. Upper portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150108).	5A	PCB in Fish Tissue	2006	L	0.114
VAT-C10E_DEP02A06 / Deep Creek - Lower / East of town of Bayside. Lower portion of creek, from RM 1.6 downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 077-138 (effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.489
VAT-C10E_DEP03A08 / Deep Creek - Lower [No DSS] / East of town of Bayside. Lower portion of creek, from RM 1.6 downstream to mouth. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	0.220
VAT-C10E_DIX01A08 / Dix Cove / Northwest of Town of Parksley. Adjacent to Bagwell & Hunting Creeks. Within CBP segment POCMH. Portion of DSS (OPEN) shellfish direct harvesting area # 077-138 (effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.041
VAT-C10E_GLF01A06 / Guilford Creek - Upper / Northeast of Town of Guilford. Upper portion of creek, from end of tidal waters downstream to end of DSS condemnation portion. Portion of CBP segment POCMH. DSS shellfish condemnation # 076-176 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.152
VAT-C10E_GLF02A06 / Guilford Creek - Lower / Northeast of Town of Guilford. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting condemnation # 076-176 (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.106
VAT-C10E_GLF03A08 / Guilford Creek - Lower [No DSS] / Northeast of Town of Guilford. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	0.460
VAT-C10E_GSH01A06 / Guard Shore Beach / In Old Cove (Beasley Bay). Located at Bailey Ridge, west of Bloxom. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation.	5A	PCB in Fish Tissue	2006	L	0.026
VAT-C10E_HLD01A06 / Holdens Creek - Upper / Located southeast of Joeys Neck area. From confluence Sandy Bottom Br downstream to 0.5 mi of station @ 7-HLD002.67. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.034
VAT-C10E_HLD02A06 / Holdens Creek - Lower / Located southeast of Joeys Neck area. From 0.5 mi downstream of station @ 7-HLD002.67 downstream to mouth. Portion of CBP segment POCOH. Portion of DSS shellfish condemnation # 075-033 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.050

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VAT-C10E_HUN01A00 / Hunting Creek - Upper / W of Hopkins. Upper portion, from end of tidal waters downstream to end of DSS condemnation (downstream of Town of Hopkins). CBP segment POCMH. DSS shellfish direct harvesting condemnation # 077-138 B (effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.168
VAT-C10E_HUN02A06 / Hunting Creek - Lower / West of Town of Hopkins. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting condemnation # 077-138 (effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.674
VAT-C10E_ISB01A06 / Island Bay - [No DSS] / Between Russell Island & Long Ridge area. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnations.	5A	PCB in Fish Tissue	2006	L	0.953
VAT-C10E_MES01A06 / Messongo Creek - Upper / Located southeast of Marsh Market & start of Rec TMDL (213) . Running parallel with Rt 692 upstream to the end of tidal waters. POCMH. Upstream portion of DSS shellfish condemnation # 076-167 A (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.042
VAT-C10E_MES02A06 / Messongo Creek - Middle [TMDL-732] / South of Town of Belinda. Portion of CBP segment POCMH. TMDL P# 732- SF. DSS Condemnation # 076-167 (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.156
VAT-C10E_MES02B08 / Messongo Creek - Middle [No TMDL] / Located south of Saxis and Belinda Rd intersection. Portion of CBP segment POCMH. DSS OPEN condemnation # 076-167 (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.093
VAT-C10E_MES03A06 / Messongo Creek - Lower / Located south of Saxis and Belinda Rd intersection downstream to the mouth. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation.	5A	PCB in Fish Tissue	2006	L	1.106
VAT-C10E_MUD01A04 / Muddy Creek - Upper / Located southeast of Byrds Marsh and northeast of Town of Bloxom. From end of tidal waters downstream to Poulson Pt. Portion of CBP segment POCMH. DSS shellfish condemnation # 076-176 B(effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.301
VAT-C10E_MUD02A06 / Muddy Creek - Lower / Located southeast of Byrds Marsh and northeast of Town of Bloxom. Lower portion of creek, Pettigrew Bend to end of DSS Open condemnation. Portion of CBP segment POCMH. DSS shellfish OPEN condemnation # 076-176 (effective 20160711).	5A	PCB in Fish Tissue	2006	L	0.048
VAT-C10E_MUD03A08 / Muddy Creek - Lower [No DSS] / Located southeast of Byrds Marsh and northeast of Town of Bloxom. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation.	5A	PCB in Fish Tissue	2006	L	0.060
VAT-C10E_POC01A08 / Pocomoke Sound - Lower [C10 portion] / Pocomoke Sound downstream of the Pocomoke River (VA portion). Area adjacent to Holdens Creek. Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 A (effective 20131023).	5A	PCB in Fish Tissue	2006	L	1.452
VAT-C10E_STR01A08 / Starling Creek / Located on Saxis Island, southwest of Pocomoke Sound. Embayment at town of Saxis. From end of tidal waters downstream to end of DSS condemnation. Portion of CBP segment POCMH. DSS shellfish direct harvesting condemnation # 075-118 M1 (effective 20111102).	5A	PCB in Fish Tissue	2006	L	0.091
VAT-C10E_YOU01A06 / Young Creek / Northeast of Town of	5A	PCB in Fish Tissue	2006	L	0.243

Guilford and south of Jobes Island. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting condemnation # 076-176 (effective 20120810).					
VAT-C10E_ZZZ01A06 / Unsegmented Bay Waters in C10E-CB7PH. / Evaluated non-segmented Bay Waters in C10E not contained within VACB-R01E-CB7S. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnations.	5A	PCB in Fish Tissue	2006	L	1.415
VAT-C10E_ZZZ02A06 / Unsegmented estuaries in C10E-POCMH [No DSS] / Evaluated non-segmented portions of C10E not contained within VACB-R01E-CB7S. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation area identified.	5A	PCB in Fish Tissue	2006	L	2.975
VAT-C10E_ZZZ02B10 / Unsegmented Bay Waters in C10E-POCMH - Doe Cr / Non-segmented portions of Bay Waters in C10E-POCMH. DSS (OPEN) shellfish direct harvesting condemnation area # 077-138 (201520708).	5A	PCB in Fish Tissue	2006	L	0.365
VAT-C11E_CED01A00 / Cedar Creek / Entire estuarine portion of creek. North shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 C (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.063
VAT-C11E_CSX01A00 / Chesconessex Creek - South Br. - Upper / South of Chesconessex and northwest of Onancock. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 A (effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.109
VAT-C11E_CSX01B10 / Chesconessex Creek - South Br. - Middle / South of Chesconessex and northwest of Onancock. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 OPEN(effective 20150708).	5A	PCB in Fish Tissue	2006	L	0.100
VAT-C11E_CSX02A06 / Chesconessex Creek - N. Branch / Lower portion of Creek, including tidal tribs., from the end DSS condemnation # 079-112 downstream to mouth. Portion of CBP segment CB7PH. Part of area contains no DSS Condemnation remainder is OPEN 079-112 (20150708).	5A	PCB in Fish Tissue	2006	L	1.832
VAT-C11E_CSX02B10 / Chesconessex Creek - N. Branch / North Branch portion of creek at marina area. DSS Admin condemnation # 079-112 B (effective 20150708). Portion of CBP segment CB7PH.	5A	PCB in Fish Tissue	2006	L	0.030
VAT-C11E_FNN01A00 / Finneys Creek - Upper / East of Bailey Neck area. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 B (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.069
VAT-C11E_FNN02A00 / Finneys Creek - Lower / East of Bailey Neck area. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.119
VAT-C11E_LTH01A00 / Leatherberry Creek / Entire estuarine portion of creek. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 081-013 A (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.070
VAT-C11E_MTC01A06 / Matchotank Creek - Upper / South of Broadway Neck area. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-169 (effective 20071219).	5A	PCB in Fish Tissue	2006	L	0.069
VAT-C11E_MTC02A06 / Matchotank Creek - Lower / South of Broadway Neck area. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-169 (effective	5A	PCB in Fish Tissue	2006	L	0.116

20071219) & no DSS area identified.					
VAT-C11E_OCB01A00 / Central Branch, Onancock Creek / CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.018
VAT-C11E_OCN01A04 / Onancock Creek Mainstem - Upper [Admin Cond] / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation (by Finneys Wharf. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.129
VAT-C11E_OCN01C10 / Onancock Creek Mainstem - Upper / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation near Finneys Wharf. CBP segment CB7PH. Portion of DSS shellfish condemnation # 081-013 (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.097
VAT-C11E_OCN02A04 / Onancock Creek Mainstem - Lower / East of Bailey Neck area. Mainstem of Onancock Creek- lower. From Finneys Wharf downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (effective 20131120).	5A	PCB in Fish Tissue	2006	L	1.953
VAT-C11E_OCN02B08 / Onancock Creek Mainstem - Poplar Cove / East of Bailey Neck area. Mainstem of Onancock Creek. Marina in area of Poplar Cove. Portion of CBP segment CB7PH. DSS (SEASONAL) shellfish direct harvesting condemnation # 080-013 M2 (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.016
VAT-C11E_ONB01A02 / North Branch, Onancock Creek / Located near Town of Onancock. Entire North Branch, Onancock Creek. CBP segment CB7PH. DSS shellfish condemnation (Admin Cond-PROHIBITION) # 081-013 D (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.021
VAT-C11E_OSB01A02 / Southern Branch, Onancock Creek / Near Town of Onancock. Entire Southern Branch Onancock Creek. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 081-013 A (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.058
VAT-C11E_PRK01A08 / Parkers Creek - Upper / South shore tributary of Onancock Creek at Finneys Neck. Upstream portion of creek. Portion of CBP segment CB7PH. DSS shellfish OPEN direct harvesting condemnation # 080-013 (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.035
VAT-C11E_PRK02A08 / Parkers Creek - Middle / South shore tributary of Onancock Creek at Finneys Neck. Middle portion of creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.041
VAT-C11E_PRK03A08 / Parkers Creek - Lower / South shore tributary of Onancock Creek at Finneys Neck. Area around marina at mouth of Parkers Creek. Portion of CBP segment CB7PH. DSS shellfish seasonal condemnation # 080-013 M1 (effective 20131120).	5A	PCB in Fish Tissue	2006	L	0.086
VAT-C11E_TAR01A06 / Tarkill Creek / Located in Sluitkill Neck area. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	0.190
VAT-C11E_ZZZ01A00 / Unsegmented estuaries in C11E. / Evaluated non segmented portions of C11E not contained within VACB-R01E-CB7S. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (20131120).	5A	PCB in Fish Tissue	2006	L	1.538
VAT-C12E_PUN01A06 / Pungoteague Creek - Upper / W of Melfa. Upper portion of Pungoteague Cr. from the end of tidal waters	5A	PCB in Fish Tissue	2006	L	0.232

downstream to Boggs Wharf and Route 634. CBP segment CB7PH. DSS condemnation # 081-119 B (effective 20130325).					
VAT-C12E_PUN01B16 / Pungoteague Creek - Middle-Upper / W of Melfa. Upper portion of Pungoteague Cr. from the Boggs Warf to Horse Hole Creek. CBP segment CB7PH. DSS OPEN condemnation OPEN # 081-119 (effective 20160401).	5A	PCB in Fish Tissue	2006	L	0.262
VAT-C12E_PUN02A06 / Pungoteague Creek - Lower / Located west of Town of Melfa. Lower portion of Pungoteague Cr. from Horse Hole Creek downstream to mouth. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 081-119 (effective 20160401).	5A	PCB in Fish Tissue	2006	L	1.186
VAT-C12E_TAY01A06 / Taylor Creek / Located southwest of Harborton. From the end of tidal waters downstream Route 628 and Eastern Shore Yacht Club. Portion of CBP segment CB7PH. Portion of DSS condemnation # 081-119 C (effective 20160401).	5A	PCB in Fish Tissue	2006	L	0.130
VAT-C12E_TAY02A14 / Taylor Creek- Mouth / Located southwest of Harborton. From Route 628 and Eastern Shore Yacht Club to Puncoteague confluence. Portion of CBP segment CB7PH. Portion of DSS condemnation # 081-119 OPEN &M1 (effective 20160401).	5A	PCB in Fish Tissue	2006	L	0.035
VAT-C12E_UNR01A06 / Underhill Creek / In area of Mount Nebo. North shore tributary to Pungoteague Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 081-119 A (effective 20160401).	5A	PCB in Fish Tissue	2006	L	0.070
VAT-C12E_WRP01A06 / Warehouse Prong - Upper / Located north of Bobtown and east of Boggs Wharf. Upper portion, from headwaters to confluence with UT. Portion of CBP segment CB7PH. Portion of DSS (Admin Cond) condemnation # 081-119 D (effective 20160401).	5A	PCB in Fish Tissue	2006	L	0.042
VAT-C12E_WRP02A06 / Warehouse Prong - Lower / Located north of Bobtown and east of Boggs Wharf. Lower portion, from confluence with UT downstream to confluence with Pungoteague Cr. Portion of CBP segment CB7PH. DSS (Admin Cond) condemnation # 081-119 B (effective 20160401).	5A	PCB in Fish Tissue	2006	L	0.054
VAT-C12E_ZZZ01A00 / Unsegmented Bay Waters in C12E. / Evaluated non segmented portions of C12E, UT south of Pungoteague Cr. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	0.002
VAT-C13E_BCE01A08 / Back Creek / Southwest of Fairview Neck area. North shore tributary of Nandua Cr. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	5A	PCB in Fish Tissue	2006	L	0.141
VAT-C13E_BOS01A08 / Boggs Gut / Southwest of Fairview Neck area. South shore tributary of Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	5A	PCB in Fish Tissue	2006	L	0.034
VAT-C13E_CHC01A00 / Church Creek / In area of Elliotts Neck. Tributary to Nassawadox Creek. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 085-185 (effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.430
VAT-C13E_CHC01B16 / Church Creek -Upper / In area of Elliotts Neck. Tributary to Nassawadox Creek, upstream portion of Church Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-185 B (effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.108
VAT-C13E_CHC01C10 / Church Creek - Middle- UT North Cove / In	5A	PCB in Fish Tissue	2006	L	0.059

area of Elliotts Neck. Tributary to Church Creek - Middle, UT North Cove. Portion of CBP segment CB7PH. DSS shellfish harvesting condemnation # 085-185 A (effective 20161013).					
VAT-C13E_CRA01A06 / Craddock Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to end of shellfish condemnation (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 083-195 A (effective 20121210).	5A	PCB in Fish Tissue	2006	L	0.082
VAT-C13E_CRA02A08 / Craddock Creek - Lower and UT / Most of Craddock Cr. excluding SF condemnation in upper creek. Including all tribs. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 083-195 (effective 20121210).	5A	PCB in Fish Tissue	2006	L	0.911
VAT-C13E_CRR01A08 / Curratuck Creek / Southwest of Fairview Neck area. Lower south shore tributary of middle Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	5A	PCB in Fish Tissue	2006	L	0.277
VAT-C13E_HGC01A06 / Holly Grove Cove / Located near Wellington Neck. From end of tidal waters downstream to mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-110 E (effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.143
VAT-C13E_KLL01A06 / Kelley Cove / From end of tidal waters downstream to confluence with Nassawadox Cr. (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 D (effective 201610137).	5A	PCB in Fish Tissue	2006	L	0.026
VAT-C13E_MAG01A08 / McLean Gut - Upper / Southwest of Fairview Neck area. Middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 B (effective 20160330).	5A	PCB in Fish Tissue	2006	L	0.038
VAT-C13E_MAG02A08 / McLean Gut - Lower / Southwest of Fairview Neck area. Middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 (effective 20160330).	5A	PCB in Fish Tissue	2006	L	0.032
VAT-C13E_NAN01A00 / Nandua Creek - Upper [TMDL-bact.] / Southeast of Hacks Neck area. The two most upstream branches of Nandua Creek, incl. Kusian Cove. Portion of CBP segment CB7PH. DSS condemnation # 082-160 A&C (effective 20160330).	5A	PCB in Fish Tissue	2006	L	0.144
VAT-C13E_NAN01B08 / Nandua Creek - Lower Upper / Southwest of Fairview Neck area. North shore tributary of Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	5A	PCB in Fish Tissue	2006	L	0.223
VAT-C13E_NAN02A06 / Nandua Creek - Lower / Lower portion of Nandua Creek including unsegmented tidal tribs., from the confluence of Boggs Gut downstream to mouth (RM 0.0). Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	3.150
VAT-C13E_NSS01A06 / Nassawadox Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to confluence with Kelly Cove (RM 5.2) area of TMDL-bact 6/07. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 B (effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.205
VAT-C13E_NSS01B08 / Nassawadox Creek - Upper / From confluence with Kelly Cove (RM 5.2) downstream to mainstem (outside of area of TMDL-bact 6/07). Portion of CBP segment CB7PH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 085-110 (effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.169

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C13E_NSS02A06 / Nassawadox Creek - Lower / Mainstem of lower portion of creek to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 085-110 & 085-185 (effective 20161013).	5A	PCB in Fish Tissue	2006	L	2.121
VAT-C13E_NSS03A08 / Nassawadox Creek - Middle, N. Shore Tribs / Occohannock Neck Area. North Shore UTs to lower-middle mainstem Nassawadox. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 A &C(effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.126
VAT-C13E_OCH01A06 / Occohannock Creek - Upper / Upper portion of Occohannock Creek and tidal tribs., from end of tidal waters downstream to the confluence of Wescott Cove (RM 5.3). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 A (effective 2016116).	5A	PCB in Fish Tissue	2006	L	0.538
VAT-C13E_OCH02A06 / Occohannock Creek - Lower / Lower portion of Occohannock Creek and tidal tribs., from downstream of Youngs Pt. to mouth (RM 0.0). Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 084-043 (effective 20161116).	5A	PCB in Fish Tissue	2006	L	2.469
VAT-C13E_OCH02B08 / Occohannock Creek - Middle Marina Area / In middle portion of Occohannock Creek, marina area of Davis Wharf. Portion of CBP segment CB7PH. DSS SEASONAL shellfish direct harvesting condemnation # 084-043 M1 (effective 20161116).	5A	PCB in Fish Tissue	2006	L	0.034
VAT-C13E_OCH03A08 / Shields Cove & Fisher Cove / West of Belle Haven area. North and South shore tributaries of Occohannock Cr., NW of Youngs Pt. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 B & C (effective 20161116).	5A	PCB in Fish Tissue	2006	L	0.087
VAT-C13E_WHC01A06 / Warehouse Creek - Upper / Southeast fork of upper portion of creek. Portion of CBP segment CB7PH. DSS ADMIN-PROHIB shellfish direct harvesting condemnation # 085-110 F (effective 20161013) (VPDES outfall condemnation for Shore Memorial Hospital STP VA0027537).	5A	PCB in Fish Tissue	2006	L	0.032
VAT-C13E_WHC01B10 / Warehouse Creek - Upper Middle (Admin Cond) / Including northern fork and continuing downstream to bend near Wellington Neck. Portion of CBP segment CB7PH. DSS (Admin Cond) shellfish direct harvesting condemnation # 085-110C (effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.166
VAT-C13E_WHC02A06 / Warehouse Creek - Lower / Including bend near Wellington Neck to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 085-110 (effective 20161013).	5A	PCB in Fish Tissue	2006	L	0.246
VAT-C13E_ZZZ01A00 / Unsegmented estuaries in C13E. / Evaluated non segmented portions of C13E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	0.752
VAT-C14E_BRL01A06 / Barlow Creek / In area of Old Town Neck. South shore tributary to lower Mattawoman Cr. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 086-136 (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.049
VAT-C14E_HUG01A00 / Hungars Creek - Upper / Upper portion of Hungars Creek from end tidal waters downstream to Waterford Point (RM 1.8) @ confluence with Jacobus Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 A (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.138

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C14E_HUG02A00 / Hungars Creek - Lower / Lower portion of Hungars Creek from Waterford Point (RM 1.8) @ confluence with Jacobus Cr. downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	5A	PCB in Fish Tissue	2006	L	1.187
VAT-C14E_HUG02B12 / UT to Hungars Creek / Northern trib between Great Neck and Sparrow Point. Restricted portion of SF. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 E (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.039
VAT-C14E_HUG02C14 / Hungars Creek - Northern Trib / Lower portion of Hungars Creek, Trib north of the mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 D (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.073
VAT-C14E_JAC01A06 / Jacobus Creek - Upper South Fork / West of Johnsontown. Trib to Hungars Cr. Uppermost portion of south branch. Portion of CBP segment CB7PH. DSS (Admin - Prohibition) due to STP VA0023817 Outfall) shellfish direct harvesting condemnation # 086-136F (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.028
VAT-C14E_JAC02A06 / Jacobus Creek - Upper Forks / West of Johnsontown. Trib to Hungars Cr. Middle mainstem, north fork and lower portion of south fork. Portion of CBP segment CB7PH. DSS (Admin Cond) shellfish direct harvesting condemnation # 086-136 B (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.152
VAT-C14E_JAC03A06 / Jacobus Creek - Lower / West of Johnsontown. South shore trib. to Hungars Cr. Lower mainstem portion. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.187
VAT-C14E_MAT01A06 / Mattawoman Creek - Upper / South of Wilsonia Neck. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 C (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.155
VAT-C14E_MAT02A10 / Mattawoman Creek - Lower / South of Wilsonia Neck - mouth of Mattawoman Cr. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.357
VAT-C14E_THG01A06 / The Gulf - Upper / From end of tidal waters downstream to narrowing 0.45 mi. from mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 087-174 A (effective 20150827).	5A	PCB in Fish Tissue	2006	L	0.090
VAT-C14E_THG02A06 / The Gulf - Lower / From narrowing 0.45 mi. from mouth downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish condemnation # 087-174 (20150827) & no DSS.	5A	PCB in Fish Tissue	2006	L	0.204
VAT-C14E_WHS01A06 / Westerhouse Creek - North Branch& Upper Middle [TMDL] / In Church Neck area, west of Bridgetown. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-199 (20161013).	5A	PCB in Fish Tissue	2006	L	0.243
VAT-C14E_WHS02A06 / Westerhouse Creek - Upper South Branch [TMDL] / In Church Neck area, west of Bridgetown. Upper portion of Westerhouse Creek South Branch. Portion of CBP segment CB7PH. Portion DSS shellfish direct harvesting condemnation # 085-199 A (effective 20130924).	5A	PCB in Fish Tissue	2006	L	0.019
VAT-C14E_ZZZ01A00 / Unsegmented estuaries in C14E. / Evaluated non segmented portions of C14E - mouth of Matchotank & Hungars Crs. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136.	5A	PCB in Fish Tissue	2006	L	0.838

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C15E_CCB01A06 / Cape Charles Beach / Located west of Town of Cape Charles, along Chesapeake Bay. Portion of CBP segment CB7PH. DSS (Administrative) shellfish harvesting condemnation 089-011 A (effective 20051202) which is present.	5A	PCB in Fish Tissue	2006	L	0.079
VAT-C15E_CRS01A06 / Cherrystone Inlet - Upper / From Eyreville Neck end of tidal waters downstream to confluence with Chesapeake Bay. Including Old Castle Cr. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 088-139 (20161227).	5A	PCB in Fish Tissue	2006	L	2.381
VAT-C15E_CRS01B18 / Cherrystone Inlet - Eyrehall Cr / SE trib to Cherryston Inlet. Portion of CBP segment CB7PH. DSS Restricted shellfish direct harvesting condemnation # 088-139 B(20161227).	5A	PCB in Fish Tissue	2006	L	0.103
VAT-C15E_KNS01A00 / Kings Creek - Upper Forks and Middle / From end of tidal waters downstream 0.16 mi. past confluence of the two most upstream forks. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 088-139 A (20161227).	5A	PCB in Fish Tissue	2006	L	0.093
VAT-C15E_KNS03A08 / Kings Creek - Lower Middle / From start of DSS marina area downstream to Cherrystone. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 088-139 (20161227) &Seasonal Condemnation M1.	5A	PCB in Fish Tissue	2006	L	0.247
VAT-C15E_ZZZ01A08 / Unsegmented estuaries in C15E. / Evaluated non segmented portions of C15E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	0.587
VAT-C16E_CCH01A04 / Cape Charles Harbor - Upper / From most upstream end of harbor downstream to 1/2 distance to mouth (RM 0.23). Portion of CBP segment CB7PH. DSS ADMINISTRATIVE shellfish harvesting condemnation # 089-011 B (effective 20051202) (VPDES outfall Town of Cape Charles STP VA0021288).	5A	PCB in Fish Tissue	2006	L	0.056
VAT-C16E_CCH02A00 / Cape Charles Harbor - Lower / From 1/2 distance to mouth (RM 0.23) downstream to mouth. Portion of CBP segment CB7PH. DSS ADMINISTRATIVE shellfish harvesting condemnation # 089-011 A (effective 20051202) (VPDES outfall Town of Cape Charles STP VA0021288).	5A	PCB in Fish Tissue	2006	L	0.060
VAT-C16E_KPT01A06 / Kiptopeke Beach / Located west of Cedar Grove, along Chesapeake Bay, near southern tip of Eastern Shore. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation present.	5A	PCB in Fish Tissue	2006	L	0.044
VAT-C16E_OPC01A06 / Old Plantation Creek - Upper [TMDL-bact] / Upper portion of Old Plantation Creek within TMDL-Bact (33771). CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	5A	PCB in Fish Tissue	2006	L	0.044
VAT-C16E_OPC01B08 / Old Plantation Creek - Upper [No TMDL-bact] / Upper portion of Old Plantation Creek and one southeast embayment not within TMDL-Bact (33771). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	5A	PCB in Fish Tissue	2006	L	0.152
VAT-C16E_OPC02A00 / Old Plantation Creek - Lower / Lower portion of Old Plantation Creek, from approx. Red Bank (RM 2.0) downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 090-152 (20151222).	5A	PCB in Fish Tissue	2006	L	0.926
VAT-C16E_ZZZ01A00 / Unsegmented estuaries in C16E. / Evaluated non segmented portions of C16E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	5A	PCB in Fish Tissue	2006	L	0.146

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Chesapeake Bay and Tidal Tributaries

Fish Consumption

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**1,826.332**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-19-SF** **XEU - Prentice Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 022C, 2/27/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation 015-022E, 5/9/2016

This tributary of Prentice Creek was included on the 1998 303(d) list due to condemnation 022C, 2/27/1997. The bacteria TMDL for the 1998 impairment was completed as part of the Dividing Creek and Prentice Creek Bacteria TMDL report; the TMDL was approved by the EPA on 6/8/2006.

During the 2010 cycle, the condemnation expanded and merged with another 1998 condemnation on an unnamed tributary. The 1998 segment is considered Category 4A for the Shellfish Use; the TMDL for the expanded area is addressed in fact sheet C01E-09-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_XEU01A02 / XEU - Prentice Creek, UT / Described in the condemnation notice 022C, 2/27/1997	4A	Fecal Coliform	1998	L	0.011

CB5MH

XEU - Prentice Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-21-SF** **XDL - Chesapeake Bay, UT (Big Fleets Pond)**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 011-190A, 7/24/2014

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 011-190A, 7/24/2014

The Shellfish TMDL was approved by the EPA on 6/19/2009 and by the SWCB on 11/14/2009. The segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_XDL01A02 / XDL - Chesapeake Bay, UT (aka Big Fleets Pond) / As described in condemnation notice 011-190A, 7/24/2014.	4A	Fecal Coliform	2002	L	0.018

CB5MH

XDL - Chesapeake Bay, UT (Big Fleets Pond)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.018**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-22-SF** **Indian Creek & Pitman Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 057B, -057C, and -057E, 12/19/2016 (excludes administrative portion)

City / County: Lancaster Co. Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnations 016-057E, -B, and -C, 12/19/2016

During the 1998 cycle, Pitmans Cove and Indian Creek were assessed as impaired of the Shellfish Consumption Use due to VDH-DSS condemnations 57A and 57C, 3/5/1997. The condemnations have since grown and shrunk several times. At their maximum extent (016-057A, 1/28/2005 and 12/13/2006), the condemnations had merged. The Shellfish TMDL was developed for this maximum extent and was approved by the EPA on 4/8/2009 and by the SWCB on 7/27/2009.

The condemnation shrunk and split again in the 2016 cycle and 0.0400 mi2 was partially delisted. Condemnation M2 extended upstream in the 2018 cycle and the segments were split. (VDH-DSS Condemnation 016-067A is entirely administratively condemned in the 2018 cycle and is not included.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_IND01A98 / Indian Creek / VDH-DSS condemnation notice 016-057E, 12/19/2016 (not administratively condemned) and 016-057C, 12/19/2016 Shrank in the 2018 cycle. CB5MH	4A	Fecal Coliform	1998	L	0.147
VAP-C01E_PIT01A14 / Pitmans Cove / Described in condemnation notice 016-057B, 12/19/2016. CB5MH	4A	Fecal Coliform	1998	L	0.035

Indian Creek & Pitman Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.182**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-24-SF** **Dymer Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 016-024A, 12/30/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 016-024A, 12/30/2015

The upper portion of Dymer Creek was included on the 1998 303(d) list due to VDH condemnation 24A, 3/5/1997. During the 2006 cycle, the condemnation expanded downstream into Chases Cove. However, during the 2008 cycle, the condemnations shrank and split into two separate condemnations - 016-024A Dymer Creek and 016-024F, Chases Cove. The Chases Cove impairment was addressed in fact sheet C01E-48-SF.

The Shellfish TMDL for Dymer Creek was developed during the 2010 cycle. The TMDL addressed the maximum extent of the condemnation, which occurred on 1/28/2005. The segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_DYM01A98 / Dymer Creek / Described in the condemnation notice 016-024A, 12/30/2015.	4A	Fecal Coliform	1998	L	0.177

Shrank in 2018 cycle.

CB5MH

Dymer Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.177**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-26-SF** **Johnson Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 016-024C, 12/30/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 016-024C, 12/30/2015

The Shellfish TMDL for Johnson Creek was approved by the EPA on 4/8/2009 and by the SWCB on 7/27/2009. The creek is considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_JOH01A06 / Johnson Creek / As described in VDH-DSS SFC 016-024C, 12/30/2015	4A	Fecal Coliform	2014	L	0.029

CB5MH

Johnson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.029**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-27-BAC** **Tabbs Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 016-133A, 12/19/2016

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, the upper portion of Tabbs Creek is impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 7-TBS001.69.

The area is within the study area for the Tabbs Creek Shellfish Bacterial TMDL, which was approved by the EPA on 4/8/2009. Implementation of the TMDL is expected to cause attainment of the Recreation impairment; therefore, it is considered nested (Category 4A).

Size was adjusted to remain coincident with the shellfish condemnation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_TBS01A98 / Tabbs Creek / Described in VDH-DSS condemnation notice 016-133A, 12/19/2016	4A	Enterococcus	2012	L	0.054

Segment shrunk in the 2018 cycle.

CB5MH

Tabbs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.054**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-27-SF** **Tabbs Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 016-133A, 12/19/2016

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 016-133A, 12/19/2016

A portion of Tabbs Creek was impaired of the Shellfish Consumption Use during the 1998 cycle due to VDH-DSS Shellfish Condemnation Notice 133, 3/5/1997.

During the 2010 cycle, the TMDL was developed for the maximum extent (016-133A, 12/13/2006.). It was approved by the EPA on 4/8/2009 and by the SWCB on 7/27/2009.

The condemned area shrunk in the 2010 cycle (016-133A, 12/28/2007) and again in the 2012 cycle (016-133A, 12/23/2009). The condemned area is considered Category 4A; the downstream open area was partially delisted (Category 2C.)

In the 2016 cycle, the condemnations expanded and merged.

It shrank considerably in the 2018 cycle. The cove is no longer condemned and will be partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_TBS01A98 / Tabbs Creek / Described in VDH-DSS condemnation notice 016-133A, 12/19/2016	4A	Fecal Coliform	1998	L	0.054

Segment shrunk in the 2018 cycle.

CB5MH

Tabbs Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.054**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-28-SF** **Antipoison Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 017-188A, 12/16/2014

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 017-188A, 12/16/2014

The upper portion of Antipoison Creek was included on the 1998 303(d) list due to condemnation 188, 6/3/1996. During the 2006 cycle the condemnation expanded considerably. However, during the 2008 cycle, the condemnation was reduced and split into 3 condemnations. As the lower sections were first impaired in the 2006 cycle, the TMDLs for those portions were due in 2018 and are addressed in fact sheets C01E-50-SF and C01E-51-SF.

The Shellfish TMDL for Antipoison Creek was developed for Antipoison Creek in its entirety to match the maximum extent of condemnation, which occurred on 7/13/2004. The condemned areas within Antipoison Creek shrunk during the 2010 cycle. The non-condemned waters are considered Category 2C. The condemned areas are considered Category 4A.

The condemnation shrank again in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_ANT01A98 / Antipoison Creek / Described in the condemnation notice 017-188A, 12/16/2014.	4A	Fecal Coliform	1998	L	0.042

CB5MH

Antipoison Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-29-BAC** **Indian Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 016-057A, -057M2, -057E, and -057F, 12/19/2018

City / County: Lancaster Co. Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

In 2014, Indian Creek was assessed as not supporting for the Recreation Use due to an enterococci exceedance rate of 4/36 at station 7-IND002.26.

The bacterial TMDL for Indian Creek was developed by the DEQ and approved by the EPA on 4/8/2009 and by the SWCB on 7/27/2009. Allocations were given to point and nonpoint sources. Indian Creek is considered a Category 4A water.

The exceedance rate was 5/35 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_IND01A98 / Indian Creek / VDH-DSS condemnation notice 016-057E, 12/19/2016 (not administratively condemned) and 016-057C, 12/19/2016 Shrank in the 2018 cycle. CB5MH	4A	Enterococcus	2014	L	0.147
VAP-C01E_IND01B10 / Indian Creek / VDH-DSS condemnation notice 016-057A, 12/19/2016 (administratively condemned). CB5MH	4A	Enterococcus	2014	L	0.037
VAP-C01E_IND01D14 / Indian Creek / Described in condemnation notice 016-057M2, 12/19/2016. Expanded upstream in the 2018 cycle. CB5MH	4A	Enterococcus	2018	L	0.131
VAP-C01E_IND01E16 / Indian Creek / Portion of condemnation notice 016-057A, 12/28/2012 that is open 12/19/2016. CB5MH	4A	Enterococcus	2014	L	0.040
VAP-C01E_IND02A98 / Indian Creek / Described in the condemnation notice 016-057F, 12/19/2016. CB5MH	4A	Enterococcus	2014	L	0.015

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.370**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-30-SF** **Dymer Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 016-024B, 12/30/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 016-024B, 12/30/2015

The Shellfish TMDL for Dymer Creek was approved by the EPA on 4/8/2009 and by the SWCB on 7/27/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_CHA01A08 / Dymer Creek, UT / Described in condemnation notice 016-024B, 12/30/2015.	4A	Fecal Coliform	2016	L	0.018

CB5MH

Dymer Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.018**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-33-SF** **Betts Mill Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 013-089B, 4/28/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 013-089B, 4/28/2016

The impairment is nested within the Great Wicomico River Shellfish TMDL, which was approved by the EPA on 6/8/2006. It is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_BMC01A04 / Betts Mill Creek / Described in the VDH Shellfish Condemnation 013-089B, 4/28/2016	4A	Fecal Coliform	2004	L	0.082

CB5MH

Betts Mill Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.082**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-37-SF** **Harveys Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 014-123B, 5/9/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 014-123B, 5/9/2016

Harveys Creek is nested within the nearby Mill Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_HAV01A08 / Harveys Creek / Described in VDH Shellfish Condemnation 014-123B, 5/9/2016.	4A	Fecal Coliform	2008	L	0.045

CB5MH

Harveys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.045**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-38-SF** **Cranes Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 013-220C, 4/28/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnations 013-220C, 4/28/2016

The impairment is considered nested within the nearby Whays Creek Shellfish TMDL. The TMDL was developed as part of the Great Wicomico River Watershed TMDL report and was approved by the EPA on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_CRN01A06 / Cranes Creek / Described in VDH-DSS Shellfish Condemnation 013-220C, 4/28/2016	4A	Fecal Coliform	2008	L	0.019

CB5MH

Cranes Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-40-SF** **Coles Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 013-089C, 4/28/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Number 013-089C, 4/28/2016

The impairment is nested within the Tipers Creek Shellfish TMDL. The TMDL was developed in the Great Wicomico River Watershed TMDL Report and was approved by the EPA on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_COL01A08 / Coles Creek / Described in VDH-DSS SFC 013-089C, 4/28/2016	4A	Fecal Coliform	2008	L	0.019

CB5MH

Coles Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-42-SF** **Jarvis Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 015-022H, 5/9/2016

City / County: Lancaster Co. Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 015-022H, 5/9/2016

The impairment is proposed for nesting within the nearby Prentice Creek Shellfish TMDL, which was approved by the EPA on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_JAR01B08 / Jarvis Creek / As described in VDH-DSS condemnation 015-022H, 5/9/2016.	4A	Fecal Coliform	2016	L	0.016

CB5MH

Jarvis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-43-SF** **Old House Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 015-022F, 5/9/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Number 015-022F, 5/9/2016

The impairment is considered nested within the Dividing Creek Shellfish TMDL, which was approved by the EPA on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_OHC01A08 / Old House Cove / Described in VDH-DSS SFC 015-022F, 5/9/2016.	4A	Fecal Coliform	2018	L	0.024

CB5MH

Old House Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.024**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-48-SF** **Chases Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 016-024D, 12/30/2015

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 016-024D, 12/30/2015

The upper portion of Dymer Creek was included on the 1998 303(d) list due to VDH condemnation 24A, 3/5/1997. During the 2006 cycle, the condemnation expanded downstream into Chases Cove. However, during the 2008 cycle, the condemnations shrank and split into two separate condemnations - 016-024A Dymer Creek and 016-024F, Chases Cove. Since Chases Cove was first impaired during the 2006 cycle, the TMDL was due in 2018.

The Shellfish TMDL for Dymer Creek (which included Chases Cove) was developed during the 2010 cycle. The TMDL addressed the maximum extent of the condemnation, which occurred on 1/28/2005.

The condemnation has subsequently shortened and split. The open area was partially delisted (Cat 2C).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_CHA01B12 / Chases Cove / Described in condemnation notices 016-024D, 12/30/2015	4A	Fecal Coliform	2006	L	0.023

CB5MH

Chases Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.023**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-50-SF** **Antipoison Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 017-188B, 12/16/2014

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 017-188B, 12/16/2014

The upper portion of Antipoison Creek was included on the 1998 303(d) list due to condemnation 188, 6/3/1996. During the 2006 cycle the condemnation expanded considerably. As the lower sections were first impaired in the 2006 cycle, the TMDLs for those portions were due in 2018 (also see C01E-51-SF).

The Shellfish TMDL for Antipoison Creek was developed for Antipoison Creek in its entirety to match the maximum extent of condemnation, which occurred on 7/13/2004. The condemned area is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_ANT01C08 / Antipoison Creek, UT / Described in the condemnation notice 017-188B, 12/16/2014.	4A	Fecal Coliform	2006	L	0.013

CB5MH

Antipoison Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.013**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-51-SF** **Antipoison Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 017-188C, 12/16/2014

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 017-188C, 12/16/2014

The upper portion of Antipoison Creek was included on the 1998 303(d) list due to condemnation 188, 6/3/1996. During the 2006 cycle the condemnation expanded considerably. As the lower sections were first impaired in the 2006 cycle, the TMDLs for those portions were due in 2018 (also see C01E-50-SF).

The Shellfish TMDL for Antipoison Creek was developed for Antipoison Creek in its entirety to match the maximum extent of condemnation, which occurred on 7/13/2004. The condemned areas are considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_ANT01B08 / Antipoison Creek, UT / Described in the condemnation notice 017-188C, 12/16/2014.	4A	Fecal Coliform	2006	L	0.004

CB5MH

Antipoison Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.004**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-53-SF** **Owens Pond**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 011-122B, 8/31/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 011-122B, 8/31/2016

Owens Pond was listed on the 1998 303(d) list due to VDH condemnation 122, 1/3/1992. The Shellfish TMDL was developed was approved by the EPA on 6/19/2009 and by the SWCB on 11/14/2009.

The condemnation was lifted on 9/29/2008; therefore, the segment was delisted (Category 2C) (C10E-10-SF / 00967). However, portions of Owens Pond were relisted in the 2012 cycle and are considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_OWP02B12 / Owens Pond / VDH-DSS condemnation 011-122B, 8/31/2016.	4A	Fecal Coliform	2012	L	0.037

CB5MH

Owens Pond **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.037**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-54-SF** **Owens Pond**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 011-122C, 8/31/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 011-122C, 8/31/2016

Owens Pond was listed on the 1998 303(d) list due to VDH condemnation 122, 1/3/1992. The Shellfish TMDL was developed during the 2010 cycle and was approved by the EPA on 6/19/2009 and by the SWCB on 11/14/2009.

The condemnation was lifted on 9/29/2008; therefore, the segment was delisted (Category 2C) (C10E-10-SF / 00967). However, portions of Owens Pond were relisted in the 2012 cycle and are considered Category 4A.

The condemnation expanded in the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_OWP02C12 / Owens Pond / VDH-DSS condemnation 011-122C, 8/31/2016.	4A	Fecal Coliform	2012	L	0.073

CB5MH

Owens Pond **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.073**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-55-BAC** **Head River Branch**

Cause Location: Tidal extent of Head River Branch downstream to mouth at Bush Mill Stream.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Head River Branch was impaired of the Recreation Use due to an enterococci exceedance rate of 7/12 at 7-HRB000.54, which is located at Route 642.

However, the area is within the study area for the Great Wicomico River Shellfish Bacterial TMDL, which was approved by the EPA on 6/8/2006. The bacterial impairment is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_HRB01A12 / Head River Branch / Tidal limit to mouth at Bush Mill Stream.	4A	Enterococcus	2012	L	0.020

CB5MH

Head River Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.020**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-56-SF** **Penny Creek**

Cause Location: Described in VDH Condemnation Number 013-220D, 4/28/2016

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 013-220D, 4/28/2016

The impairment is considered nested within the nearby Warehouse Creek Shellfish TMDL. The TMDL was developed as part of the Great Wicomico River Watershed TMDL report and was approved by the EPA on 6/8/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_PEN01A12 / Penny Creek / Described in VDH-DSS Condemnation 013-220D, 4/28/2016	4A	Fecal Coliform	2012	L	0.009

CB5MH

Penny Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-58-SF** **XEV - Mill Creek, UT**

Cause Location: Described in VDH Condemnation Number 014-123C, 5/9/2016

City / County: Lancaster Co. Northumberland Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 014-123C, 5/9/2016

The impairment is nested within the nearby Mill Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007.

Size increased during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_XEV01A12 / XEV - Mill Creek, UT / Described in VDH-DSS condemnation 014-123C, 5/9/2016.	4A	Fecal Coliform	2012	L	0.007

CB5MH

XEV - Mill Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.007**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-59-BAC** **Dividing Creek and XDB - Dividing Creek, UT**

Cause Location: Described in VDH Condemnation Number 015-022A, 5/9/2016

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, upper tidal Dividing Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 3/4 at 7-XDB000.08. The exceedance rate was 7/24 during the 2016 cycle.

The area is within the study area for the Dividing Creek Shellfish Bacterial TMDL, which was approved by the EPA on 6/8/2006. Implementation of the TMDL is expected to address the Recreation Use impairment; therefore, it is considered nested.

The size was changed in the 2016 and 2018 cycles to remain coincident with the shellfish condemnation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_DIV01A98 / Dividing Creek / Described in VDH-DSS condemnation 015-022A, 5/9/2016.	4A	Enterococcus	2012	L	0.091

Segment expanded in the 2018 cycle.

Dividing Creek and XDB - Dividing Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.091**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01E-64-BAC** **Bush Mill Stream**

Cause Location: Tidal extent of Bush Mill Stream downstream to mouth at the Great Wicomico River.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2012 cycle, Bush Mill Stream was impaired of the Recreation Use due to an enterococci exceedance rate of 4/12 at 7-BMS002.08, which is located at Route 201.

However, the area is within the study area for the Great Wicomico River Shellfish Bacterial TMDL, which was approved by the EPA on 6/8/2006. The bacterial impairment is considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01E_BMS01A12 / Bush Mill Stream / Tidal limit to mouth at Great Wicomico River	4A	Enterococcus	2012	L	0.095

CB5MH

Bush Mill Stream **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.095**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01R-01-BAC** **Crabbe Mill Stream**

Cause Location: The nontidal mainstem of Crabbe Mill Stream.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, Crabbe Mill Stream was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 7-CMS002.00, which is located at Route 201.

Although Crabbe Mill Stream is within the TMDL study area for the Great Wicomico River Shellfish Bacterial TMDL, there is a VPDES discharger which drains to the stream that was not addressed in the TMDL; therefore, the impairment cannot be nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01R_CMS01A00 / Crabbe Mill Stream / From its headwaters to the tidal limit.	5A	Escherichia coli	2012	L	3.90

Crabbe Mill Stream **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01R-01-DO** **Crabbe Mill Stream**

Cause Location: The nontidal mainstem of Crabbe Mill Stream.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Crabbe Mill Stream was impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 3/14 at 7-CMS002.00. Monitoring at 7-CMS000.12 was acceptable (1/17).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01R_CMS01A00 / Crabbe Mill Stream / From its headwaters to the tidal limit.	5C	Oxygen, Dissolved	2012	L	3.90

Crabbe Mill Stream	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.90**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01R-01-PH** **Crabbe Mill Stream**

Cause Location: The nontidal mainstem of Crabbe Mill Stream.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Crabbe Mill Stream was impaired of the Aquatic Life Use due to pH violation rates of 2/17 at 7-CMS000.12 and 2/14 at 7-CMS002.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01R_CMS01A00 / Crabbe Mill Stream / From its headwaters to the tidal limit.	5C	pH	2012	L	3.90

Crabbe Mill Stream	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.90**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C01R-02-BEN** **Dymer Creek**

Cause Location: The nontidal mainstem of Dymer Creek

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2014 cycle, nontidal Dymer Creek was impaired of the Aquatic Life Use due to an impacted benthic community at 7-DYM003.52, which is located at the Route 200 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C01R_DYM01A14 / Dymer Creek / Headwaters to tidal limit	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	2.06

Dymer Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.06**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C02R-01-BAC** **Dragon Swamp**

Cause Location: From the Route 602 bridge downstream to the tidal limit.

City / County: Gloucester Co. King And Queen Co. Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2014 cycle, Dragon Swamp was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 9/36 at 7-DRN010.48 (Route 603 bridge).

The exceedance rate was 7/58 during the 2018 cycle.

Dragon Swamp is located within the study area for the Upper Piankatank River Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the 3/23/2007. As the TMDL sets bacteria reductions for the watershed, the Recreation Use impairment will be considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C02R_DRN01A98 / Dragon Swamp / From the Route 602 bridge (rm 15.08) to the tidal limit.	4A	Escherichia coli	2014	L	12.37

Dragon Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.37**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C02R-03-HG** **Dragon Swamp/Piankatank River**

Cause Location: Dragon Swamp and the Piankatank River from the headwaters near the State Route 620 bridge downstream to Deep Point Boat Landing (Rt. 606) across from Piankatank Shores.

City / County: Essex Co. Gloucester Co. King And Queen Co. Middlesex Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Dragon Swamp and the Piankatank River are considered impaired of the Fish Consumption Use based on DEQ monitoring which has indicated elevated levels of mercury in largemouth bass.

Mercury exceedances at:
7-DRN003.40
7-DRN023.41
7-DRN001.43
7-PNK017.47
7-PNK020.42

A portion of this area was considered fully supporting but threatened in 2002 based on these results. VDH subsequently issued a fish consumption advisory and the stream was downgraded to impaired.

In July 2005, VDH extended the Fish Consumption Advisory boundary to include the entire length of Dragon Swamp from the headwaters near Rt. 620 downstream to Deep Point Boat Landing. No more than two meals/month of largemouth bass are recommended. 7-

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C02E_DRN01A02 / Dragon Swamp / The tidal portion of Dragon Swamp to its mouth at the Piankatank River.	5A	Mercury in Fish Tissue	2004	L	0.823
PIAMH					
VAP-C02R_DRN01A98 / Dragon Swamp / From the Route 602 bridge (rm 15.08) to the tidal limit.	5A	Mercury in Fish Tissue	2006	L	12.37
VAP-C02R_DRN02A04 / Dragon Swamp / Perennial headwaters near Route 620 to Route 602 bridge.	5A	Mercury in Fish Tissue	2006	L	19.26
VAP-C02R_DRN03A10 / Dragon Swamp / Headwaters to perennial headwaters	5A	Mercury in Fish Tissue	2006	L	0.34
VAP-C03E_HRP01A98 / Harper Creek / Described in the condemnation notice 076B, 6/10/1997.	5A	Mercury in Fish Tissue	2008	L	0.062
PIAMH					
VAP-C03E_PNK01A02 / Piankatank River / Portions of VDH-DSS condemnation 035-076A, 11/21/2016 open on 6/10/1997. Segment ends at Deep Point Boat Landing.	5A	Mercury in Fish Tissue	2004	L	0.558
Expanded in the 2018 cycle.					
PIAMH					
VAP-C03E_PNK01A98 / Piankatank River / Watershed limit (start of Piankatank River) downstream to limit of SFC 035-076A, 6/10/1997.	5A	Mercury in Fish Tissue	2004	L	1.280
PIAMH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Dragon Swamp/Piankatank River		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption				
	Mercury in Fish Tissue - Total Impaired Size by Water Type:	**2.723**		**31.97**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C02R-04-BAC** **Exol Swamp**

Cause Location: Exol Swamp from its perennial headwaters to mouth at Dragon Swamp

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, Exol Swamp was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 7-EXE000.81, which is located at the Route 614 bridge.

Exol Swamp is located within the study area for the Upper Piankatank River Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the 3/23/2007. As the TMDL sets bacteria reductions for the watershed, the Recreation Use impairment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C02R_EXE01A06 / Exol Swamp / Perennial headwaters downstream to mouth at Dragon Swamp.	4A	Escherichia coli	2016	L	11.34

Exol Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.34**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C02R-11-BAC** **XFB - Dragon Swamp, UT**

Cause Location: Headwaters to mouth at Dragon Swamp

City / County: Gloucester Co. King And Queen Co. Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle, the tributary was impaired of the Recreation Use due to an E. coli exceedance rate of 6/11 at 7-XFB000.13, which is located at Route 603.

The stream is located within the study area for the Upper Piankatank River Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the 3/23/2007. As the TMDL sets bacteria reductions for the watershed, the Recreation Use impairment will be considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C02R_XFB01A18 / XFB - Dragon Swamp, UT / Headwaters to mouth at Dragon Swamp	4A	Escherichia coli	2018	L	1.47

XFB - Dragon Swamp, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.47**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-01-BAC** **Harpers Creek**

Cause Location: Tidal limit to downstream extent of VDH-DSS condemnation 076B, 6/10/1997

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2010 cycle, tidal Harpers Creek was assessed as not supporting of the Recreation Use due to a enterococci exceedance rate of 7/10 at 7-HRP001.15, which is located at Rt. 198.

This impairment is considered nested within the area addressed by the Upper Piankatank River Shellfish TMDL, which was approved by the EPA on 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_HRP01A98 / Harper Creek / Described in the condemnation notice 076B, 6/10/1997.	4A	Enterococcus	2010	L	0.062

PIAMH

Harpers Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.062**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-02-SF** **Piankatank River/Harpers Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations 076A and 076B, 6/10/1997.

City / County: Gloucester Co. Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portions of VDH Shellfish Condemnation 035-076A, 11/21/2016

During the 1998 cycle, the tidal Piankatank River above Anderson Point and Harpers Creek were included on the 303(d) list due to VDH condemnations 76A and 76B (6/10/1997), respectively.

The Upper Piankatank River Shellfish TMDL was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007.

FYI - The Piankatank River condemnation expanded during the 2014 cycle and is now larger than the original 1998 impairment (see C01E-20-SF for the expansion).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C02E_DRN01A02 / Dragon Swamp / The tidal portion of Dragon Swamp to its mouth at the Piankatank River.	4A	Fecal Coliform	1998	L	0.823
PIAMH					
VAP-C03E_HRP01A98 / Harper Creek / Described in the condemnation notice 076B, 6/10/1997.	4A	Fecal Coliform	1998	L	0.062
PIAMH					
VAP-C03E_PNK01A98 / Piankatank River / Watershed limit (start of Piankatank River) downstream to limit of SFC 035-076A, 6/10/1997.	4A	Fecal Coliform	1998	L	1.280
PIAMH					

Piankatank River/Harpers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**2.165**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-03-SF** **Frenchs Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 035-076D, 11/21/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 035-076D, 11/21/2016

Frenchs Creek was initially listed as impaired of the Shellfish Consumption Use during the 2002 cycle based on VDH-DSS Shellfish Condemnation Notice 076B, 6/6/2000.

Frenchs Creek is nested within the Upper Piankatank River Shellfish TMDL, which was approved by the EPA on 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_FRE01A02 / Frenchs Creek / As described in the condemnation notice 035-076D, 11/12/2016.	4A	Fecal Coliform	2002	L	0.010

PIAMH

Frenchs Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.010**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-04-BAC** **Ferry Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 035-076B, 11/21/2016

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2010 cycle, Ferry Creek was assessed as impaired of the Recreation Use due to an enterococci exceedance rate of 2/10 at 7-FER000.92, which is located at a private dock off of Route 608.

The impairment is nested in the Upper Piankatank River Shellfish TMDL, which was approved by the EPA on 6/7/2006.

Segment adjusted in the 2018 cycle to remain coincident with the shellfish condemnation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_FER01A98 / Ferry Creek / Described in the condemnation notice 035-076B, 11/21/2016.	4A	Enterococcus	2010	L	0.125

Expanded in the 2018 cycle.

PIAMH

Ferry Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.125**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-04-SF** **Ferry Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 035-076B, 11/21/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 035-076B, 11/21/2016

It is nested in the upstream Piankatank River and Harper Creek Shellfish TMDL, which was approved by the EPA on 6/7/2006.

The condemnation expanded in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_FER01A98 / Ferry Creek / Described in the condemnation notice 035-076B, 11/21/2016.	4A	Fecal Coliform	2014	L	0.125

Expanded in the 2018 cycle.

PIAMH

Ferry Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.125**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-05-SF** **Wilton Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-126A, 11/12/2014

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 035-126A, 11/12/2014

This segment was originally listed in 1998 as not supporting for the Shellfish Use based on VDH-DSS Shellfish Condemnation 126, 3/2/1993. The "Piankatank River, Lower Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" was completed and EPA approved on 11/15/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_WLT01A98 / Wilton Creek / Described in the condemnation notice 034-126A, 11/12/2014	4A	Fecal Coliform	1998	L	0.134

PIAMH

Wilton Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.134**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-06-SF** **Healy Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-208C, 11/21/2016.

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 034-208C, 11/21/2016

The upper portion of Healy Creek was originally listed in 1998 as not supporting for the Shellfish Use based on VDH-DSS Shellfish Condemnation 129, 3/3/1997.

The Piankatank River, Lower Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination was approved by the EPA on 11/15/2005.

The condemnation expanded in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_HEA01A02 / Healy Creek / Described in the VDH-DSS Shellfish Condemnation Notice 034-208C, 11/21/2016	4A	Fecal Coliform	1998	L	0.071

PIAMH

Healy Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.071**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-07-SF** **Moore Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-208A, 11/21/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 034-208A, 11/21/2016

The Moore Creek shellfish use impairment is nested within the nearby Healy Creek TMDL, which was addressed in the report ""Piankatank River, Lower Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination". The TMDL was approved by the EPA on 11/15/2005.

Size reduced in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_MRE01A02 / Moore Creek / As described in the condemnation notice 034-208A, 11/21/2016.	4A	Fecal Coliform	2002	L	0.040

Size reduced in the 2018 cycle.

PIAMH

Moore Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.040**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-08-SF** **Jackson Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 084A, 11/1/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS SFC Notice 033-084A, 11/12/2014

Two areas of Jackson Creek were listed as impaired on the 1998 303(d) list due to VDH Condemnation 84A & B, 11/1/1996. Although the condemnations expanded and merged in the 12/30/2004 condemnation, the bacteria TMDL, which was developed by the DEQ and approved by the EPA on 6/7/2006 only addressed the original areas. This area is classified as Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_JCK01A98 / Jackson Creek / Described in the condemnation notice 84A, 11/1/1996	4A	Fecal Coliform	1998	L	0.019

PIAMH

Jackson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-08-SF2 Jackson Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 033-084A, 11/12/2014 not included in condemnations 84A & 84B, 11/1/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation 033-084A, 11/12/2014

Two areas of Jackson Creek were listed as impaired on the 1998 303(d) list due to VDH Condemnation 84A & B, 11/1/1996. Although the condemnations expanded and merged in the 033-084A, 12/30/2004 condemnation, the bacteria TMDL, which was developed by the DEQ and approved by the EPA on 6/7/2006 only addressed the original areas. These areas are classified as Category 4A.

The TMDL for the expansion was due in 2018. However, during the 2010 cycle, the condemned portion shrank considerably. The majority of the area is now only seasonally condemned and was partially delisted.

The condemned expansion is nested in the Jackson Creek TMDL and is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_JCK01C08 / Jackson Creek / Portion of condemnation notice 033-084A, 11/12/2014 not included in 84A, 11/1/1996	4A	Fecal Coliform	2006	L	0.002

PIAMH

Jackson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.002**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-09-SF** **Piankatank River, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-126C, 11/12/2014

City / County: Gloucester Co. Mathews Co. Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 034-126C, 11/12/2014

The impairment is nested in the Wilton Creek TMDL, which was developed as part of the Lower Piankatank River Shellfish TMDL. The report was approved by the EPA on 11/15/2005 and by the SWCB on 9/27/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_PNK07B08 / Piankatank River, UT / Described in VDH-DSS SFC 034-126C, 11/12/2014.	4A	Fecal Coliform	2016	L	0.007

PIAMH

Piankatank River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.007**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-10-EBEN** **Piankatank River**

Cause Location: Piankatank River / Dragon Swamp tidal mainstem

City / County: Gloucester Co. Mathews Co. Middlesex Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

During the 2006 cycle, the Piankatank River from Pond Point to just upstream of Iron Point was impaired of the Aquatic Life Use based on information collected from the Coastal 2000 station 7-PNK005.20 in 2003.

During the 2008 cycle, Coastal 2000 monitoring in 2004 at station 7-PNK005.35 also indicated benthic impairment. In addition, estuarine probabilistic monitoring was conducted at Coastal 2000 station 7-PNK010.41. The data was assessed by DEQ's Central Office staff who considered the area around Berkley Island as impaired due to alteration of the benthic community (C03E-14-EBEN due 2020).

During the 2014 cycle, the entire mainstem Piankatank River/Dragon Swamp was impaired of the Aquatic Life Use based on the Chesapeake Bay Benthic Index of Biological Integrity. The impairment was expanded. The TMDL due date is 2018 to reflect the earliest benthic impairment within the segment.

In addition, 2011 monitoring at Coastal 2000 station 7BPNK003.14 indicated benthic impairment. There is a high potential of chronic effects due to sediment PAHs.

During the 2016 cycle, benthic impairment was noted at Coastal 2000 estuarine probabilistic monitoring station 7BPNK016.89 (Category 5A, scenario 8.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C02E_DRN01A02 / Dragon Swamp / The tidal portion of Dragon Swamp to its mouth at the Piankatank River.	5A	Estuarine Bioassessments	2014	L	0.823
PIAMH					
VAP-C03E_PNK01A02 / Piankatank River / Portions of VDH-DSS condemnation 035-076A, 11/21/2016 open on 6/10/1997. Segment ends at Deep Point Boat Landing.	5A	Estuarine Bioassessments	2014	L	0.558
Expanded in the 2018 cycle.					
PIAMH					
VAP-C03E_PNK01A98 / Piankatank River / Watershed limit (start of Piankatank River) downstream to limit of SFC 035-076A, 6/10/1997.	5A	Estuarine Bioassessments	2014	L	1.280
PIAMH					
VAP-C03E_PNK02A00 / Piankatank River / Mainstem Piankatank from Deep Point Boat Landing downstream to PNK03A00, excluding the Berkley Island area.	5A	Estuarine Bioassessments	2014	L	4.007
PIAMH					
VAP-C03E_PNK02B08 / Piankatank River / Bend around Berkley Island	5A	Estuarine Bioassessments	2008	L	0.785
PIAMH					
VAP-C03E_PNK03A00 / Piankatank River / One-half mile radius around monitoring station 7-PNK005.36 on the Piankatank River	5A	Estuarine Bioassessments	2006	L	1.167

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

between Pond Point and Iron Point.

PIAMH VAP-C03E_PNK04A00 / Piankatank River / Mainstem Piankatank River from PNK03A00 downstream to the point at Fishing Bay.	5A	Estuarine Bioassessments	2014	L	3.528
PIAMH VAP-C03E_PNK04B06 / Piankatank River / As described in VDH-DSS SFC 034-208M1, 11/21/2016.	5A	Estuarine Bioassessments	2014	L	0.040
PIAMH VAP-C03E_PNK04C06 / Piankatank River, Fishing Bay / As described in VDH-DSS SFC 034-208 M2, 11/21/2016.	5A	Estuarine Bioassessments	2014	L	0.085
PIAMH VAP-C03E_PNK05A02 / Piankatank River / Piankatank River downstream of Fishing Bay at Stove Point to mouth at Chesapeake Bay	5A	Estuarine Bioassessments	2014	L	4.942
PIAMH VAP-C04E_MLF04A06 / Milford Haven / Hills Bay	5A	Estuarine Bioassessments	2014	L	2.283

PIAMH

Piankatank River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**19.498**		

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Contaminated Sediments	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-11-SF** **Jackson Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 033-084B, 11/12/2014

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS SFC Notice 033-084B, 11/12/2014

Two areas of Jackson Creek were listed as impaired on the 1998 303(d) list due to VDH Condemnation 84A & B, 11/1/1996.

The bacteria TMDL was developed by the DEQ and approved by the EPA on 6/7/2006.

This area was delisted in 2010 and relisted in 2014. The condemnation expanded slightly in the 2016 cycle. This area is classified as Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_JCK01B08 / Jackson Creek / Described in the condemnation notice 033-084B, 11/12/2014.	4A	Fecal Coliform	2014	L	0.013

PIAMH

Jackson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.013**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-12-SF** **Cobbs Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-126B, 11/12/2014

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 034-126B, 11/12/2014

The upper portion of Cobbs Creek was originally listed in 1998 as not supporting for the Shellfish Use based on VDH-DSS Shellfish Condemnation 170, 3/2/1993.

The Piankatank River, Lower Watershed TMDL Report for Shellfish Condemnation Areas Listed due to Bacteria Contamination was approved by the EPA on 11/15/2005.

During the 2012 cycle, the majority Cobbs Creek was delisted and classified Category 2C. A portion that was not impaired in 1998 remained Category 4A due to VDH-DSS condemnation 034-126B, 9/5/2012. (It was mistakenly considered nested; however, the TMDL addressed all of Cobbs Creek.)

The condemnation expanded in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_COB02C10 / Cobbs Creek / Described in VDH-DSS condemnation 034-126B, 11/12/2014	4A	Fecal Coliform	2014	L	0.086

PIAMH

Cobbs Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.086**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-13-SF** **Jackson Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 033-084C, 11/12/2014

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 033-084C, 11/12/2014

The impairment is nested within the neighboring Jackson Creek Shellfish TMDL, which was approved by the EPA on 6/7/2006. It is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_JCK01C14 / Jackson Creek, UT / Described in VDH-DSS condemnation notice 033-084C, 11/12/2014.	4A	Fecal Coliform	2014	L	0.033

PIAMH

Jackson Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.033**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-15-SF** **Dancing Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 035-076C, 11/21/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 035-076C, 11/21/2016

It is nested in the upstream Piankatank River and Harper Creek Shellfish TMDL, which was approved by the EPA on 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_DAN01A08 / Dancing Creek / Described in VDH condemnation 025-076C, 11/21/2016	4A	Fecal Coliform	2008	L	0.034

PIAMH

Dancing Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.034**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-16-BAC** **Piankatank River**

Cause Location: Piankatank River's bend around Berkley Island

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

During the 2014 cycle, the Piankatank River around Berkley Island was impaired of the Recreation Use due to an enterococci exceedance rate of 4/12 at 7-PNK010.39, which is located at the end of Route 630.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_PNK02B08 / Piankatank River / Bend around Berkley Island	5A	Enterococcus	2014	L	0.785

PIAMH

Piankatank River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.785**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-17-BAC** **Piankatank River**

Cause Location: One-half mile radius around monitoring station 7-PNK005.36 on the Piankatank River between Pond Point and Iron Point.

City / County: Mathews Co. Middlesex Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the segment was impaired of the Recreation Use due to an enterococci exceedance rate of 2/11 at 7-PNK05.78, which is located at the Route 630 boat ramp.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_PNK03A00 / Piankatank River / One-half mile radius around monitoring station 7-PNK005.36 on the Piankatank River between Pond Point and Iron Point.	5A	Escherichia coli	2016	L	1.167

PIAMH

Piankatank River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**1.167**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-18-SF** **Cores Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-208D, 11/21/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 035-208D, 11/21/2016

It is nested within the neighboring Healy Creek TMDL, which was addressed in the report ""Piankatank River, Lower Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination." The TMDL was approved by the EPA on 11/15/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_COR01A08 / Cores Creek / Described in VDH-DSS condemnation 034-208D, 11/21/2016.	4A	Fecal Coliform	2014	L	0.018

PIAMH

Cores Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.018**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-19-SF** **Porpoise Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-208B, 11/21/2016

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation Notice 034-208B, 11/21/2016

The Porpoise Cove shellfish use impairment is nested within the nearby Healy Creek TMDL, which was addressed in the report ""Piankatank River, Lower Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination". The TMDL was approved by the EPA on 11/15/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_PNK04D08 / Porpoise Cove / As described in VDH-DSS SFC 034-208B, 11/21/2016	4A	Fecal Coliform	2008	L	0.011

PIAMH

Porpoise Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-20-SF** **Piankatank River**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 035-076A, 11/21/2016 not included in the 6/10/1997 condemnation

City / County: Gloucester Co. Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnations 035-076A, 11/21/2018

During the 1998 cycle, the tidal Piankatank River above Anderson Point and Harpers Creek were included on the 303(d) list due to VDH condemnations 76A and 76B (6/10/1997), respectively. The shellfish bacteria TMDL was developed by the DEQ and approved by the EPA on 6/7/2006. The condemnation expanded in the 2014 cycle. The expansion is nested within the Upper Piankatank River Shellfish TMDL.

The condemnation expanded in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_PNK01A02 / Piankatank River / Portions of VDH-DSS condemnation 035-076A, 11/21/2016 open on 6/10/1997. Segment ends at Deep Point Boat Landing.	4A	Fecal Coliform	2014	L	0.558

Expanded in the 2018 cycle.

PIAMH

Piankatank River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.558**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-21-SF** **Piankatank River, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-126D, 11/12/2014.

City / County: Gloucester Co. Mathews Co. Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 034-126D, 11/12/2014

The impairment is nested in the Wilton Creek TMDL, which was developed as part of the Lower Piankatank River Shellfish TMDL. The report was approved by the EPA on 11/15/2005 and by the SWCB on 9/27/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_PNK08B08 / Piankatank River, UT / Described in VDH-DSS SFC 034-126D, 11/12/2014	4A	Fecal Coliform	2016	L	0.003

PIAMH

Piankatank River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.003**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C03E-22-SF** **Jackson Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 034-126E, 11/12/2014.

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 033-084E, 11/12/2014

The impairment is nested in the Jackson Creek Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the SWCB on 6/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C03E_JCK02B16 / Jackson Creek / Described in VDH-DSS condemnation notice 033-084E, 11/12/2014.	4A	Fecal Coliform	2016	L	0.011

PIAMH

Jackson Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-01-SF** **Queens Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 037-099A, 2/16/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 037-099A, 2/16/2016

A portion of Queens Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to condemnation 99A, 4/9/1997. The Shellfish TMDL for Queens Creek was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008.

Note:
During the 2012 cycle, it was determined that the TMDL addressed a smaller segment than previously believed. The Queens Creek mainstem impairment 037-099A, 131/2014 is now smaller than the 1998 impairment and is considered Category 4A/2C. 0.0838 mi2 was partially delisted.

The expansion on Queens Creek was corrected to remove the TMDL. Condemnation 037-099C, 1/28/2010 on Queens Creek, UT is located outside of the TMDL study area. The was due in 2014 since the condemnation first expanded in the 2002 cycle (see C04E-01-SF2)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_QUE01A98 / Queens Creek / Described in condemnation notices 037-099A, 2/16/2016.	4A	Fecal Coliform	1998	L	0.063

Size reduced in the 2018 cycle.

PIAMH

Queens Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.063**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-03-SF** **Edwards Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 036-197D, 2/16/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 036-197D, 2/16/2016

A portion of Edwards Creek was included on the 1998 303(d) list due to VDH condemnation 197A, 1/21/1997. The TMDL was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008.

During the 2016 cycle, Edwards Creek was open or seasonally condemned (036-197, 1/31/2014); therefore, the impairment was delisted.

The upper portion was relisted in 2018 (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_EDW01B18 / Edwards Creek / Described in VDH condemnation notice 036-197D, 2/16/2016.	4A	Fecal Coliform	2018	L	0.021

PIAMH

Edwards Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.021**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-04-SF** **Put In Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 5B, 6/5/1996

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS SFC Number 041-005A, 9/29/2015

Due to the presence of the HRSD Mathews Courthouse WWTP, the upper portion of Put In Creek was previously listed as prohibited and then switched to administratively condemned in 2014 cycle. The Shellfish Use was considered removed.

A shellfish TMDL has been completed for the downstream condemnation on Put In Creek (C04E-14-SF); the TMDL was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. The WWTP has since been terminated and the area was condemned in the 2016 cycle. The impairment is considered nested in the downstream TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_PUT02A98 / Put In Creek / Described in the condemnation notice 5B, 6/5/1996.	4A	Fecal Coliform	2016	L	0.021

MOBPH

Put In Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.021**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-05-SF** **Stutts Creek and Morris Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Numbers 061A & 61B, 4/4/1997

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 037-061A and -061B, 2/16/2016
Portion of VDH Shellfish Condemnations 037-061C, 2/16/2016

Portions of Stutts Creek and Morris Creek were included on the 1998 303(d) list due to VDH Shellfish Condemnations 61A & 61B, 4/4/1997. The condemnations have since merged and separated several times. However, the TMDL, which was developed by the DEQ and was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008, only addressed the portions which were impaired during the 1998 cycle. The 1998 portions are considered Category 4A. The expanded areas are addressed in fact sheet C04E-05-SF2.

In the 2014 cycle, condemnation A shrunk and is now smaller than the 1998 impairment. The reopened area was partially delisted (Category 2C). It shrank further in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_MRC01A98 / Morris Creek / Described in condemnation notice 61B, 4/4/1997.	4A	Fecal Coliform	1998	L	0.034
PIAMH					
VAP-C04E_STT01A98 / Stutts Creek / Described in condemnation notice 037-061A and -061B, 2/16/2016.	4A	Fecal Coliform	1998	L	0.062

Size reduced in the 2018 cycle.

PIAMH

Stutts Creek and Morris Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.096**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-05-SF2** **Morris Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Numbers 036-061C, 2/16/2016 not included in 061A & 061B, 4/4/1997

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 037-061C

Portions of Stutts Creek and Morris Creek were included on the 1998 303(d) list due to VDH Shellfish Condemnations 061A & 061B, 4/4/1997. The condemnations have since merged and separated several times. However, the TMDL only addressed the portions which were impaired during the 1998 cycle. The 1998 portions are considered Category 4A (C04E-05-SF). As the segment first expanded on the 2002 303(d) list, the TMDL for the expansions is due in 2014.

During the 2012 cycle, the condemnation shortened and split into three sections (A, E, and F). In the 2014 cycle, the condemnations shrank again and one section converted to seasonally condemned; therefore, the opened area was partially delisted.

It is considered nested in the Stutts Creek Shellfish TMDL. The TMDL was addressed in the Gwynns Island and Milford Haven Watersheds report, which was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008.

It shrank considerably in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_STT01B10 / Stutts Creek/Morris Creek / Portion of VDH condemnation notice 037-061C, 2/16/2016 not condemned on 4/4/1997.	4A	Fecal Coliform	2002	L	0.005

Shrank considerably in the 2018 cycle.

PIAMH

Morris Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.005**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-06-EBEN** **Edwards Creek**

Cause Location: Edwards Creek within VDH-DSS condemnation 197B, 1/21/1997

City / County: Mathews Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

During the 2018 cycle, lower Edwards Creek was impaired of the Aquatic Life Use due to a slightly altered benthic community during a one-time sampling event (weight-of-evidence) at Coastal 2000 probabilistic monitoring station 7BEDW000.25.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_EDW02A98 / Edwards Creek / Described in the condemnation notice 036-197B, 1/21/1997.	5A	Estuarine Bioassessments	2018	L	0.047

PIAMH

Edwards Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.047**		

Sources:

Contaminated Sediments Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-08-SF** **North River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 157A, 6/3/1997

City / County: Gloucester Co. Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS SFC Number 042-157A, 5/27/2015

The upstream portion of the North River was included on the 1998 303(d) list due to VDH Shellfish Condemnation 157A, 6/3/1997. The condemnation subsequently expanded, however the DEQ only addressed the original impaired segment during the Bacteria TMDL which was approved by the EPA on 6/7/2006. The original portion will be considered Category 4A. The expanded area was addressed in fact sheet C04E-08-SF2.

In the 2018 cycle, the condemnation shrank considerably and is now smaller than the TMDL area. The expansion will be delisted. The now-opened portion of the TMDL area will be partially delisted (Category 2C.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_BUR01A00 / Burke Mill Stream / From extent of tide to North River	4A	Fecal Coliform	2010	L	0.025
MOBPH					
VAP-C04E_NOR01A02 / North River / Described in condemnation notice 042-157A, 5/27/2015, excluding tidal Burke Mill Stream.	4A	Fecal Coliform	1998	L	0.250

Split in the 2018 cycle.

MOBPH

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.275**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-09-SF** **Elmington Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 157B, 6/3/1997

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 042-157D, 5/27/2015

The upstream portion of Elmington Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 157B, 6/3/1997. The condemnation subsequently expanded; however, the DEQ only addressed the original impaired segment in the North River Bacteria TMDL which was approved by the EPA on 6/7/2006.

During the 2012 cycle, condemnation 042-157B, 6/15/2007 was rescinded and Elmington Creek was reopened for harvest; the entire stream was delisted.

The creek was relisted in the 2014 cycle. The upstream portion is considered Category 4A; the expanded area is addressed in fact sheet C04E-09-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_ELM01A98 / Elmington Creek / Described in the condemnation notice 157B, 6/3/1997.	4A	Fecal Coliform	2014	L	0.023

MOBPH

Elmington Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.023**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-09-SF2** **Elmington Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 042-157D, 5/27/2015 not included in 157B, 6/3/1997

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 042-157D, 5/27/2015

The upstream portion of Elmington Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 157B, 6/3/1997. The condemnation subsequently expanded, however the DEQ only addressed the original impaired segment in the North River Bacteria TMDL report.

During the 2012 cycle, condemnation 042-157B, 6/15/2007 was rescinded and Elmington Creek was reopened for harvest; the entire stream was delisted.

The creek was relisted in the 2014 cycle. The upstream portion is considered Category 4A. The expanded area is considered nested in the Elmington Creek TMDL, which was approved by the EPA on 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_ELM01B08 / Elmington Creek / Portion of VDH condemnation notice 042-157D, 5/27/2015 not included in 157B, 6/3/1997.	4A	Fecal Coliform	2014	L	0.009

MOBPH

Elmington Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-10-SF** **Back Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 042-157C, 5/27/2015

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 042-157C, 5/27/2015

Back Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 157C, 6/3/1997. The entire creek was addressed in the North River Bacteria TMDL which was approved by the EPA on 6/7/2006.

During the 2012 cycle, VDH Shellfish Condemnation 042-157C, 6/17/2007 shortened and the downstream portion was reopened for harvest (042-157, 6/30/2010); it was partially delisted (Category 2C). The closed portion is assessed as a Category 4A water. The condemned area grew slightly in the 2014 and 2016 cycles.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_BKA01A98 / Back Creek / Described in VDH condemnation notice 042-157C, 5/27/2015	4A	Fecal Coliform	1998	L	0.071

MOBPH

Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.071**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-12-SF** **Davis Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 042-131C, 6/30/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 042-131C, 6/30/2016

Davis Creek is considered nested within the upstream Blackwater Creek Shellfish TMDL, which was addressed in the North River TMDL report and approved by the EPA on 6/7/2006.

Condemnation shrank in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_DAV01A98 / Davis Creek / Described in the condemnation notice 042-131C, 6/30/2016.	4A	Fecal Coliform	2002	L	0.012

Size reduced in the 2018 cycle.

MOBPH

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.012**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-13-SF** **East River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 92, 1/3/1995

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 041-092A, 9/30/2016

A portion of the East River was included on the 1998 303(d) list due to VDH-DSS condemnation 92, 1/3/1995. The condemnation expanded in the 2008 cycle and incorporated several tributaries and coves (10/25/2005). The Shellfish TMDL was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. However, only the original impairment was addressed.

In the 2010 cycle, the condemned area included the original 1998 impairment plus an expanded mainstem portion, Woodas Creek, and two tributaries. The 1998 portion is considered Category 4A.

Note: The TMDLs for the four expansions are due in 2020 and were addressed in fact sheets C04E-48-SF through C04E-51-SF. The condemnations shrank in the 2014 cycle and the two tributaries were delisted. The condemnation expanded again during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_EST01A98 / East River / Described in the condemnation notice 92, 1/3/1995.	4A	Fecal Coliform	1998	L	0.198

MOBPH

East River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.198**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-14-SF** **Put In Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 041-005A, 9/29/2015 that was not included in 5B, 6/5/1996.

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 041-005A, 9/29/2015

Put In Creek was included on the 1998 303(d) list due to VDH-DSS condemnation 5A, 6/5/1996. The Shellfish TMDL was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

However, the condemned area has been reduced and the lowermost portion of the 1998 segment is now open for harvest.

The condemnation expanded slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_PUT01A98 / Put In Creek / Portion of VDH-DSS condemnation notice 041-005A, 9/29/2015 not included in 5B, 6/5/1996.	4A	Fecal Coliform	1998	L	0.095

Expanded slightly in the 2018 cycle.

MOBPH

Put In Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.095**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-15-SF** **Davis Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 040-085B, 9/29/2015

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 040-085B, 9/29/2015

This cove of Davis Creek was listed as impaired since the 2002 cycle due to condemnation 85, 9/22/1997. The TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. However, the condemnation was rescinded and the area was only seasonally condemned on the 10/10/2008 condemnation; therefore, the segment was delisted in the 2010 cycle (2B/2C).

During the 2012 cycle, a portion of the impairment was relisted. It is considered Category 4A. The remainder continues to be seasonally condemned.

Note: the segment was previously said to have been first listed in the 1998 cycle, later investigation showed that the segment was not included on the 1998 303(d) list and would have been first listed in the 2002 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_DVS01A98 / Davis Creek / Described in the condemnation notice 040-085B, 9/29/2015.	4A	Fecal Coliform	2012	L	0.006

MOBPH

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.006**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-16-SF** **XFA - North River, UT**

Cause Location: VDH Notice and Description of Shellfish Condemnation 042-131A, 6/30/2016

City / County: Gloucester Co. Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 042-131A, 6/30/2016

It is considered nested within the upstream Blackwater Creek Shellfish TMDL, which was addressed in the North River TMDL report and approved by the EPA on 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_XFA03A14 / XFA - North River, UT / Described in VDH-DSS condemnation 042-131A, 6/30/2016.	4A	Fecal Coliform	2014	L	0.020

MOBPH

XFA - North River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.020**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-18-SF** **Horn Harbor and Horn Harbor, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations 039-026A and 039-026E, 3/7/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH condemnation notices 039-026A and -026E, 3/7/2016

Horn Harbor was included on the 1998 303(d) list due to VDH condemnation 26A, 2/25/1997. The TMDL was completed for Horn Harbor during the 2010 cycle and was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. The condemned area has retracted and portions of the study area are open for harvest or seasonally condemned.

Horn Harbor is considered Category 4A/2C as appropriate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_HAH01A98 / Horn Harbor / Described in VDH condemnation notices 039-026A and -026E, 3/7/2016.	4A	Fecal Coliform	1998	L	0.146

Size increased in the 2018 cycle.

CB6PH

Horn Harbor and Horn Harbor, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.146**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-19-SF** **Doctors Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 039-026B, 3/7/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 039-026B, 3/7/2016

Doctors Creek was included on the 1998 303(d) list due to VDH condemnation 26B, 2/25/1997. The Shellfish TMDL was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

During the 2014 cycle, the condemnation shrank and is now smaller than the 1998 condemnation. The opened portion (0.0096 mi2) was partially delisted (Category 2C.) The closed area remains Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_DOC01B14 / Doctors Creek / Described in VDH-DSS condemnation notice 039-026B, 3/7/2016.	4A	Fecal Coliform	1998	L	0.005

CB6PH

Doctors Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.005**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-20-SF** **East River, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 041-212E, 9/30/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 041-212E, 9/30/2016

The condemnation is proposed for nesting in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_EST08A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212E, 9/30/2016.	4A	Fecal Coliform	2018	L	0.004

MOBPH

East River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.004**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-21-SF** **XFE - Piankatank River, UT (aka Kibble Pond)**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 036-197B, 2/16/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 0136-197B, 2/16/2016

The condemnation is nested in the Edwards Creek Shellfish TMDL, which was developed in the Milford Haven and Gwynn Island Shellfish TMDL report. The report was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_XFE01A16 / XFE - Piankatank River, UT (aka Kibble Pond) / Described in VDH-DSS condemnation 036-197B, 2/16/2016.	4A	Fecal Coliform	2016	L	0.016

PIAMH

XFE - Piankatank River, UT (aka Kibble Pond)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-22-SF** **East River, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 041-212B, 9/30/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 041-212B, 9/30/2016

The condemnation is proposed for nesting in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_EST04A02 / East River, UT / As described in condemnation notice 041-212B, 9/30/2016.	4A	Fecal Coliform	2018	L	0.026

MOBPH

East River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-23-SF** **Put In Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 041-005B, 9/29/2015.

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 041-005B, 9/29/2015

Put In Creek was included on the 1998 303(d) list due to VDH-DSS condemnation 5A, 6/5/1996 (C04E-14-SF). The Shellfish TMDL was developed was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. However, the condemned area has been reduced and the lowermost portion of the 1998 segment was delisted (Category 2C).

This cove was relisted in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_PUT01D16 / Put In Creek / Described in condemnation notice 041-005B, 9/29/2015.	4A	Fecal Coliform	2016	L	0.005

MOBPH

Put In Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.005**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-25-SF** **Winder Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 037-099B, 2/15/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 037-099B, 2/16/2016

Winder Creek is nested within the Queens Creek Shellfish TMDL, which was approved by the EPA on 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_MID01A02 / Winder Creek / As described in the condemnation notice 037-099B, 2/16/2016.	4A	Fecal Coliform	2002	L	0.025

PIAMH

Winder Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-26-SF** **Tabbs Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 041-212F, 9/30/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 041-212F, 9/30/2016

Tabbs Creek is proposed for nesting in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_TAB01A08 / Tabbs Creek / Described in VDH Shellfish Condemnation 041-212F, 9/30/2016.	4A	Fecal Coliform	2008	L	0.034

Size reduced in the 2018 cycle.

MOBPH

Tabbs Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.034**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-27-SF** **Winter Harbor, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 038-178B, 3/26/2010

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 038-178B, 3/7/2016

The condemnation is proposed for nesting in the nearby Horn Harbor Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_WIN01A06 / Winter Harbor, UT / Described in the condemnation notice 038-178B, 3/7/2016.	4A	Fecal Coliform	2018	L	0.108

Expanded in the 2018 cycle.

CB6PH

Winter Harbor, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.108**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-28-SF** **Barn Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 036-197C, 2/16/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 036-197C, 2/16/2016

Barn Creek is nested within the nearby Edwards Creek Shellfish TMDL, which was addressed in the Gwynn's Island and Milford Haven Watersheds report. The TMDL was approved by the EPA on 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_BRN01A04 / Barn Creek / Described in VDH-DSS condemnation notice 036-197C, 2/16/2016.	4A	Fecal Coliform	2008	L	0.020

PIAMH

Barn Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.020**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-29-SF** **Miles Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 041-212D, 9/30/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 041-212D, 9/30/2016

Miles Creek is nested in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_MIS01A04 / Miles Creek / Described in VDH Condemnation Notice 041-212D, 9/30/2016.	4A	Fecal Coliform	2016	L	0.030

MOBPH

Miles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.030**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-30-SF** **Lanes Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 037-099B, 2/16/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 036-099C, 2/16/2016

The impairment is nested within the nearby Edwards Creek Shellfish TMDL, which was addressed in the Gwynn's Island and Milford Haven Watersheds report. The TMDL was approved by the EPA on 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_LAN01B08 / Lanes Creek, UT / Described in VDH Shellfish Condemnation 037-099C, 2/16/2016.	4A	Fecal Coliform	2008	L	0.002

PIAMH

Lanes Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.002**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-31-SF** **Winter Harbor**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 038-178A, 3/26/2010

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 038-178A, 3/7/2016

The condemnation is proposed for nesting in the nearby Horn Harbor Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_WIN03B18 / Winter Harbor / Described in VDH-DSS condemnation 038-176A, 3/7/2016.	4A	Fecal Coliform	2018	L	0.422

CB6PH

Winter Harbor	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.422**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-32-SF** **Horn Harbor, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 039-026D, 3/7/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 039-026D, 3/7/2016

The impairment is proposed for nesting in the upstream Horn Harbor Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_HAH02D18 / Horn Harbor, UT / Described in VDH-DSS condemnation 039-026D, 3/7/2016.	4A	Fecal Coliform	2018	L	0.005

CB6PH

Horn Harbor, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.005**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-33-SF** **Borum Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 039-026C, 3/7/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 039-026C, 3/7/2016

The impairment is proposed for nesting in the upstream Horn Harbor Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_BOR01A18 / Borum Creek / Described in VDH-DSS condemnation 039-026C, 3/7/2016.	4A	Fecal Coliform	2018	L	0.028

CB6PH

Borum Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.028**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-42-SF** **Weston Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 041-212A, 9/30/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 041-212A, 9/30/2016

The Weston Creek shellfish impairment is nested in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_WON01A08 / Weston Creek / Described in VDH Shellfish Condemnation 041-212A, 9/30/2016.	4A	Fecal Coliform	2008	L	0.025

MOBPH

Weston Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-44-SF** **East River, UT**

Cause Location: VDH Notice and Description of Shellfish Condemnation 041-212C, 9/30/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 041-212C, 9/30/2016

The impairment is nested in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_EST07A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212C, 9/30/2016.	4A	Fecal Coliform	2014	L	0.014

MOBPH

East River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.014**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-47-SF** **Belleville Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 042-157B, 5/27/2015

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 042-157B, 5/27/2015

Belleville Creek is nested within the nearby Back Creek Shellfish TMDL. The TMDL was developed in the North River TMDL report, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_BEV01A08 / Belleville Creek / Described in VDH Shellfish Condemnation 042-157B, 5/27/2015.	4A	Fecal Coliform	2008	L	0.037

MOBPH

Belleville Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.037**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-48-SF** **Woodas Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 041-092B, 9/30/2016

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 041-092B, 9/30/2016

A portion of the East River was included on the 1998 303(d) list due to VDH-DSS condemnation 92, 1/3/1995. The condemnation expanded in the 2008 cycle and incorporated several tributaries and coves (10/25/2005). During the 2010 cycle, the DEQ developed the Shellfish TMDL; however, only the original impairment was addressed.

In the 2010 cycle, the condemned area included the original 1998 impairment plus an expanded mainstem area, Woodas Creek, and two (later delisted) tributaries. The 1998 portion is considered Category 4A. The TMDL for the expansions are due in 2020.

Woodas Creek is nested in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

The Woodas Creek condemnation shrank slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_WOO01A10 / Woodas Creek / Described in the condemnation notice 041-092B, 9/30/2016.	4A	Fecal Coliform	2008	L	0.029

Shrank slightly in the 2018 cycle.

MOBPH

Woodas Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.029**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-49-SF** **East River**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 041-092A, 9/30/2016 not included in 92, 1/3/1995 or 041-092D, 10/28/2008

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 041-092A, 9/30/2016

A portion of the East River was included on the 1998 303(d) list due to VDH-DSS condemnation 92, 1/3/1995. The condemnation has expanded and contracted multiple times; however, only the original impairment was addressed. The 1998 portion is considered Category 4A. The TMDLs for the expansion is due in 2020.

This expansion is nested in the upstream East River Shellfish TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009.

The condemnation expanded slightly in the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_EST01B10 / East River / Portion of condemnation notice 041-092A, 9/30/2016 open in 92, 1/3/1995.	4A	Fecal Coliform	2008	L	0.101

MOBPH

East River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.101**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-53-BAC** **Whites Creek - Festival Beach**

Cause Location: Whites Creek at Festival Beach

City / County: Mathews Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

During the 2012 cycle, Whites Creek at Festival Beach was mistakenly impaired of the Recreation Use due to 7 short-term swimming advisories during the 2010 swim season. The advisories were limited to 1-3 days in length and therefore are not appropriate for listing.

During the 2016 and 2018 cycles, there were no beach closures of a week or more duration. However, there were two exceedances of the bacteria geometric mean during the 2016 cycle and the beach will remain listed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_WHI01A08 / Whites Creek / Whites Creek around Festival Beach	5A	Enterococcus	2012	L	0.046

PIAMH

Whites Creek - Festival Beach **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.046**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-54-SF** **Davis Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 040-085A, 9/29/2015

City / County: Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 040-085A, 9/29/2015

The impairment is nested within the neighboring Davis Creek Shellfish TMDL, which was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008. It is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_DVS03A12 / Davis Creek / Described in VDH-DSS condemnation 040-085A, 9/29/2015	4A	Fecal Coliform	2012	L	0.009

MOBPH

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04E-55-SF** **Raymond Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 042-131B, 6/30/2016

City / County: Gloucester Co. Mathews Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 042-131B, 6/30/2016

The Raymond Creek Shellfish Use impairment is nested within the upstream Blackwater Creek Shellfish TMDL, which was addressed in the North River TMDL report and approved by the EPA on 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_RAY01A12 / Raymond Creek / Described in VDH-DSS condemnation 042-131B, 6/30/2016.	4A	Fecal Coliform	2012	L	0.026

MOBPH

Raymond Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04R-01-BAC** **East River**

Cause Location: Nontidal mainstem of the East River.

City / County: Mathews Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the nontidal East River was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 7-EST008.71, which is located at Rt. 14.

A shellfish bacterial impairment on tidal East River was addressed in the East River TMDL, which was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. Implementation of the TMDL is expected to bring the nontidal Recreation Use impairment into compliance; therefore, the segment is considered nested (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04R_EST01A12 / East River / Headwaters to tidal limit	4A	Escherichia coli	2012	L	0.59

East River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.59**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04R-01-DO** **East River**

Cause Location: Nontidal mainstem of the East River.

City / County: Mathews Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the nontidal East River was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 7-EST008.71, which is located at Rt. 14.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04R_EST01A12 / East River / Headwaters to tidal limit	5C	Oxygen, Dissolved	2012	L	0.59

East River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.59**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04R-01-PH** **East River**

Cause Location: Nontidal mainstem of the East River.

City / County: Mathews Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, the nontidal East River was impaired of the Aquatic Life Use due to a pH exceedance rate of 8/12 at 7-EST008.71, which is located at Rt. 14.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04R_EST01A12 / East River / Headwaters to tidal limit	5C	pH	2012	L	0.59

East River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.59**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C04R-02-BAC** **Burke Mill Stream**

Cause Location: Burke Mill Stream from extent of tide to mouth at the North River.

City / County: Gloucester Co. Mathews Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Burke Mill Stream from Burke Pond to the tidal limit was assessed as impaired of the Recreation Use in 2004 based on fecal coliform exceedances at the Route 3/Route 14 bridge (7-BUR001.19).

During the 2008 cycle, the E. coli exceedance rate was 2/10; therefore, the impairment converted to E. coli. The original TMDL due date of 2016 was maintained.

However, during the 2010 cycle, it was determined that station 7-BUR001.19 is tidally influenced. Since no enterococci data had been collected at the site, the bacterial impairment was carried over. The extent of the impairment was changed from the tidal limit to the mouth.

Enterococci monitoring during the 2012 cycle confirmed the Recreation Use impairment. The exceedance rate was 7/12 at 7-BUR001.19.

As the impairment is within the area addressed in the Shellfish TMDL for the North River, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007, the Recreation Use impairment is considered nested (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C04E_BUR01A00 / Burke Mill Stream / From extent of tide to North River	4A	Enterococcus	2012	L	0.025

MOBPH

Burke Mill Stream **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.025**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05E-01-SF** **Ware River / Fox Mill Run**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 096A and 096B, 8/12/1996

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 043-096A, 5/27/2015

Fox Mill Run and a portion of the Ware River were included on the 1998 303(d) list due to VDH Shellfish Condemnation 96B and 96A, 8/12/1996. The Ware River condemnation has since expanded to incorporate the Fox Mill Run impairment. However, the DEQ developed the Bacteria TMDL for only the original 1998 portions; the TMDL was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007. The 1998 portions are considered Category 4A waters.

The expanded area of the Ware River is addressed in fact sheet C05E-01-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05E_FOX01A08 / Fox Mill Run / Described in the condemnation notice 96B, 8/12/1996.	4A	Fecal Coliform	1998	L	0.085
MOBPH					
VAP-C05E_WAR01A02 / Ware River / Described in the condemnation notice 096A, 8/12/1996.	4A	Fecal Coliform	1998	L	0.257
MOBPH					

Ware River / Fox Mill Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.342**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05E-01-SF2** **Ware River**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 043-096A, 5/27/2015 not included in 096A and 096B, 8/12/1996

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 043-096A, 5/27/2015

Fox Mill Run and a portion of the Ware River were included on the 1998 303(d) list due to VDH Shellfish Condemnation 96B and 96A, 8/12/1996. The Ware River condemnation has since expanded to incorporate the Fox Mill Run impairment. However, the DEQ developed the Bacteria TMDL for only the original 1998 portions. The TMDL for the expanded portion of the Ware River was due in 2014 since it first expanded in the 2002 list.

The expansion is nested within the upstream Ware River Shellfish TMDL, which was approved by the EPA on 6/7/2006.

The condemnation shrank slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05E_WAR01B08 / Ware River / Portion of VDH condemnation notice 043-096A, 5/27/2015 not included in condemnation 96A and 96B, 8/12/1996.	4A	Fecal Coliform	2002	L	0.262

Shortened in the 2018 cycle.

MOBPH

Ware River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.262**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05E-02-SF** **Wilson Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 106, 8/12/1996

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 043-096B, 5/27/2015

A portion of Wilson Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 106, 8/12/1996. The condemnation has since expanded and contracted. However, the DEQ developed the Bacteria TMDL for only the original 1998 portion; the TMDL was approved by the EPA on 6/7/2006.

In the 2014 cycle, the condemnations expanded and merged again. The expansion is addressed in fact sheet C05E-02-SF2.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05E_WIL01A98 / Wilson Creek / Described in the condemnation notice 106, 8/12/1996.	4A	Fecal Coliform	1998	L	0.033

MOBPH

Wilson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.033**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05E-02-SF2** **Wilson Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 043-096B, 5/27/2015 not included in 106, 8/12/1996

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 043-096B, 5/27/2015

A portion of Wilson Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 106, 8/12/1996. The condemnation has since expanded and contracted.

The impairment is nested in the upstream Wilson Creek TMDL, which was developed in the Ware River report. The TMDL was approved by the EPA on 6/7/2006.

The condemnation expanded again during the 2016 and 2018 cycles.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05E_WIL01B08 / Wilson Creek / Portion of VDH condemnation notice 043-096B, 5/27/2015 not included in condemnation notice 106, 8/12/1996.	4A	Fecal Coliform	2002	L	0.241

Expanded in the 2018 cycle.

MOBPH

Wilson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.241**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05E-03-BAC** **Ware River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 096A, 8/12/1996

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2018 cycle, the upper tidal Ware River was impaired of the Recreation Use due to an enterococci exceedance rate of 5/8 at 7-BEA000.40. The station is located near the tidal limit on Beaverdam Swamp at Rt. 14.

The impairment is proposed for nesting in the Ware River Watershed Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007. It will be considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05E_WAR01A02 / Ware River / Described in the condemnation notice 096A, 8/12/1996.	4A	Enterococcus	2018	L	0.257

MOBPH

Ware River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.257**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05E-04-SF** **Ware River, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 043-096C, 5/27/2015

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 043-096C, 5/27/2015

The impairment is proposed for nesting in the Ware River Watershed Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007. It will be considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05E_WAR02B18 / Ware River / Described in VDH-DSS condemnation 043-096C, 5/27/2015.	4A	Fecal Coliform	2018	L	0.010

MOBPH

Ware River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.010**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05R-01-BAC** **Fox Mill Run**

Cause Location: From its headwaters to the limit of tide.

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 2002, the segment was assessed not supporting of the Recreation Use because of a fecal coliform exceedance rate of 5/18 at the Route 17 bridge (7-FOX002.49).

Additional monitoring has been conducted. The bacterial impairment converted to E. coli in the 2010 cycle; however, the original TMDL due date was maintained. During the 2012 cycle, the segment remained impaired:
2/23 (FS) at 7-FOX002.49
3/12 at 7-FOX003.22
2/12 at 7-FOX004.68
3/12 at 7-FOX006.56

The impairment is considered nested (Category 4A) because it is located within the watershed study area for the Ware River Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05R_FOX01A00 / Fox Mill Run / From its headwaters to the extent of tide.	4A	Escherichia coli	2010	L	6.96

Fox Mill Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.96**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C05R-04-BAC** **XEG - Fox Mill Run, UT**

Cause Location: Unnamed tributary to Fox Mill Run, in its entirety.

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the tributary was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/12 at 7-XEG000.27, which is located at a private drive off of Route 615.

The impairment is considered nested (Category 4A) because it is located within the watershed study area for the Ware River Shellfish TMDL, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C05R_XEG01A10 / Fox Mill Run, UT / Headwaters to mouth at Fox Mill Run	4A	Escherichia coli	2012	L	1.71

XEG - Fox Mill Run, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.71**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-01-BAC** **Northwest Branch Severn River**

Cause Location: From the limit of tide to the mouth at the Severn River.

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The nontidal portion of the Northwest Branch of the Severn River was initially assessed as not supporting of the Recreation Use goal because of fecal coliform exceedances at 7-SEN004.04 (fact sheet C06R-01-BAC). The TMDL was due in 2014.

During the 2008 cycle, the E. coli violation rate was 7/11; therefore, the impairment was converted. The original TMDL due date was maintained.

During the 2010 cycle, it was determined that the station is tidally influenced during most circumstances. The impairment was adjusted to extend from the tidal limit to the downstream extent of the shellfish condemnation.

The impairment is nested within the study area for the Severn River Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007. The watershed requires a 98% reduction in bacterial loadings in order to meet the downstream TMDL; therefore, an additional TMDL is not necessary.

The impairment was extended to the mouth during the 2016 cycle due to additional monitoring at 7-SEN001.32, which is located at Brays Point. The exceedance rate was 3/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_SEN01A02 / Northwest Branch Severn River / Described in condemnation notice 044-093B, 6/9/2016, excluding tributary XEE.	4A	Enterococcus	2010	L	0.092
MOBPH					
VAP-C06E_SEN01C10 / Northwest Branch Severn River / Portion of condemnation notice 93A, 4/1/1997 open on 044-093, 6/9/2016.	4A	Enterococcus	2016	L	0.202
MOBPH					
VAP-C06E_SEN02A06 / Northwest Branch Severn River / Mainstem and tribs not otherwise segmented	4A	Enterococcus	2016	L	0.441
MOBPH					

Northwest Branch Severn River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.735**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-01-SF** **Northwest Branch Severn River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 044-093B, 6/9/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 044-093B, 6/9/2016

The upper portion of the Northwest Branch Severn River and a portion of Vaughans Creek were included on the 1998 303(d) list due to VDH Shellfish Condemnations 93A and 93B, 4/1/1997, respectively.

The Bacteria TMDL for the Shellfish Impairments in the Severn River Watershed was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007).

During the 2014 cycle, both creeks were completely reopened for harvest (044-093, 2/22/2012); therefore, the streams were delisted (Category 2C).

The segment was relisted in the 2016 cycle (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_SEN01A02 / Northwest Branch Severn River / Described in condemnation notice 044-093B, 6/9/2016, excluding tributary XEE.	4A	Fecal Coliform	2016	L	0.092
MOBPH					
VAP-C06E_XEE01A10 / Northwest Branch Severn River, UT / Tidal limit to mouth at NW Branch Severn River	4A	Fecal Coliform	2016	L	0.003
MOBPH					

Northwest Branch Severn River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.094**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-02-SF** **Northwest Branch Severn River, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 044-093D, 6/9/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 044-093D, 6/9/2016

The upper portion of the Northwest Branch Severn River and a portion of Vaughans Creek were included on the 1998 303(d) list due to VDH Shellfish Condemnations 93A and 93B, 4/1/1997, respectively.

The Bacteria TMDL for the Shellfish Impairments in the Severn River Watershed was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007). During the 2014 cycle, both creeks were completely reopened for harvest (044-093, 2/22/2012); therefore, the streams were delisted (Category 2C).

The segment was relisted in the 2016 cycle (Category 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_SEN01B16 / Northwest Branch Severn River, UT / Described in VDH-DSS condemnation notice 044-093D, 6/9/2016.	4A	Fecal Coliform	2016	L	0.034

MOBPH

Northwest Branch Severn River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.034**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-03-SF** **Vaughans Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 044-093C, 6/9/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 044-093C, 6/9/2016

The upper portion of the Northwest Branch Severn River and a portion of Vaughans Creek were included on the 1998 303(d) list due to VDH Shellfish Condemnations 93A and 93B, 4/1/1997, respectively.

The Bacteria TMDL for the Shellfish Impairments in the Severn River Watershed was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007).

During the 2014 cycle, both creeks were completely reopened for harvest (044-093, 2/22/2012); therefore, the streams were delisted (Category 2C).

The segment was relisted in the 2016 cycle (Category 4A). It shrank slightly in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_VGH01A98 / Vaughans Creek / Described in the condemnation notice 044-093C, 6/9/2016.	4A	Fecal Coliform	2016	L	0.061

Shrank in the 2018 cycle.

MOBPH

Vaughans Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.061**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-04-SF** **Heywood Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 044-054B, 4/2/2014

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH DSS Shellfish Condemnation 044-054B, 4/2/2014

Heywood Creek was listed on the 1998 303(d) list due to VDH Shellfish Condemnation 101, 4/1/1997. The TMDL for this area was approved by the EPA on 6/7/2006.

The condemned area is currently smaller than the 1998 impairment; the open area within the completed TMDL is Category 2C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_HEY01A98 / Heywood Creek / Described in the condemnation notice 044-054B, 4/2/2014.	4A	Fecal Coliform	1998	L	0.081

MOBPH

Heywood Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.081**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-05-SF** **Thorntons Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 044-054A, 4/2/2014

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH DSS Shellfish Condemnation 044-054A, 4/2/2014

Thorntons Creek was listed on the 1998 303(d) list due to VDH Shellfish Condemnation 54, 4/1/1997. The TMDL for this area was approved by the EPA on 6/7/2006. The 1998 portion of Thorntons Creek was considered a Category 4A water. The condemned area is now smaller than the 1998 impairment. The open area within the completed TMDL was partially delisted (Category 2C).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_THC01A98 / Thorntons Creek / Described in the condemnation notice 044-054A, 4/2/2014.	4A	Fecal Coliform	1998	L	0.052

MOBPH

Thorntons Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.052**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-07-SF** **Monday Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 045-125A, 12/9/2015

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation 045-125A, 12/9/2015

A portion of Monday Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 25A, 12/31/1996 (C06E-02-SF). The TMDL for the area was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007. However, the condemnation was fully rescinded during the 2010 cycle (045-125, 12/11/2008) and the entire area was delisted (Category 2C).

An upstream portion was relisted in the 2018 cycle (Cat 4A).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_MNC01B18 / Monday Creek / Described in VDH-DSS condemnation notice 045-125A, 12/9/2015.	4A	Fecal Coliform	2018	L	0.053

MOBPH

Monday Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.053**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06E-08-SF** **Free School Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 044-093A, 6/9/2016

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 044-093A, 6/9/2016

Free School Creek was addressed in the Severn River Watershed Bacteria TMDL for Shellfish Impairments. The TMDL was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007.

The condemnation is currently smaller than the TMDL extent. The closed portion is considered a Category 4A water. The open portion is Category 2C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_FSC01A98 / Free School Creek / Described in VDH Shellfish Condemnation 044-093A, 6/9/2016.	4A	Fecal Coliform	2008	L	0.039

Shrank in the 2018 cycle.

MOBPH

Free School Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.039**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06R-01-BAC** **Northwest Branch of Severn River**

Cause Location: From its headwaters to the limit of tide.

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The nontidal portion of the Northwest Branch of the Severn River was initially assessed as not supporting of the Recreation Use goal because of fecal coliform exceedances at 7-SEN004.04, located near a private road off of Rt. 614. The TMDL was due in 2014.

During the 2008 cycle, the E. coli exceedance rate was 7/11; therefore, the impairment was converted. The original TMDL due date was maintained.

During the 2010 cycle, it was determined that station 7-SEN004.04 is actually tidally influenced during most circumstances. The segment was shortened to correct the tidal limit and additional data was collected at station 7-SEN004.78. The exceedance rate was 3/10 during the 2012 cycle.

The impairment is nested within the study area for the Severn River Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination, which was approved by the EPA on 6/7/2006 and by the SWCB on 3/23/2007. The watershed requires a 98% reduction in bacterial loadings in order to meet the downstream TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06R_SEN01A00 / Northwest Branch Severn River / From its headwaters to the extent of tide.	4A	Escherichia coli	2008	L	2.16

Northwest Branch of Severn River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.16**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C06R-02-BAC** **Northwest Branch of Severn River, UT**

Cause Location: The tidal portion of the tributary.

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

During the 2010 cycle, the tributary was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/6 at 7-XEE000.58, which is located at the Route 614 bridge.

During the 2012 cycle, it was determined that the station is tidally influenced. The station was impaired for the Recreation Use due to an enterococci exceedance rate of 5/11. The impairment was converted to enterococci and the segment extent was corrected.

The impairment is nested within the study area for the Severn River Watershed TMDL Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination, which was approved by the EPA on 6/7/2006 and the SWCB on 3/23/2007. The watershed requires a 98% reduction in bacterial loadings in order to meet the downstream TMDL; therefore, an additional TMDL is not necessary.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C06E_XEE01A10 / Northwest Branch Severn River, UT / Tidal limit to mouth at NW Branch Severn River	4A	Enterococcus	2012	L	0.003

MOBPH

Northwest Branch of Severn River, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.003**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-01-BAC** **Brick Kiln Creek**

Cause Location: This cause encompasses from 0.3 mi. downstream of Big Bethel Res. dam (approx. RM 5.0, end of tidal waters north of Ebenezer Church) downstream to confluence with Northwest Branch Back River. CBP Segment MOBPH.

City / County: Hampton City York Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is not supporting due to Enterococcus concentrations exceeding the swimming indicator criteria (12 viol/17 obs). Recreation impairments included in TMDL (31233) EPA approved 4/24/2014 under TMDL ID = VAT-C07E-01 modified 2/9/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BRK01A06 / Brick Kiln Creek / From 0.3 mi. downstream of Big Bethel Res. dam (approx. RM 5.0, end of tidal waters north of Ebenezer Church) downstream to confluence with Northwest Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 A (effective 20151102).	4A	Enterococcus	2004	L	0.086

Brick Kiln Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.086**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-01-PCB** **Chesapeake Bay & Tidal Tributaries VDH Fish Consumption Advisory for PCBs**

Cause Location: This cause encompasses the Chesapeake Bay & Tidal Tributaries within the lower bay.

City / County: Hampton City Poquoson City. York Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs fish tissue contamination within the Chesapeake Bay issued 12/13/04. Previous Use ID (2006 IR) as TMDL ID: VDH-Bay PCBs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BAK01A00 / Mainstem Back River / From junction of Northwest and Southwest Branches downstream to mouth of Back River. Portion of CBP Segment MOBPH. DSS Condemnation 054-215 OPEN (20161031) and 054-021 (20151102) shellfish condemnations.	5A	PCB in Fish Tissue	2006	L	3.340
VAT-C07E_BAK01B08 / Mainstem Back River-South Shore at Mouth Wallace Cr. / Portion of mainstem along south shore between Windmill Pt. and Grunland Pt. CBP Segment MOBPH. DSS shellfish condemnation # 054-215 M1 (Seasonal)(effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.091
VAT-C07E_BAK02A14 / Back Creek - Inlet near Dandy Point [TMDL] / Tributary to south shore Back River (incl area in Back R), east of Harris R & adjacent to Inlet #2. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-215 B, 20161031.	5A	PCB in Fish Tissue	2006	L	0.034
VAT-C07E_BCB01A06 / Buckroe Beaches / From northeast of Buckroe Beach southwest to parallel with start of Mill Cr. Portion of CBP Segment CB8PH. No DSS shellfish condemnations.	5A	PCB in Fish Tissue	2006	L	0.224
VAT-C07E_BCK01A00 / Back Creek - Upper / Back Creek (S of York R mouth) tributary to the Thorofare and Chesapeake Bay. From end of tidal waters downstream to point upstream of Dandy (RM 1.6). CBP Segment MOBPH. DSS shellfish condemnation # 053-151 A &M1 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.222
VAT-C07E_BCK02A06 / Back Creek - Middle (DSS-marina area) / Back Creek (S of York R mouth) is a tributary to The Thorofare and Chesapeake Bay. CBP Segment MOBPH. Area within DSS shellfish condemnation # 053-151 M1, around marina area (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.138
VAT-C07E_BCK03A06 / Back Creek - Lower / Back Creek (S of York R mouth) is a tributary to The Thorofare and Chesapeake Bay. CBP Segment MOBPH. From upstream of Dandy (RM 1.6) downstream to mouth (RM 0.0). DSS (OPEN) shellfish condemnation # 053-151 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.405
VAT-C07E_BEN01A06 / Bennett Creek - Upper (DSS_06-IR) / Bennett Creek upstream portion (S of Poquoson R mouth) tributary to Poquoson River. From end of tidal waters downstream 0.1 mi. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 053-222 E (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.039
VAT-C07E_BEN02A08 / Bennet Creek - Lower Middle / South shore tributary to Poquoson R, in area of Griffins Beach. East of Roberts Cr. and north of White House Cove. CBP Segment MOBPH. DSS (OPEN) Shellfish condemnation # 053-222 and M1 seasonal	5A	PCB in Fish Tissue	2006	L	0.209

(effective 20160511).					
VAT-C07E_BEN03A16 / Bennett Creek-Mouth / Mouth of Bennett Creek. CBP Segment MOBPH. No DSS direct shellfish harvesting condemnation.	5A	PCB in Fish Tissue	2006	L	0.366
VAT-C07E_BRK01A06 / Brick Kiln Creek / From 0.3 mi. downstream of Big Bethel Res. dam (approx. RM 5.0, end of tidal waters north of Ebenezer Church) downstream to confluence with Northwest Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 A (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.086
VAT-C07E_BTC01A08 / Bay Tree Creek / Trib to Bay, S of The Thorofare & N of mouth of Poquoson R. @ Bay Tree Point. CBP Segment MOBPH. DSS Shellfish condemnation # 053-221 C(effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.076
VAT-C07E_BTC02A18 / Bay Tree Creek- Mouth / Trib to Bay, S of The Thorofare & N of mouth of Poquoson R. @ Bay Tree Point. CBP Segment MOBPH. DSS (OPEN) Shellfish condemnation # 053-221 (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.050
VAT-C07E_BTH01A08 / Boathouse Creek / Boathouse Creek (N of Poquoson R mouth) tributary to Chisman Creek. CBP Segment MOBPH. DSS condemnation # 053-221 (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.078
VAT-C07E_CAB01A08 / Cabin Creek / Cabin Creek (N of Poquoson R mouth) tributary to Chisman Creek. CBP Segment MOBPH. DSS shellfish condemnation # 053-221 (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.082
VAT-C07E_CCR01A06 / Cedar & Topping Creeks / Located near City of Poquoson. Cedar & Topping Creeks are tribs to the north shore of the Northwest Branch of Back River. Portion of DSS condemnation # 054-021 A (less NW Br Back R./Brick Kiln Cr. portion) effective 20151102. CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.109
VAT-C07E_CHS01A06 / Chisman Creek-Upper / From end of tidal waters (upper 1/3 of creek), downstream to area of Evergreen Shores (approx. RM 0.9). CBP Segment MOBPH. DSS condemnation # 053-221A & seasonal M2 (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.306
VAT-C07E_CHS02A06 / Chisman Creek - Lower / Lower 2/3 of creek, downstream from area of Evergreen Shores (RM 0.9) to mouth. CBP Segment MOBPH. DSS (OPEN) condemnation # 053-221 & M1(effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.631
VAT-C07E_EAS01A06 / Easton Cove / Located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. DSS (OPEN) shellfish condemnation # 053-222 (effective 20160511). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.057
VAT-C07E_FLY01A06 / Floyds Bay- Upper / Upper Portion of Floyds Bay. Located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. Portion of DSS shellfish condemnation # 053-222 D (effective 20160511). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.042
VAT-C07E_FLY02A16 / Floyds Bay- mouth / Located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. Portion of DSS shellfish condemnation # 053-222 (effective 20160511). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.010
VAT-C07E_FRT01A06 / Front Cove - Upper / North shore trib. to mainstem Back R. Adjacent to Messick Point. DSS shellfish condemnation # 054-021 D (effective 20151102). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.042

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VAT-C07E_FRT02A08 / Front Cove - Lower / North shore trib. to mainstem Back R. Adjacent to Messick Point. DSS shellfish Seasonal condemnation # 054-021 M1 (effective 20151102). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.036
VAT-C07E_GLD01A10 / Grunland Creek - Mouth / South shore trib. to mainstem Back R. Adjacent to Grandview area. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 (effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.038
VAT-C07E_GLD02A18 / Grunland Creek - Back River / South shore trib. to mainstem Back R. Adjacent to Grunland Point. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 C (effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.064
VAT-C07E_GOO01A14 / Goose Creek- Upper / From end of tidal waters to approx. River mile 0.27. DSS Shellfish condemnation # 053-221 B (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.065
VAT-C07E_GOO02A14 / Goose Creek- Lower / From Rivermile 0.27 to mouth. CBP Segment MOBPH. DSS OPEN condemnation # 053-221 (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.036
VAT-C07E_GRV01A06 / Grandview Pier & Saltponds Beaches / From Grandview beach southwest to northeast of Buckroe Beach. Offshore of Buckroe Beach VDH monitoring. area Portion of CBP Segment CB8PH. No DSS shellfish condemnation present.	5A	PCB in Fish Tissue	2006	L	0.241
VAT-C07E_GRV02A10 / Grandview Pier & Saltponds Beaches [No TMDL] / From southernmost point of Grandview Beach southwest to northeast of Buckroe Beach. Shoreward of GRV01A06. Portion of CBP Segment CB8PH. DSS ADMIN shellfish condemnation # 055-216 A (effective 20080530).	5A	PCB in Fish Tissue	2006	L	0.119
VAT-C07E_HAR01A06 / Harris River - Upper / South shore trib. to mainstem Back R. Adjacent to Fox Hill area. DSS shellfish condemnation # 054-215 A (effective 20161031). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.198
VAT-C07E_HAR02A10 / Harris River - Mouth / South shore trib. to mainstem Back R. East shore area at mouth. Adjacent to Fox Hill area. CBP Segment MOBPH. DSS (OPEN) shellfish area # 054-215 (effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.160
VAT-C07E_HAR02B10 / Harris River - Lower Marina Area / South shore trib. to mainstem Back R. Adjacent to Fox Hill area. CBP Segment MOBPH. DSS (Seasonal) shellfish condemnation # 054-215 M2 (effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.053
VAT-C07E_HOD01A08 / Hodges Creek - Upper / North shore trib to Poquoson R. @ Fish Neck. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 053-137 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.057
VAT-C07E_IN101A08 / DSS Inlet #1 - Unnamed Inlet at Mouth of SW Branch / South shore trib. to mainstem Back R. Located east of mouth of SW Branch. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-021 C (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.025
VAT-C07E_INB01A04 / DSS Inlet #2 - Unnamed Inlet S. Shore of SW Br. Back River / South shore trib. to Southwest Branch Back R. Located near mouth of SW Branch, west of unnamed DSS Inlet #1. DSS OPEN condemnation # 054-021 (effective 201511021). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.008
VAT-C07E_LMC01A04 / Lambs Creek - Poquoson River / South shore tributary to Poquoson R, west of Poquoson Shores. On border	5A	PCB in Fish Tissue	2006	L	0.135

of Poquoson/York boundary. Between Moores Cr. and Roberts Cr to east. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 C (effective 20150218).					
VAT-C07E_LMC02A16 / Lambs Creek - Mouth / Mouth of Lambs Creek located on South shore tributary to Poquoson R, west of Poquoson Shores. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.028
VAT-C07E_LON01A06 / Long Creek - Back River / South shore trib. to mainstem Back R. Adjacent to Grandview natural Preserve area. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 C (effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.043
VAT-C07E_LON01B12 / Long & Grunland Creeks - Back River / South shore trib. to mainstem Back R. Adjacent to Grandview area. CBP Segment MOBPH. DSS shellfish ADMIN harvesting condemnation # 054-215 C (effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.055
VAT-C07E_LON02A10 / Long & Grunland Creeks - DSS Admin Area / South shore trib. to mainstem Back R. Portion adjacent to Grandview area. CBP Segment CB8PH. DSS shellfish harvesting condemnation # 055-216 A ADMIN. Cond. (effective 20080530).	5A	PCB in Fish Tissue	2006	L	0.085
VAT-C07E_LYO01A06 / Lyons Creek - Upper & Middle / South shore tributary to Poquoson R, in area of York Haven Anchorage. East of Roberts Cr. and north of White House Cove. CBP Segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 B (effective 20160511).	5A	PCB in Fish Tissue	2006	L	0.070
VAT-C07E_LYO02A06 / Lyons Creek - Lower / South shore tributary to Poquoson R, in area of York Haven Anchorage. East of Roberts Cr. and north of White House Cove. Lower portion of Lyons Cr. CBP Segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 (effective 20160218).	5A	PCB in Fish Tissue	2006	L	0.050
VAT-C07E_NEW01A02 / Newmarket Creek - Upper / South of Blue Bird Gap Farm area. From end of tidal waters at Terrant ES (approx. RM 5.1) downstream to I-64 crossing (RM 3.68). CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.073
VAT-C07E_NEW02A02 / Newmarket Creek - Lower / South of Blue Bird Gap Farm area. From the I-64 crossing (RM 3.68) downstream to confluence with SW Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.079
VAT-C07E_NWB01A06 / Northwest Br. Back River - Upper [TMDL-CD] / CBP Segment MOBPH. Headwaters to confluence of Cedar Creek between Cedar Point and Marsh Point. Portion of DSS shellfish condemnation # 054-021 A (less Cedar/Topping & Brick Kiln Creeks, effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.220
VAT-C07E_NWB01B08 / Northwest Br. Back River - Upper [TMDL not CD] / Northwest Br. Back River upper portion from confluence of Cedar Creek downstream to confluence Tabbs Cr. Portion DSS shellfish condemnation # 054-021 A (less Cedar/Topping & Brick Kiln Creeks, effective 20151102). CBP Segment MOBPH.	5A	PCB in Fish Tissue	2006	L	0.248
VAT-C07E_NWB02A06 / Northwest Br. Back River - Lower [DSS OPEN] / From area of confluence of Topping Creek (approx. RM 1.5) downstream to confluence with mainstem Back R. CBP Segment MOBPH. Portion of DSS (OPEN) shellfish condemnation # 054-021 (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.961
VAT-C07E_POQ01A06 / Poquoson River - Upper [TMDL-CD] /	5A	PCB in Fish Tissue	2006	L	0.518

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From Rt 17 crossing @ reservoir dam (RM 5.7) downstream to past confluence of Quarter March Cr (RM 2.7) @ Calthrop Neck. Including Moores & Quarter March Creeks. CBP Segment MOBPH. DSS shellfish condemn # 053-137 A (effective 20150218).					
VAT-C07E_POQ02A06 / Poquoson River - Lower [DSS-OPEN] / From Calthrop Neck downstream to mouth of Hodges Cove. CBP Segment MOBPH. DSS (OPEN) shellfish harvesting condemnation # 053-137 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.824
VAT-C07E_POQ03A08 / Poquoson River - Mouth / From Hunts Point a wedge NW across Poquoson River mouth to northern shore. CBP Segment MOBPH. DSS (OPEN) shellfish harvesting condemnation # 053-137 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	1.492
VAT-C07E_PTC01A04 / Patricks Creek - Poquoson River / North shore trib to Poquoson River south of Dare area. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 B (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.119
VAT-C07E_ROB01A04 / Roberts Creek - Upper / South of mouth of Poquoson River between Hunts Pt. and Griffins Beach areas. CBP Segment MOBPH. DSS ADMIN Shellfish condemnation # 053-222 A (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.104
VAT-C07E_ROB02A08 / Roberts Creek - Lower [DSS-OPEN] / South of mouth of Poquoson River between Hunts Pt. and Griffins Beach areas. CBP Segment MOBPH. DSS OPEN Shellfish condemnation # 053-222 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.009
VAT-C07E_SWB01A08 / SW Br Back River - Incl Tides Mill Cr [TMDL area] / Headwaters of Southwest Branch (incl tidal Tides Mill Cr) downstream to Langley View. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	5A	PCB in Fish Tissue	2006	L	1.119
VAT-C07E_SWB02A08 / Southwest Br. Back River - Mouth / Lower portion to confluence with mainstem Back R. CBP Segment MOBPH. Portion of DSS shellfish (OPEN) condemnation # 054-021 (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.568
VAT-C07E_TBC01A04 / Tabbs Creek - NW Br Back River / Tributary to Northwest Branch Back River, entirety of creek. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-021 E (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.069
VAT-C07E_TBC02A10 / Tabbs Creek Mouth - NW Br Back River / Tributary to Northwest Branch Back River, mouth of creek. CBP segment MOBPH. Portion of DSS OPEN shellfish condemnation # 054-021 (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.038
VAT-C07E_THR01A10 / Sandbox Area NW Thorofare / Sandbox Area NW Thorofare Inlet near Goodwin Neck. CBP Segment MOBPH. DSS OPEN condemnation 053-051 (effective 20150218).	5A	PCB in Fish Tissue	2006	L	0.012
VAT-C07E_WAL01A06 / Wallace Creek - Upper (Back River) / Tributary to south shore Back River, east of Harris R & adjacent to Inlet #2. Most upstream tip of creek. CBP segment MOBPH. DSS (PROHIBITED - ADMIN COND) shellfish condemnation # 054-215 B& D (effective 20161031).	5A	PCB in Fish Tissue	2006	L	0.036
VAT-C07E_WAT01A06 / Watts Creek - (NW Br. Back River) / Located southwest of Poquoson. Watts Cr. trib to Northwest Br. of Back R. CBP segment MOBPH. Portion of DSS condemnation # 054-021 (effective 20151102).	5A	PCB in Fish Tissue	2006	L	0.058
VAT-C07E_WHH01A06 / White House Cove - Bennet Cr. Area /	5A	PCB in Fish Tissue	2006	L	0.145

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Located in York Haven Anchorage area, south of mouth of Poquoson R, CBP segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 C and seasonal M1 (effective 20160511).					
VAT-C07E_ZZZ01A00 / Unsegmented estuaries in Back River / Non segmented areas of C07E. CBP Segment MOBPH. No DSS direct shellfish harvesting condemnation.	5A	PCB in Fish Tissue	2006	L	1.040
VAT-C07E_ZZZ01B12 / Unsegmented estuaries in Back River - DSS / Non segmented areas of C07E. CBP Segment MOBPH. DSS Condemnation # 054-021 B (effective date 20151102).	5A	PCB in Fish Tissue	2006	L	0.097

Chesapeake Bay & Tidal Tributaries VDH Fish Consumption Advisory for PCBs	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:	**16.029**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-01-SF** **Brick Kiln Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021A, 11/02/2015.

City / County: Hampton City York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation. Covered under TMDL ID 31233, Back River Northwest Branch (2/9/2018).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BRK01A06 / Brick Kiln Creek / From 0.3 mi. downstream of Big Bethel Res. dam (approx. RM 5.0, end of tidal waters north of Ebenezer Church) downstream to confluence with Northwest Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 A (effective 20151102).	4A	Fecal Coliform	1998	L	0.086

Brick Kiln Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.086**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-02-BAC** **Newmarket Creek - Upper & Lower**

Cause Location: This cause encompasses from the end of tidal waters at Terrant ES (approx. RM 5.1) downstream to confluence with SW Branch Back River. South of Blue Bird Gap Farm area. CBP Segment MOBPH.

City / County: Hampton City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is not supporting due to exceedance of the criteria for Enterococcus bacteria, extrapolated from data collected at the downstream station @ 7-NEW001.92 (6 viol. / 16 obs.). Recreation and Shellfish bacteria impairments covered under TMDL for Back River (EPA TMDL ID = 31234, approved 2/9/2018).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_NEW01A02 / Newmarket Creek - Upper / South of Blue Bird Gap Farm area. From end of tidal waters at Terrant ES (approx. RM 5.1) downstream to I-64 crossing (RM 3.68). CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Enterococcus	2006	L	0.073
VAT-C07E_NEW02A02 / Newmarket Creek - Lower / South of Blue Bird Gap Farm area. From the I-64 crossing (RM 3.68) downstream to confluence with SW Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Enterococcus	2006	L	0.079

Newmarket Creek - Upper & Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.152**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Source Unknown
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-04-BAC** **Poquoson River - Upper**

Cause Location: This cause encompasses the area from Rt. 17 crossing @ reservoir dam (RM 5.7) downstream to past confluence of Quarter March Cr (RM 2.7) @ Calthrop Neck. Including Moores & Quarter March Creeks. CBP Segment MOBPH.

City / County: York Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is not supporting due to Enterococcus concentrations at station 7-POQ004.1 (22 violates / 32 obs.) exceeding the swimming indicator criteria. 1998 CD segment for FC (Attachment A, Category 1, Part 1) VAT-C07E-04. Covered under TMDL for Poquoson River (EPA approved 8/2/2006), TMDL EPA approved (VAT-C07E-11-SF) for Fecal Coliform [25403] 8/2/2006, modified 3/19/2014, 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_POQ01A06 / Poquoson River - Upper [TMDL-CD] / From Rt 17 crossing @ reservoir dam (RM 5.7) downstream to past confluence of Quarter March Cr (RM 2.7) @ Calthrop Neck. Including Moores & Quarter March Creeks. CBP Segment MOBPH. DSS shellfish condemn # 053-137 A (effective 20150218).	4A	Enterococcus	1998	L	0.518

Poquoson River - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.518**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-05-BAC** **SW Br Back R - DSS OPEN [TMDL]**

Cause Location: This cause encompasses the headwaters of Southwest Branch downstream to Langley View. CBP segment MOBPH.

City / County: Hampton City

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Recreation Use is not supporting due to previous Fecal Coliform data recorded @7-SWB000.00 during the 2002 IR which indicated exceedance of the bacteria criteria. There are no current data for Enterococcus bacteria data to assess the Recreation Use. Covered under TMDL for Back River - Southwest Branch was EPA approved [33839] for Fecal Coliform (VAT-C07E-22-SF) 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_SWB01A08 / SW Br Back River - Incl Tides Mill Cr [TMDL area] / Headwaters of Southwest Branch (incl tidal Tides Mill Cr) downstream to Langley View. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Fecal Coliform	1998	L	1.119

SW Br Back R - DSS OPEN [TMDL]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:	**1.119**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Source Unknown
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-05-BAC2 Southwest Br. Back River - Mouth**

Cause Location: This cause encompasses the lower portion of the SW Branch Back River to the confluence with mainstem Back River.

City / County: Hampton City Poquoson City.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Recreation Use is impaired based on data outside of the assessment window. Previous DEQ station showed impairment @7-SWB000.00 for Fecal Coliform bacteria (2002 IR, 2 violates / 7 obs.).

Segment was nested in the 2014 IR however now based on the modified TMDL for Back River EPA approved 4/14/2014 this segment is included and no longer needs to be nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_SWB02A08 / Southwest Br. Back River - Mouth / Lower portion to confluence with mainstem Back R. CBP Segment MOBPH. Portion of DSS shellfish (OPEN) condemnation # 054-021 (effective 20151102).	4A	Fecal Coliform	2002	L	0.568

Southwest Br. Back River - Mouth **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.568**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Source Unknown
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-06-SF** **Lambs Creek - Poquoson River**

Cause Location: This cause encompasses this south shore tributary to Poquoson R, west of Poquoson Shores. On border of Poquoson/York boundary. Between Moores Creek and Roberts Cr to east. CBP Segment MOBPH.

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on DSS Condemnation # 053-137 effective 20150218. This AU (part of Lambs Cr) was delisted in 2016 for Fecal Coliform - C07E-06-SF (1998).

Lambs Creek is covered under TMDL for Poquoson River - Lambs Creek [EPA approved 8/2/2006, VAT-C07E-06-SF for Fecal Coliform [31190] 8/2/2006, modified 3/19/2014.
1999 CD segment (Attachment A, Category 3) TMDL ID VAT-C07E-06.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_LMC01A04 / Lambs Creek - Poquoson River / South shore tributary to Poquoson R, west of Poquoson Shores. On border of Poquoson/York boundary. Between Moores Cr. and Roberts Cr to east. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 C (effective 20150218).	4A	Fecal Coliform	1998	L	0.135
VAT-C07E_LMC02A16 / Lambs Creek - Mouth / Mouth of Lambs Creek located on South shore tributary to Poquoson R, west of Poquoson Shores. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 (effective 20150218).	4A	Fecal Coliform	2018	L	0.028

Lambs Creek - Poquoson River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.163**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Marina/Boating Sanitary On-vessel Discharges	Source Unknown	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-07-SF** **Patricks Creek - Poquoson River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 053-137 D, 2/18/2014.

City / County: York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfish Use is impaired based on DSS Shellfish condemnation # 053-137 B (effective 20140218). 2006 IR ID = # 053-137D. Including Moores & Quarter March Creeks. Shellfish bacteria impairments covered under TMDL for Poquoson River - Patricks Creek (EPA approved 8/2/2006). TMDL EPA approved (VAT-C07E-07-SF) for Fecal Coliform [31196] 8/2/2006 modified 3/19/14, 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_PTC01A04 / Patricks Creek - Poquoson River / North shore trib to Poquoson River south of Dare area. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 B (effective 20150218).	4A	Fecal Coliform	2004	L	0.119

Patricks Creek - Poquoson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.119**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-09-SF** **White House Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 053-222 C, 2/18/2014.

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to portion of DSS Shellfish condemnation # 053-222 C & M1 (effective 20160511). 1998 CD segment for shellfish (Attachment A, Category 3) VAT-C07E-09. Covered under TMDL for Poquoson River - Whitehouse Cove [EPA approved 2/1/2018]

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_WHH01A06 / White House Cove - Bennet Cr. Area / Located in York Haven Anchorage area, south of mouth of Poquoson R, CBP segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 C and seasonal M1 (effective 20160511).	4A	Fecal Coliform	1998	L	0.145

White House Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.145**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-10-SF** **Upper Back Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 053-151 A& M1 2/18/2015.

City / County: York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. 1998 CD segment for shellfish (Attachment A, Category 3) VAT-C07E-10. Previously (2006) TMDL-ID = VAT-C07E-10. Contained in TMDL for Poquoson River (25403) VAT-C07E-11-SF EPA approved 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BCK01A00 / Back Creek - Upper / Back Creek (S of York R mouth) tributary to the Thorofare and Chesapeake Bay. From end of tidal waters downstream to point upstream of Dandy (RM 1.6). CBP Segment MOBPH. DSS shellfish condemnation # 053-151 A &M1 (effective 20150218).	4A	Fecal Coliform	1998	L	0.222

Upper Back Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.222**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Rural (Residential Areas)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-11-SF** **Poquoson River - Upper [TMDL - CD]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 053-137 A, 2/18/2015.

City / County: York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 053-137A. Included in Poquoson R. TMDL 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_POQ01A06 / Poquoson River - Upper [TMDL-CD] / From Rt 17 crossing @ reservoir dam (RM 5.7) downstream to past confluence of Quarter March Cr (RM 2.7) @ Calthrop Neck. Including Moores & Quarter March Creeks. CBP Segment MOBPH. DSS shellfish condemn # 053-137 A (effective 20150218).	4A	Fecal Coliform	1998	L	0.518

Poquoson River - Upper [TMDL - CD]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.518**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-13-SF** **Long & Grunland Creeks**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-215 C, 10/31/2016.

City / County: Hampton City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. 1998 CD segment for shellfish (Attachment A, Category 3) VAT-C07E-13. Covered under TMDL for Back River - Long & Grunland Creeks was EPA approved [25404] for Fecal Coliform 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_GLD02A18 / Grunland Creek - Back River / South shore trib. to mainstem Back R. Adjacent to Grunland Point. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 C (effective 20161031).	4A	Fecal Coliform	2010	L	0.064
VAT-C07E_LON01A06 / Long Creek - Back River / South shore trib. to mainstem Back R. Adjacent to Grandview natural Preserve area. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 C (effective 20161031).	4A	Fecal Coliform	2010	L	0.043

Long & Grunland Creeks **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.107**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Marina/Boating Sanitary On-vessel Discharges	Source Unknown	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-14-SF** **Harris River - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-215 C, 10/31/2016.

City / County: Hampton City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. 1998 CD segment for shellfish (Attachment A, Category 3) VAT-C07E-14. Harris R. covered under TMDL ID VAT-C07E-14-SF (31210), Harris River (Back River), EPA approved 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_HAR01A06 / Harris River - Upper / South shore trib. to mainstem Back R. Adjacent to Fox Hill area. DSS shellfish condemnation # 054-215 A (effective 20161031). CBP Segment MOBPH.	4A	Fecal Coliform	1998	L	0.198

Harris River - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.198**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Marina/Boating Sanitary On-vessel Discharges
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-15-SF** **DSS Inlet #1 - Unnamed Inlet at Mouth of SW Branch**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021 C (effective 20151102).

City / County: Hampton City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation # 054-021 C. 1998 CD segment for shellfish (Attachment A, Category 3) VAT-C07E-15. EPA approved 2/1/2018 for VAT-C07E-15-SF [31209].

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_IN101A08 / DSS Inlet #1 - Unnamed Inlet at Mouth of SW Branch / South shore trib. to mainstem Back R. Located east of mouth of SW Branch. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-021 C (effective 20151102).	4A	Fecal Coliform	1998	L	0.025

DSS Inlet #1 - Unnamed Inlet at Mouth of SW Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Marina/Boating Sanitary On-vessel Discharges	Source Unknown	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-17-SF** **Cedar & Topping Creeks**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021 A, 11/2/2015.

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. 1998 CD segment for shellfish (Attachment A, Category 3) VAT-C07E-17. Shellfish bacteria impairment covered under TMDL for Poquoson River - Cedar & Topping Creeks. TMDL EPA approve (VAT-C07E-18-SF & VAT-C07E-06) for Fecal Coliform [31207 & 31188] 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_CCR01A06 / Cedar & Topping Creeks / Located near City of Poquoson. Cedar & Topping Creeks are tribs to the north shore of the Northwest Branch of Back River. Portion of DSS condemnation # 054-021 A (less NW Br Back R./Brick Kiln Cr. portion) effective 20151102. CBP Segment MOBPH.	4A	Fecal Coliform	1998	L	0.109

Cedar & Topping Creeks	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.109**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-19-SF** **Tabbs Creek Mouth - NW Br Back River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021 E(effective 20141031).

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on DSS SF Condemnation # 054-021E (effective 20151102). Area included in the Back River TMDL EPA approved (VAT-C07E-19-SF) for Fecal Coliform [31206] 2/9/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_TBC01A04 / Tabbs Creek - NW Br Back River / Tributary to Northwest Branch Back River, entirety of creek. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-021 E (effective 20151102).	4A	Fecal Coliform	2006	L	0.069

Tabbs Creek Mouth - NW Br Back River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.069**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-20-SF** **Back Creek - Inlet near Dandy Point**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-215 B , 20161031.

City / County: Hampton City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on shellfish condemnation # 054-215 B, effective 20161031. Shellfish bacteria impairment covered under TMDL for Back River - Wallace Creek (EPA approved 2/9/2018). Referenced in TMDL as Inlet #2 as a part of shellfish condemnation 21-H or VAT-C07E-20 TMDL ID.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BAK02A14 / Back Creek - Inlet near Dandy Point [TMDL] / Tributary to south shore Back River (incl area in Back R), east of Harris R & adjacent to Inlet #2. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-215 B, 20161031.	4A	Fecal Coliform	2014	L	0.034

Back Creek - Inlet near Dandy Point	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.034**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Marina/boating Pumpout Releases
- Marina/Boating Sanitary On-vessel Discharges
- Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-21-SF** **Cedar & Topping Creeks and Northwest Br. Back River - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021 A, 11/2/2015.

City / County: Hampton City Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation (less Cedar/Topping & Brick Kiln Creeks). Previously listed (2006 IR) under TMDL-ID: VAT-C07E-21. Covered under TMDL ID VAT-C07E-21-SF (31201), Back River, Northwest Branch, EPA approved [31201] for Fecal Coliform (VAT-C07E-21-SF) 11/2/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_NWB01A06 / Northwest Br. Back River - Upper [TMDL-CD] / CBP Segment MOBPH. Headwaters to confluence of Cedar Creek between Cedar Point and Marsh Point. Portion of DSS shellfish condemnation # 054-021 A (less Cedar/Topping & Brick Kiln Creeks, effective 20151102).	4A	Fecal Coliform	1998	L	0.220

Cedar & Topping Creeks and Northwest Br. Back River - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.220**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-22-SF** **Newmarket Creek trib and Southwest Branch - Back River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021 B, 11/02/2015.

City / County: Hampton City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. Previously listed (2006 IR) under TMDL-ID: VAT-C07E-22. Covered under TMDL ID VAT-C07E-22-SF (33839), Back River, Southwest Branch, EPA approved 2/9/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_NEW01A02 / Newmarket Creek - Upper / South of Blue Bird Gap Farm area. From end of tidal waters at Terrant ES (approx. RM 5.1) downstream to I-64 crossing (RM 3.68). CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Fecal Coliform	1998	L	0.073
VAT-C07E_NEW02A02 / Newmarket Creek - Lower / South of Blue Bird Gap Farm area. From the I-64 crossing (RM 3.68) downstream to confluence with SW Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Fecal Coliform	1998	L	0.079
VAT-C07E_SWB01A08 / SW Br Back River - Incl Tides Mill Cr [TMDL area] / Headwaters of Southwest Branch (incl tidal Tides Mill Cr) downstream to Langley View. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Fecal Coliform	1998	L	1.119

Newmarket Creek trib and Southwest Branch - Back River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**1.272**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Source Unknown
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-23-SF** **Chisman Creek - Upper & Goose Cr**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 053-221 A,B, M2 20160511.

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to the DSS shellfish harvesting condemnation DSS condemnation # 053-221 A,B, M2 (effective 20160511). Considered NESTED under TMDL ID VAT-C07E-23-SF (25405), Chisman Creek (Poquoson River), EPA approved 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_CHS01A06 / Chisman Creek-Upper / From end of tidal waters (upper 1/3 of creek), downstream to area of Evergreen Shores (approx. RM 0.9). CBP Segment MOBPH. DSS condemnation # 053-221A & seasonal M2 (effective 20160511).	4A	Fecal Coliform	1998	L	0.306
VAT-C07E_GOO01A14 / Goose Creek- Upper / From end of tidal waters to approx. River mile 0.27. DSS Shellfish condemnation # 053-221 B (effective 20160511).	4A	Fecal Coliform	1998	L	0.065

Chisman Creek - Upper & Goose Cr	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.371**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Marina/Boating Sanitary On-vessel Discharges	Source Unknown	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-25-SF** **Lyons Creek - Upper, Middle**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 053-222 B, 5/11/2016.

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. Covered in Poquoson River TMDL EPA approved 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_LYO01A06 / Lyons Creek - Upper & Middle / South shore tributary to Poquoson R, in area of York Haven Anchorage. East of Roberts Cr. and north of White House Cove. CBP Segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 B (effective 20160511).	4A	Fecal Coliform	2006	L	0.070

Lyons Creek - Upper, Middle **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.070**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Marina/Boating Sanitary On-vessel Discharges
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-26-SF** **Floyds Bay**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 053-222 D, 5/11/2016.

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. The modified Poquoson River and Back Creek TMDL (55841) EPA approved 2/1/2018 includes Floyds Bay.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_FLY01A06 / Floyds Bay- Upper / Upper Portion of Floyds Bay. Located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. Portion of DSS shellfish condemnation # 053-222 D (effective 20160511). CBP Segment MOBPH.	4A	Fecal Coliform	2006	L	0.042

Floyds Bay **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Marina/Boating Sanitary On-vessel Discharges	Urban Runoff/Storm Sewers	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-33-EBEN** **Northwest Br. Back River - Upper near Marsh Point**

Cause Location: This cause encompasses the impairment located in the Northwest Branch Back River - Upper portion near Marsh Point. This cause encompasses the benthic community related to the ProbMon station 7-NWB002.18.

City / County: Hampton City Poquoson City.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per benthic community structure analysis. There is no source/stressor currently identified as source for the impairment. Probable effects (chronic and acute) of sediment contamination - pesticides (DDT exceeded ERM), metals and PAHs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_NWB01B08 / Northwest Br. Back River - Upper [TMDL not CD] / Northwest Br. Back River upper portion from confluence of Cedar Creek downstream to confluence Tabbs Cr. Portion DSS shellfish condemnation # 054-021 A (less Cedar/Topping & Brick Kiln Creeks, effective 20151102). CBP Segment MOBPH.	5A	Estuarine Bioassessments	2010	L	0.248

Northwest Br. Back River - Upper near Marsh Point **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.248**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-33-SF** **Northwest Br. Back River - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021 A, 11/02/2015.

City / County: Hampton City Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS Shellfish condemnation. Shellfish bacteria impairment covered under TMDL for Back River - Northwest Branch was EPA approved [31201] for Fecal Coliform (VAT-C07E-21-SF) 2/9/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_NWB01B08 / Northwest Br. Back River - Upper [TMDL not CD] / Northwest Br. Back River upper portion from confluence of Cedar Creek downstream to confluence Tabbs Cr. Portion DSS shellfish condemnation # 054-021 A (less Cedar/Topping & Brick Kiln Creeks, effective 20151102). CBP Segment MOBPH.	4A	Fecal Coliform	2006	L	0.248

Northwest Br. Back River - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.248**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Source Unknown
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-38-SF** **Bennett Creek - Upper (DSS_06-IR)**

Cause Location: This cause encompasses the Bennett Creek upstream portion (S of Poquoson R mouth) tributary to Poquoson River. From end of tidal waters downstream 0.1mi. CBP Segment MOBPH.

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on DSS Condemnation # 053-222 E (effective date 20160511). This segment is within the 2/9/2018 Poquoson Bacteria TMDL modification. Moved to 4A in 2018 IR.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BEN01A06 / Bennett Creek - Upper (DSS_06-IR) / Bennett Creek upstream portion (S of Poquoson R mouth) tributary to Poquoson River. From end of tidal waters downstream 0.1 mi. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 053-222 E (effective 20160511).	4A	Fecal Coliform	2012	L	0.039

Bennett Creek - Upper (DSS_06-IR)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.039**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-41-SF** **Unsegmented estuaries in Back River - DSS**

Cause Location: This cause encompasses the non segmented areas of C07E. CBP Segment MOBPH.

City / County: Hampton City Poquoson City. York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS Condemnation # 054-021 B (effective date 20151102). Segment included in the 2014 and 2018 TMDL modifications for Back River Bacteria TMDL Project ID 10804.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_ZZZ01B12 / Unsegmented estuaries in Back River - DSS / Non segmented areas of C07E. CBP Segment MOBPH. DSS Condemnation # 054-021 B (effective date 20151102).	4A	Fecal Coliform	2012	L	0.097

Unsegmented estuaries in Back River - DSS	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.097**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-42-SF** **Front Cove - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 054-021 D (effective 20151102).

City / County: Poquoson City.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish harvesting area # 054-021 D (effective 20151102). Covered under TMDL for Back River - Front Cove (EPA approved 2/9/2018). 1999 CD segment for shellfish (Attachment A, Category 3) VAT-C07E-12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_FRT01A06 / Front Cove - Upper / North shore trib. to mainstem Back R. Adjacent to Messick Point. DSS shellfish condemnation # 054-021 D (effective 20151102). CBP Segment MOBPH.	4A	Fecal Coliform	2006	L	0.042

Front Cove - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Marina/Boating Sanitary On-vessel Discharges
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-43-BAC** **Buckroe Beaches**

Cause Location: This cause encompasses the area northeast of Buckroe Beach southwest to parallel with start of Mill Cr. Portion of CBP Segment CB8PH. No DSS shellfish condemnations.

City / County: Hampton City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data from the VDH-Beach station VA884979 (3 viol. / 23 Geo-mean obs.) along with multiple swimming advisories between the years 2009-2014. This is a new impairment for the Buckroe Beach. Tidewater beaches experienced a wide spread precipitation event on Sept 8 with a total of 5 inches of rainfall. Since the event is within the last two years of the assessment period, the beach will be listed in the 2016 IR as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BCB01A06 / Buckroe Beaches / From northeast of Buckroe Beach southwest to parallel with start of Mill Cr. Portion of CBP Segment CB8PH. No DSS shellfish condemnations.	5A	Enterococcus	2016	L	0.224

Buckroe Beaches **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.224**		

Sources:

Urban Runoff/Storm Sewers	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-44-BAC** **Chisman Creek - Lower**

Cause Location: This cause encompasses the lower 2/3 of creek, downstream from area of Evergreen Shores (RM 0.9) to mouth. CBP Segment MOBPH. DSS (OPEN) condemnation # 053-221 M1(effective 20160511).

City / County: Poquoson City.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired in the 2018 IR. Both merged segments VAT-C07E_CHS02A06 and VAT-C07E_CHS02B06 are included in the impairment for the 2006 CFL based on station 7-CHS000.84. Enterococci data from Station 7-CHS000.84 violates 4 times out of 31 obs. Station was first listed as impaired in the 2006 IR and maintained impairment for recreation use until it was delisted in the 2010 IR with 2 viol / 32 obs. The station has maintained support for Recreation Use for the 2010, 2012 and 2014 Assessments. Previous Cause Group Code , C07E-29-BAC. 2016 the re-listing the impairment will get a new Cause Group Code, C07E-44-BAC.

Upper portion of Assessment Unit is includes in the TMDL (includes station 7-CHS000.84 to Boathouse Creek). The remaining piece of AU were nested in the 2016 IR for the Enterococci impairment under the SF TMDL. This segment is considered NESTED under TMDL ID VAT-C07E-23-SF (25405), Chisman Creek (Poquoson River), EPA approved 2006, modified 3/19/2014 and 2/9/2018 with EPA ID 55841.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_CHS02A06 / Chisman Creek - Lower / Lower 2/3 of creek, downstream from area of Evergreen Shores (RM 0.9) to mouth. CBP Segment MOBPH. DSS (OPEN) condemnation # 053-221 & M1(effective 20160511).	4A	Enterococcus	2006	L	0.631

Chisman Creek - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.631**		

Sources:

Non-Point Source	Urban Runoff/Storm Sewers	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)
Wildlife Other than Waterfowl			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-45-SF** **Bay Tree Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 081-119 B (effective 20130325).

City / County: York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired for Bay Tree Creek and nested within the Poquoson river Bacteria TMDL that was EPA approved 2/1/2018. This impairment is located within existing Poquoson River TMDL watershed with comparable land uses. The TMDL assigned load reductions based on land use types and will address new impairment for Bay Tree Creek. No new point sources associated with new shellfish impairment area.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_BTC01A08 / Bay Tree Creek / Trib to Bay, S of The Thorofare & N of mouth of Poquoson R. @ Bay Tree Point. CBP Segment MOBPH. DSS Shellfish condemnation # 053-221 C(effective 20160511).	4A	Fecal Coliform	2018	L	0.076

Bay Tree Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.076**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Rural (Residential Areas)	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07E-46-BEN** **Northwest Br. Back River - Lower**

Cause Location: This cause encompasses the area from the confluence of Topping Creek downstream to confluence with mainstem Back R.

City / County: Hampton City Poquoson City.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Aquatic life Use is impaired for benthics in the 2018 IR based on WoE Probmon station 7-NWB000.34 sampled in 2016. The WoE assessment result is 5A with a high probability of cumulative chronic effects of sediment pesticides (DDT) , PAHs and metals. ProbMon WoE station 7BNWB000.82 sampled in 2014 Assessment is insufficient (comments: potential of cumulative effects of sediment metals; muddy - 68% fines.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07E_NWB02A06 / Northwest Br. Back River - Lower [DSS OPEN] / From area of confluence of Topping Creek (approx. RM 1.5) downstream to confluence with mainstem Back R. CBP Segment MOBPH. Portion of DSS (OPEN) shellfish condemnation # 054-021 (effective 20151102).	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.961

Northwest Br. Back River - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:	**0.961**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07L-01-CU** **Harwoods Mill Reservoir**

Cause Location: This cause encompasses the Harwood Mills Reservoir, portion of Poquoson River upstream of dam @ RM 5.7. PWS for York County.

City / County: York Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Copper / 5A

The Aquatic Life and Wildlife impairments are carried from 2004 IR, due water column copper exceedances of the freshwater acute criteria (data supplied by USGS @ station 01677850 - surface layer in September 2002). Exceedance of Cu freshwater acute criteria at violation rate of 100% (3 violates / 3 surface obs.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07L_POQ01A04 / Harwoods Mill Reservoir (PWS) / Harwoods Mill Reservoir, portion of Poquoson River upstream of dam @ RM 5.7. PWS for York County.	5A	Copper	2004	L	257.68
	5A	Copper	2004	L	257.68

Harwoods Mill Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Copper - Total Impaired Size by Water Type:		**515.36**	

Sources:

Municipal (Urbanized High Density Area)	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07L-02-DO** **Harwoods Mill Reservoir (PWS)**

Cause Location: This cause encompasses the Harwood Mills Reservoir, portion of Poquoson River upstream of dam @ RM 5.7. PWS for York County.

City / County: York Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired for DO. The pooled DO violation rate is 10.7% with 9 viol / 84 obs. Individual station violations are 7-POQ005.72 @ 7/50 and 7-POQ006.84 @ 2/34. Previously in the 2014 IR, the DO was delisted based on a violation rate 8.3%. The DO was initially listed in 2004 with a CGC VAT-C07L-01-DO.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07L_POQ01A04 / Harwoods Mill Reservoir (PWS) / Harwoods Mill Reservoir, portion of Poquoson River upstream of dam @ RM 5.7. PWS for York County.	5A	Oxygen, Dissolved	2004	L	257.68

Harwoods Mill Reservoir (PWS)		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	Oxygen, Dissolved - Total Impaired Size by Water Type:		**257.68**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07R-01-DO** **Newmarket Creek - Lower Riverine**

Cause Location: This cause encompasses Newmarket Creek from 0.1 mi. below Chestnut Ave. downstream to 0.65 mi. below Aberdeen Rd. crossing. Lowermost riverine portion, prior to start of tidal influence. In area of Mount Olive Cemetery.

City / County: Hampton City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on data for DO at station 7-NEW005.44 with 3 viol / 12 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07R_NEW01A06 / Newmarket Creek - Lower Riverine / From Mercury Blvd. downstream to 0.65 mi. below Aberdeen Rd. crossing. Lowermost riverine portion, prior to start of tidal influence. In area of Mount Olive Cemetery.	5A	Oxygen, Dissolved	2006	L	3.96

Newmarket Creek - Lower Riverine	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.96**

Sources:

Municipal (Urbanized High Density Area)	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07R-02-BAC** **Newmarket Creek - Lower Riverine**

Cause Location: This cause encompasses Newmarket Creek from 0.1 mi. below Chestnut Ave. downstream to 0.65 mi. below Aberdeen Rd. crossing. Lowermost riverine portion, prior to start of tidal influence. In area of Mount Olive Cemetery.

City / County: Hampton City

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Recreation Use is impaired based on E.coli data from station 7-NEW005.44 with 6 viol/ 12 obs. Newmarket Creek was listed for fecal coliform in 2006. Recreation bacteria impairment covered under TMDL for Back River (EPA TMDL ID = 31234, 2/9/2018).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07R_NEW01A06 / Newmarket Creek - Lower Riverine / From Mercury Blvd. downstream to 0.65 mi. below Aberdeen Rd. crossing. Lowermost riverine portion, prior to start of tidal influence. In area of Mount Olive Cemetery.	4A	Fecal Coliform	2006	L	3.96

Newmarket Creek - Lower Riverine	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**3.96**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C07R-03-BEN** **UT to Big Bethel Reservoir**

Cause Location: This cause encompasses this tributary that crosses Saunders Rd and upstream of Oyster Point City Center.

City / County: Hampton City Poquoson City. York Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is not supported based on 2016 fair Fall VCPMI score of 28.1. This is a probabilistic site that sample in the fall of 2016. This is a small urban tributary that flows into Big Bethel Reservoir. There are obvious signs of human disturbance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C07R_XFD01A18 / UT to Big Bethel Reservoir / Trib to Big Bethel that crosses Saunders Rd ; upstream to Oyster Point City Center	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.91

UT to Big Bethel Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.91**

Sources:

Inappropriate Waste Disposal

Source Unknown

Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-01-EBEN LYNPH**

Cause Location: This cause encompasses the entirety of Lynnhaven River, Broad Bay and Little Neck Creek. CBP segment LYNPH. BIBI segment LYNPHa.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool identified sediment contaminants as source for the impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_BBY01A14 / Broad Bay / East of Lynnhaven River. Located adjacent to Broad Bay Colony area of VB. CBP segment LYNPH. BIBI segment LYNPHa. DSS (OPEN) shellfish direct harvesting condemnation # 071-095 (effective 20160211)	5A	Estuarine Bioassessments	2008	L	1.213
VAT-C08E_BBY01B10 / Broad Bay - UTs W. Shore [Admin Cond] / East of Lynnhaven River. Located adjacent to Broad Bay Colony area. UTs along W. Shore of Broad Bay [Admin Cond]. CBP segment LYNPH. BIBI segment LYNPHa. DSS (Admin Cond) shellfish condemnation # 071-095 D, F, G (effective 201060211).	5A	Estuarine Bioassessments	2008	L	0.039
VAT-C08E_CRY01A00 / Crystal Lake / Includes Rainey Gut. Located in North Linkhorn Park area in Virginia Beach. East of Lynnhaven River. CBP segment LYNPH. DSS ADMIN condemnation # 071-010 B (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.128
VAT-C08E_DEY01A00 / Dey Cove/Mill Dam Creek- Upper / Tributary on western shore of Broad Bay near Great Neck Area in VB. East of Lynnhaven River. CBP segment LYNPH BIBI segment LYNPHa. DSS condemnation # 071-095 E (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.075
VAT-C08E_DEY02A18 / Dey Cove/Mill Dam Creek- Mouth / Located attached to west shore of Broad Bay Colony area of VB. East of Lynnhaven River. CBP segment LYNPH BIBI segment LYNPHa. DSS condemnation # 071-095 E (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.020
VAT-C08E_EBL01A06 / Eastern Branch - Upper, Lynnhaven River / From end of London Br. Cr. (Rt 58 crossing) downstream to Smith Point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS ADMIN condemnation # 070-025 A (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.226
VAT-C08E_EBL01B10 / Eastern Branch - Lower Upper, Lynnhaven River / From Smith Point downstream to Sandy point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS condemnation # 070-025 A (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.263
VAT-C08E_EBL02A08 / Eastern Branch - Lower, Lynnhaven River / From Mapps Point to the eastern shore embayment near Forest Hills. CBP segment LYNPH. Portion of DSS condemnation # 070-025 A (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.385
VAT-C08E_LKN01A00 / Linkhorn Bay - Upper / South of Linkhorn Estates area of VB upstream to Laskin Rd (58). East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish ADMIN harvesting condemnation # 071-010 A (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.103
VAT-C08E_LKN01B14 / Linkhorn Bay - Upper / Located adjacent to	5A	Estuarine Bioassessments	2008	L	0.040

Alexander Estates area of VB. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa OPEN. DSS shellfish direct harvesting condemnation # 071-010 (effective 20160211).					
VAT-C08E_LKN02A10 / Linkhorn Bay - Lower / Located adjacent to Linkhorn Estates area of VB upstream to Alanton at The Narrows. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS OPEN shellfish direct harvesting area # 071-010 (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.581
VAT-C08E_LKN02B10 / Linkhorn Bay - Coves [Admin Condem] / Embayments adjacent to LKN02A10. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS [Admin Cond] shellfish direct harvesting condemnation # 071-010 C,D,E,F,G,H, I,J,K,L, M (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.223
VAT-C08E_LNC01A00 / Little Neck Creek - Upper / Eastern shore tributary of Linkhorn Bay, near Laskin Road and south of Linkhorn Park. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting ADMIN condemnation # 071-227 A (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.078
VAT-C08E_LNC01B16 / Little Neck Creek-Lower / Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 071-227 A (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.035
VAT-C08E_LNC02A12 / Little Neck Creek-Lower / Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting Seasonal & OPEN condemnation # 071-227 M1 (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.155
VAT-C08E_LNC02B12 / Little Neck Creek-Lower (DSS ADMIN) / Embayments adjacent to Little Neck Creek. Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting ADMIN condemnation # 071-227 B,C,D,E,F,G,H (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.072
VAT-C08E_LOB01A00 / London Bridge Creek / Entirety of creek, from headwaters near Shipps Corner downstream to Rt. 58 crossing. CBP segment LYNPH. BIBI segment LYNPHa. ADMIN DSS # 070-025 A (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.059
VAT-C08E_LON01A00 / Long Creek / Northern shore tributary of Broad Bay, near Bay Island area. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS (ADMIN) shellfish direct harvesting condemnation # 071-095 A,B,C, I (effective 20160211).	5A	Estuarine Bioassessments	2008	L	0.316
VAT-C08E_LYN01A06 / Lynnhaven River & Bay - Mainstem / Tributary to south shore of Chesapeake Bay. Mainstem area near mouth. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 070-025 C1 Conditionally Condemned (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.982
VAT-C08E_LYN01B10 / Lynnhaven River & Bay Coves [Admin Cond] / Embayments of LYN01A06 [DSS Admin Cond]. Tributary to south shore of Chesapeake Bay. CBP segment LYNPH. BIBI segment LYNPHa. DSS ADMIN shellfish harvesting condemnation # 070-025 (A-M) (effective 20160218) .	5A	Estuarine Bioassessments	2008	L	0.557
VAT-C08E_LYN01C12 / Lynnhaven River & Bay - DSS Cond / Tributary to south shore of Chesapeake Bay. Mainstem area. Segments near Mouth of Pleasure House and Brocks Cove. CBP segment LYNPH. DSS shellfish direct harvesting condemn # 070-025 A & M (effective 20160218) .	5A	Estuarine Bioassessments	2008	L	0.198

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C08E_THA01A02 / Thalia Creek, Thurston Branch & Buchanan Creek / Beginning of Thalia Creek (incl. Thurston Br & Buchanan Cr) from headwaters downstream to Western Br. Lynnhaven R. CBP segment LYNPH. BIBI segment LYNPHa. DSS ADMIN condemnation # 070-025 H (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.286
VAT-C08E_WES01A06 / Western Branch - Upper, Lynnhaven River / From the end of Thurston Branch downstream to Hebden Cove. CBP segment LYNPH. BIBI segment LYNPHa. Portion of ADMIN DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.151
VAT-C08E_WES01B16 / Western Branch - Middle, Lynnhaven River / From Witch Duck Bay to Witchduck Point. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish ADMIN condemnation #070-025 H (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.174
VAT-C08E_WES02A06 / Western Branch - Middle, Lynnhaven River / From Bayville Cr to Thoroughgood Cove. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.156
VAT-C08E_WES03A10 / Western Branch - Lower, Lynnhaven River / From Bayville Creek downstream to confluence with mainstem. CBP segment LYNPH. BIBI segment LYNPHa. DSS Conditionally Condemned shellfish condemnation #070-025 C1 (effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.170
VAT-C08E_WNC01A00 / West Neck Creek (Upper) to London Bridge Creek / From Princess Anne Rd. crossing downstream to junction with London Bridge Cr. at Shipps Corner area. Segment determined to drain to C08E (Lynnhaven River). CBP segment LYNPH. BIBI segment LYNPHa.	5A	Estuarine Bioassessments	2008	L	0.084
VAT-C08E_ZZZ01A00 / Unsegmented tidal tributaries in C08E-LYNPH / Tidal tributaries to Eastern and Western Branch Lynnhaven River. Portion of CBP segment LYNPH. BIBI segment LYNPHa. Portions of DSS shellfish ADMIN condemnation # 070-025 A & H(effective 20160218).	5A	Estuarine Bioassessments	2008	L	0.959
VAT-C08E_ZZZ01B10 / Unsegmented tidal tributary to Lynnhaven R. & Linkhorn Bay / Unsegmented tidal tributaries to Lynnhaven R. & Linkhorn Bay. CBP segment LYNPH. No DSS category.	5A	Estuarine Bioassessments	2008	L	0.210

LYNPH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**7.936**		

Sources:

Contaminated Sediments

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-01-PCB** **Eastern Branch -Lynnhaven River System VDH Fish Consumption Advisory**

Cause Location: This cause encompasses the Eastern Branch of the Lynnhaven River System and Chesapeake Bay Beaches.

City / County: Norfolk City Virginia Beach City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for Chesapeake Bay and tidal tributaries for PCBs issued 12/13/04 and updated 10/07/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_CBB01A06 / 13th View Beach / Located along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	PCB in Fish Tissue	2006	L	0.353
VAT-C08E_CBB01B14 / Sara Constance Park and Ocean View Park Beaches / Located along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	PCB in Fish Tissue	2006	L	0.140
VAT-C08E_CBB01C16 / 10th View Beach / Located along Chesapeake Bay, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	PCB in Fish Tissue	2006	L	0.152
VAT-C08E_CBB02A16 / Ches Bay Beaches / Located along Chesapeake Bay, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	PCB in Fish Tissue	2006	L	0.675
VAT-C08E_CBB03A16 / Chicks Beach / Located along Chesapeake Bay near Chesapeake Bay Bridge Tunnel, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	PCB in Fish Tissue	2006	L	0.433
VAT-C08E_CBB04A16 / Shore Drive Beaches -East / Located along Chesapeake Bay, Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	PCB in Fish Tissue	2006	L	1.041
VAT-C08E_EBL01A06 / Eastern Branch - Upper, Lynnhaven River / From end of London Br. Cr. (Rt 58 crossing) downstream to Smith Point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS ADMIN condemnation # 070-025 A (effective 20160218).	5A	PCB in Fish Tissue	2006	L	0.226
VAT-C08E_EBL01B10 / Eastern Branch - Lower Upper, Lynnhaven River / From Smith Point downstream to Sandy point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS condemnation # 070-025 A (effective 20160218).	5A	PCB in Fish Tissue	2006	L	0.263
VAT-C08E_EBL02A08 / Eastern Branch - Lower, Lynnhaven River / From Mapps Point to the eastern shore embayment near Forest Hills. CBP segment LYNPH. Portion of DSS condemnation # 070-025 A (effective 20160218).	5A	PCB in Fish Tissue	2006	L	0.385
VAT-C08E_LKN01A00 / Linkhorn Bay - Upper / South of Linkhorn Estates area of VB upstream to Laskin Rd (58). East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish ADMIN harvesting condemnation # 071-010 A (effective 20160211).	5A	PCB in Fish Tissue	2006	L	0.103

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C08E_LKN01B14 / Linkhorn Bay - Upper / Located adjacent to Alexander Estates area of VB. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa OPEN. DSS shellfish direct harvesting condemnation # 071-010 (effective 20160211).	;A	PCB in Fish Tissue	2006	L	0.040

Eastern Branch -Lynnhaven River System VDH Fish Consumption Advisory	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:	**3.810**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-03-BAC** **Thalia Creek, Thurston Branch & Buchanan Creek**

Cause Location: This cause encompasses the beginning of Thalia Creek (incl. Thurston Br & Buchanan Cr) from headwaters downstream to Western Br. Lynnhaven R. CBP segment LYNPH. BIBI segment LYNPHa. DSS condemnation # 070-036 A (effective 20120518).

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance at station 7-THA000.76 (27 violates / 35 obs.) of the criteria for Enterococcus bacteria.

A TMDL for Shellfishing Use has been completed and EPA approved in 2004 (25408, VAT-C08E-07) which includes the Recreation Use under TMDL ID VAT-C08E-03. NESTED: 25408, 3/22/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_THA01A02 / Thalia Creek, Thurston Branch & Buchanan Creek / Beginning of Thalia Creek (incl. Thurston Br & Buchanan Cr) from headwaters downstream to Western Br. Lynnhaven R. CBP segment LYNPH. BIBI segment LYNPHa. DSS ADMIN condemnation # 070-025 H (effective 20160218).	4A	Enterococcus	2006	L	0.286

Thalia Creek, Thurston Branch & Buchanan Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.286**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-04-BAC** **Western Branch - Upper, Lynnhaven River**

Cause Location: This cause encompasses from the headwaters downstream to Witch Duck Point. Portion of CBP segment LYNPH.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired with 5 viol / 30 obs at station 7-WES002.58 of the criteria for Enterococcus bacteria. Previously (2006 IR) User Flag ID as VAT-C08E-04.

A TMDL for Shellfishing Use has been completed and EPA approved in 2004 (VAT-C08E-07-SF) which includes the Recreation Use under TMDL ID VAT-C08E-04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_WES01A06 / Western Branch - Upper, Lynnhaven River / From the end of Thurston Branch downstream to Hebden Cove. CBP segment LYNPH. BIBI segment LYNPHa. Portion of ADMIN DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	4A	Enterococcus	2006	L	0.151

Western Branch - Upper, Lynnhaven River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.151**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-05-BAC** **London Bridge Creek**

Cause Location: This cause encompasses entirety of creek, from headwaters near Shipps Corner downstream to Rt. 58 crossing.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance at station 7-LOB001.79 (23 violates / 33 obs.) of the criteria for Enterococcus bacteria. Previously (2006 IR) User Flag ID as VAT-C08E-05.

A TMDL for Fecal Coliform bacteria has been completed and EPA approved in 2005 (24490) which includes the Recreation Use under TMDL ID VAT-C08E-05.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_LOB01A00 / London Bridge Creek / Entirety of creek, from headwaters near Shipps Corner downstream to Rt. 58 crossing. CBP segment LYNPH. BIBI segment LYNPHa. ADMIN DSS # 070-025 A (effective 20160218).	4A	Enterococcus	2006	L	0.059

London Bridge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.059**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-06-BAC** **Eastern Branch - Upper, Lynnhaven River**

Cause Location: This cause encompasses the area from end of London Br. Cr. (Rt. 58 crossing) downstream to Smith Point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS ADMIN condemnation # 070-025 A (effective 20160218).

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus data collected from station 7-EBL002.54 with 3 viol / 26 obs. This segment was partially delisted in 2016 for Enterococci (2 viol/ 23 obs) and was initially listed in 2004 for Recreation Use Impairment - C08E-06-BAC and will again be listed in the 2018 IR.

A TMDL for Shellfishing Use is EPA approved in 2004 (VAT-C08E-13) which includes the Recreation Use under TMDL ID VAT-C08E-06. Impairment is 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_EBL01A06 / Eastern Branch - Upper, Lynnhaven River / From end of London Br. Cr. (Rt 58 crossing) downstream to Smith Point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS ADMIN condemnation # 070-025 A (effective 20160218).	4A	Enterococcus	2006	L	0.226

Eastern Branch - Upper, Lynnhaven River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.226**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-07-BAC** **West Neck Creek (Upper) & Canal #2**

Cause Location: This cause encompasses the area from Princess Anne Rd. crossing downstream to junction with London Bridge Creek at Shipps Corner area. Segment has been determined by USGS to drain to C08E (Lynnhaven River). Portion of CBP segment LYNPH. No DSS shellfish direct harvesting condemnation

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on station 5BWNC010.02 (21 violates / 34 obs.) of the criteria for Enterococcus bacteria. Previously (2006 IR) User Flag ID as VAT-C08E-07. A TMDL for Fecal Coliform bacteria has been completed and EPA approved in 2005 (VAT-C08E-07) which includes the Recreation Use under TMDL ID VAT-C08E-07.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_WNC01A00 / West Neck Creek (Upper) to London Bridge Creek / From Princess Anne Rd. crossing downstream to junction with London Bridge Cr. at Shipps Corner area. Segment determined to drain to C08E (Lynnhaven River). CBP segment LYNPH. BIBI segment LYNPHa.	4A	Enterococcus	1998	L	0.084
VAT-C08E_XBO01A00 / Canal No. 2 / Man-Made tributary to London Bridge Creek. Entire length of Canal No. 2. Portion of CBP segment LYNPH.	4A	Enterococcus	1998	L	0.040

West Neck Creek (Upper) & Canal #2	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.124**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-10-SF** **Dey Cove/Mill Dam Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 071-095 (effective 20160218).

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 071-095 (effective 20160218). TMDL completed and EPA approved (3/22/2004) which included VAT-C08E-10.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_DEY01A00 / Dey Cove/Mill Dam Creek- Upper / Tributary on western shore of Broad Bay near Great Neck Area in VB. East of Lynnhaven River. CBP segment LYNPH BIBI segment LYNPHa. DSS condemnation # 071-095 E (effective 20160211).	4A	Fecal Coliform	1998	L	0.075

Dey Cove/Mill Dam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.075**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal (Urbanized High Density Area)	Natural Sources	Non-Point Source
On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-13-SF** **Lynnhaven River System**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 070-025 A, 2/18/2018.

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on DSS # 070-025 A (effective 20180218). Previously (2006 IR) User Flag ID as VAT-C08E-13. A TMDL for Shellfishing Use has been completed and EPA approved (VAT-C08E-13) in 2004 which includes VAT-C08E-13.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_EBL02A08 / Eastern Branch - Lower, Lynnhaven River / From Mapps Point to the eastern shore embayment near Forest Hills. CBP segment LYNPH. Portion of DSS condemnation # 070-025 A (effective 20160218).	4A	Fecal Coliform	1998	L	0.385
VAT-C08E_LYN01C12 / Lynnhaven River & Bay - DSS Cond / Tributary to south shore of Chesapeake Bay. Mainstem area. Segments near Mouth of Pleasure House and Brocks Cove. CBP segment LYNPH. DSS shellfish direct harvesting condemn # 070-025 A & M (effective 20160218) .	4A	Fecal Coliform	2012	L	0.198
VAT-C08E_WES02A06 / Western Branch - Middle, Lynnhaven River / From Bayville Cr to Thoroughgood Cove. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	4A	Fecal Coliform	1998	L	0.156

Lynnhaven River System **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.740**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal (Urbanized High Density Area)	Natural Sources	Non-Point Source
On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Source Unknown		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-14-BAC** **Sara Constance Park, East End**

Cause Location: This cause encompasses the area located along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.

City / County: Norfolk City Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired based on data from the VDH Beach Monitoring Program geometric mean violation, swimming advisories and joint VDH-DEQ assessment review at Sara Constance Park VDH station VA742733 and Ocean View Park Beach station VA509547. Stations exceeds the monthly geometric mean in 9/2014 (1 viol / 25 mos geomean obs). Tidewater beaches experienced a wide spread precipitation event on Sept 8 with a total of 5 inches of rainfall. Since the event is within the last two years of the assessment period, the beach will be listed in the 2016 IR as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_CBB01B14 / Sara Constance Park and Ocean View Park Beaches / Located along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	Enterococcus	2014	M	0.140

Sara Constance Park, East End **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.140**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-15-BAC** **13th View Beach**

Cause Location: This cause encompasses the area along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.

City / County: Norfolk City Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impaired in the 2016 IR based on Enterococcus bacteria data from the VDH-Beach station VA845980 (1 viol. / 24 Geo-mean obs.) along with multiple swimming advisories between the years 2009-2014. The Monthly Geometric Mean violation occurred in July 2013 with no storm event to associate with the exceedance therefore 13th View Beach is newly listed as impaired in the 2016 IR.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_CBB01A06 / 13th View Beach / Located along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	Enterococcus	2016	L	0.353

13th View Beach **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.353**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-16-BAC** **Chicks Beach**

Cause Location: This cause encompasses the area along Chesapeake Bay near Chesapeake Bay Bridge Tunnel, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.

City / County: Norfolk City Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is not supported based on data from the VDH Beach Monitoring Program and joint VDH-DEQ assessment review at Chicks Beach Station VA718451. There is 1 geo mean viol in Sept of 2014 out of 25 obs within the 2016 IR. This is a new impairment for Chicks Beach. Tidewater beaches experienced a wide spread precipitation event on Sept 8 with a total of 5 inches of rainfall. Since the event is within the last two years of the assessment period, the beach will be listed in the 2016 IR as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_CBB03A16 / Chicks Beach / Located along Chesapeake Bay near Chesapeake Bay Bridge Tunnel, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	5A	Enterococcus	2016	L	0.433

Chicks Beach **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.433**		

Sources:

Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08E-18-SF** **Little Neck Creek-Lower [Condemned SF]**

Cause Location: This cause encompasses the eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 071-010 A (effective 20160211).

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on the Condemnation 071-227 A effective 20160211. Newly listed as impaired in the 2016 IR. Previously the use was supported with old DSS shellfish direct harvesting condemnation # 071-010 H (effective 20130412).

This is a new Cause Group Code and AU however this segment of Little Neck Creek was included in the EPA approved TMDL . Previously (2006 IR) listed as TMDL-ID: VAT-C08E-11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_LNC01B16 / Little Neck Creek-Lower / Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 071-227 A (effective 20160211).	4A	Fecal Coliform	2016	L	0.035

Little Neck Creek-Lower [Condemned SF]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.035**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-01-CHLA** **Lake Whitehurst**

Cause Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

Aquatic Life Use is impaired for nutrients. 2016 Lake Whitehurst pooled nutrient results: 1 viol/ 1 obs Chla & TP 2011 (IM). The 2008 second year of nutrients data dropped out of the assessment window. 2014 Lake Whitehurst pooled nutrient results: 2 viol / 2 obs Chla & TP 2008, 2011 (IM).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAW01A08 / Lake Whitehurst (PWS) / Located south of Little Creek Harbor. From Rt. 60 south to border of Norfolk Intl Airport. Overflow is downstream to Little Creek Cove/Harbor. City of Norfolk PWS.	5A	Chlorophyll-a	2010	L	482.28

Lake Whitehurst	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chlorophyll-a - Total Impaired Size by Water Type:		**482.28**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-01-DO** **Lake Whitehurst**

Cause Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Aquatic Life Use is impaired for DO. The Aquatic Life Use impairment is retained for 2018. Most of the data dropped off this assessment cycle. The pooled dissolved oxygen concentration measurements (3 violates / 30 obs.) below the minimum criteria (4.0 mg/L) reported from the pooled data at all monitoring lake stations sampled during the current cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAW01A08 / Lake Whitehurst (PWS) / Located south of Little Creek Harbor. From Rt. 60 south to border of Norfolk Intl Airport. Overflow is downstream to Little Creek Cove/Harbor. City of Norfolk PWS.	5A	Oxygen, Dissolved	2008	L	482.28

Lake Whitehurst **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**482.28**	

Sources:

Residential Districts Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-01-HG** **Lake Whitehurst**

Cause Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for Mercury for Lake Whitehurst issued 12/13/04. DEQ (CORE) monitoring at 7-LAW001.00 for fish tissue results have an observed effect for Hg.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAW01A08 / Lake Whitehurst (PWS) / Located south of Little Creek Harbor. From Rt. 60 south to border of Norfolk Intl Airport. Overflow is downstream to Little Creek Cove/Harbor. City of Norfolk PWS.	5A	Mercury in Fish Tissue	2008	L	482.28

Lake Whitehurst **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**482.28**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-01-PCB** **Lake Whitehurst VDH Fish Consumption Advisory**

Cause Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs for Lake Whitehurst issued 12/13/04 modified 10/7/09. DEQ (CORE) monitoring at 7-LAW001.00 for fish tissue results exceeded DEQ-SV for PCBs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAW01A08 / Lake Whitehurst (PWS) / Located south of Little Creek Harbor. From Rt. 60 south to border of Norfolk Intl Airport. Overflow is downstream to Little Creek Cove/Harbor. City of Norfolk PWS.	5A	PCB in Fish Tissue	2006	L	482.28

Lake Whitehurst VDH Fish Consumption Advisory	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		**482.28**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-01-TP** **Lake Whitehurst**

Cause Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

Aquatic Life Use is impaired for nutrients. Impairment is retained for Lake Whitehurst pooled nutrient results: 1 viol/ 1 obs Chla & TP 2011 (IM). The 2008 second year of nutrients data dropped out of the assessment window. Previously in 2014 Lake Whitehurst pooled nutrient results: 2 viol / 2 obs Chla & TP 2008, 2011 (IM). Nutrients Impaired- Both Chla & TP assessed since algaecide was applied during monitoring year.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAW01A08 / Lake Whitehurst (PWS) / Located south of Little Creek Harbor. From Rt. 60 south to border of Norfolk Intl Airport. Overflow is downstream to Little Creek Cove/Harbor. City of Norfolk PWS.	5A	Phosphorus (Total)	2010	L	482.28

Lake Whitehurst	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Phosphorus (Total) - Total Impaired Size by Water Type:		**482.28**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-03-CHLA** **Little Creek Reservoir**

Cause Location: This cause encompasses the upper portion of the lake, beginning at Rt. 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

Little Creek is also impaired for nutrients. Both Chla and TP do not support ALUS. Little Creek Reservoir pooled nutrients results: 2 viol / 2 obs Chla & TP 2014, 2011 (IM); Both TP and Chla assessed since algaecide was applied during the monitoring year.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LTR01A08 / Little Creek Reservoir - (PWS) / Located south of Little Creek Amphibious Base. Segment begins at upper portion of lake, begins at Rt 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.	5A	Chlorophyll-a	2010	L	199.79

Little Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chlorophyll-a - Total Impaired Size by Water Type:		**199.79**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-03-PCB** **Little Creek Reservoir VDH Fish Consumption Advisory**

Cause Location: This cause encompasses the upper portion of the lake, beginning at Rt. 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.

City / County: Virginia Beach City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs for Little Creek Reservoir issued 12/13/04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LTR01A08 / Little Creek Reservoir - (PWS) / Located south of Little Creek Amphibious Base. Segment begins at upper portion of lake, begins at Rt 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.	5A	PCB in Fish Tissue	2008	L	199.79

Little Creek Reservoir VDH Fish Consumption Advisory **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**199.79**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-03-TP** **Little Creek Reservoir**

Cause Location: This cause encompasses the upper portion of the lake, beginning at Rt. 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

Little Creek is also impaired for nutrients. Both Chla and TP do not support ALUS. Little Creek Reservoir pooled nutrients results: 2 viol / 2 obs Chla & TP 2014, 2011 (IM); Both TP and Chla assessed since algaecide was applied during the monitoring year.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LTR01A08 / Little Creek Reservoir - (PWS) / Located south of Little Creek Amphibious Base. Segment begins at upper portion of lake, begins at Rt 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.	5A	Phosphorus (Total)	2010	L	199.79

Little Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Phosphorus (Total) - Total Impaired Size by Water Type:		**199.79**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-04-CHLA** **Lake Smith**

Cause Location: This cause encompasses the entirety of Lake Smith. City of Norfolk PWS.

City / County: Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

Aquatic Life Use is impaired for nutrients. Lake Smith pooled nutrients results: 1 viol/ 1 obs Chla & TP (2011). Nutrients Impaired-Both TP and Chla assessed since algaecide was applied during monitoring year. Maintain impairment from 2014 Lake Smith pooled nutrients results: 2 viol / 2 obs Chla & TP (2008, 2011).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAS01A08 / Lake Smith (PWS) / East of Norfolk Municipal Airport, south of Little Creek Reservoir. City of Norfolk PWS.	5A	Chlorophyll-a	2010	L	184.89

Lake Smith	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chlorophyll-a - Total Impaired Size by Water Type:		**184.89**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-04-DO** **Lake Smith**

Cause Location: This cause encompasses the entirety of Lake Smith. City of Norfolk PWS.

City / County: Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired due to dissolved oxygen concentration measurements below the minimum criteria (4.0 mg/L). Pooled stations include 7-LAS00.06, 7-LAS001.03, and SM1. Lake Smith's pooled DO violation rate is 1/42 = 2.4%. However, impairment is retained for DO since both 2008 and 2011 data was used to list lake. Now the 2008 data is dropped outside of the assessment window and 2011 remains. Need additional data to make delist. Individual station exceedances for DO include 7-LAS00.06 (0/14), 7-LAS001.03 (0/12), SM1 no DO data. Pooled pH data supported use with a lake violation rate of 0/37.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAS01A08 / Lake Smith (PWS) / East of Norfolk Municipal Airport, south of Little Creek Reservoir. City of Norfolk PWS.	5A	Oxygen, Dissolved	2002	L	184.89

Lake Smith **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**184.89**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-04-TP** **Lake Smith**

Cause Location: This cause encompasses the entirety of Lake Smith. City of Norfolk PWS.

City / County: Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Phosphorus (Total) / 5A

Aquatic Life Use is impaired for nutrients. 6 Lake Smith pooled nutrients results: 1 viol/ 1 obs Chla & TP (2011) Nutrients Impaired-Both TP and Chla assessed since algaecide was applied during monitoring year. Previously in 2014 Lake Smith pooled nutrients results: 2 viol / 2 obs Chla & TP (2008, 2011).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAS01A08 / Lake Smith (PWS) / East of Norfolk Municipal Airport, south of Little Creek Reservoir. City of Norfolk PWS.	5A	Phosphorus (Total)	2010	L	184.89

Lake Smith	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Phosphorus (Total) - Total Impaired Size by Water Type:		**184.89**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-06-HG** **Lake Trashmore - Western Pond VDH Fish Consumption Advisory for Mercury**

Cause Location: This cause encompasses the entirety of Lake Trashmore - Western Pond. Includes western portion of dual ponds lake system, pond on eastern side of Mt. Trashmore is not included in VDH advisory.

City / County: Virginia Beach City

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory (Carp and Largemouth Bass) for mercury and PCBs fish tissue contamination (issued 9/30/04 for Hg, 12/13/04 for PCBs) and DEQ (CORE) monitoring at 7-MTL000.20 for fish tissue results exceeded DEQ-SV for Hg and PCBs. 08-IM, FT_PCB Largemouth Bass, Perch, Carp, Gizzard Shad, Walleye; 08-IM, FT_Met-Hg Largemouth Bass, Perch

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_MTL01A06 / Lake Trashmore - Western Pond / Headwaters area of Thalia Cr. to Eastern Br. Lynnhaven River. Includes Western portion of dual ponds lake system, pond on eastern side of Mt. Trashmore is not included in VDH advisory.	5A	Mercury in Fish Tissue	2006	L	54.39

Lake Trashmore - Western Pond VDH Fish Consumption Advisory for Mercury **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**54.39**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-06-PCB** **Lake Trashmore - Western Pond VDH Fish Consumption Advisory for PCBs**

Cause Location: This cause encompasses the entirety of Lake Trashmore - Western Pond. Includes western portion of dual ponds lake system, pond on eastern side of Mt. Trashmore is not included in VDH advisory.

City / County: Virginia Beach City

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption ban (for Carp) and advisory (for Yellow Perch) for PCBs fish tissue contamination issued 12/13/04. DEQ (CORE) monitoring at 7-LAW001.00 for fish tissue results exceeded DEQ-SV for Hg and PCBs. 08-IM, FT_PCB Largemouth Bass, Perch, Carp, Gizzard Shad, Walleye; 08-IM, FT_Met-Hg Largemouth Bass, Perch

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_MTL01A06 / Lake Trashmore - Western Pond / Headwaters area of Thalia Cr. to Eastern Br. Lynnhaven River. Includes Western portion of dual ponds lake system, pond on eastern side of Mt. Trashmore is not included in VDH advisory.	5A	PCB in Fish Tissue	2006	L	54.39

Lake Trashmore - Western Pond VDH Fish Consumption Advisory for PCBs **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**54.39**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C08L-07-DO** **Lake Wright**

Cause Location: This cause encompasses the entirety of Lake Wright near South of Norfolk Intl. Airport, south of Rt. I-64 adjacent to USAA Office Park. Sampled by City of Norfolk as PWS.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impairment is retained due to exceedance of the dissolved oxygen standard measurement below the minimum criteria (4.0 mg/L) from data outside assessment window. Station WRI sampled by City of Norfolk Department of Utilities had 5 viol / 21 obs in 2014 IR. No DO data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08L_LAR01A06 / Lake Wright / South of Norfolk Intl. Airport, south of Rt I-64 adjacent to USAA Office Park. Sampled by City of Norfolk as PWS.	5A	Oxygen, Dissolved	2014	L	15.62

Lake Wright	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**15.62**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09E-01-BAC** **Bulbeggar Creek**

Cause Location: This cause encompasses from the estuarine/riverine transition (end of tidal waters) downstream to mouth (confluence with Pocomoke Sound). Portion of CBP segment POCOH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance of the instantaneous criteria for Enterococcus bacteria at station 7-BLB004.63 (retained outside of IR window - 5 violate / 12 obs.).
Covered under TMDL VAT-C09E-SF (35957) EPA approved 4/15/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09E_BLB01A06 / Bullbegger Creek / Located southeast of Pitts Neck area. From estuarine/riverine transition (end of tidal waters) downstream to mouth (confluence with Pocomoke Sound). Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Enterococcus	2004	L	0.134

Bulbeggar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.134**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09E-01-SF** **Pitts Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 075-033 A (effective 20160711).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the portion of DSS condemnation # 075-033 A (effective 20160711) which is present. Covered under TMDL VAT-C09E-SF (35957) EPA approved 4/15/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09E_PTT01A06 / Pitts Creek / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line downstream to mouth (confluence with Pocomoke River) within VA. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Fecal Coliform	1998	L	0.127
VAT-C09E_PTT01B10 / Pitts Creek - Upper [Admin Cond] / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line upstream to headwaters within VA at Dunns Swamp Road. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Fecal Coliform	2018	L	0.069

Pitts Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.196**		

Sources:

Source Unknown	Upstream Source	Wastes from Pets	Waterfowl
Wildlife Other than Waterfowl			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09E-02-BAC** **Pocomoke River**

Cause Location: This cause encompasses from the VA/MD state line downstream to mouth (confluence with Pocomoke Sound) within VA. Portion of CBP segment POCOH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance of the instantaneous criteria for Enterococcus bacteria at station 7-POC001.76 (6 violate / 14 obs.). Impairment is retained, last sampled in 2006. Shellfishing and Recreation Uses impairments are considered NESTED within TMDL (35957) EPA approved 4/15/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09E_POC01A06 / Pocomoke River / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line downstream to mouth (confluence with Pocomoke Sound) within VA. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Enterococcus	2006	L	0.240

Pocomoke River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.240**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09E-10-BAC** **Holdens Creek - Upper**

Cause Location: This cause encompasses the upper portion of Holdens Creek, from the confluence of Sandy Bottom Branch downstream to 0.5 mi downstream of station @ 7-HLD002.67. Portion of CBP segment POCOH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance of the instantaneous criteria for Enterococcus bacteria at station 7-HLD002.67 (26 violate / 35 obs.). Previous Use ID = VAT-C10E-01. Covered under TMDL 'Holdens Creek' (35648) VAT-C10E-04-SF EPA approved 11/7/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_HLD01A06 / Holdens Creek - Upper / Located southeast of Joeys Neck area. From confluence Sandy Bottom Br downstream to 0.5 mi of station @ 7-HLD002.67. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Enterococcus	1998	L	0.034

Holdens Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.034**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09E-10-SF** **Pocomoke River & Sound; Bullbegger & Holdens Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 075-033 A (effective 20160711).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the portion of DSS condemnation # 075-033 A (effective 20160711). Covered under TMDL VAT-C09E-SF (35957) EPA approved 4/15/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09E_BLB01A06 / Bullbegger Creek / Located southeast of Pitts Neck area. From estuarine/riverine transition (end of tidal waters) downstream to mouth (confluence with Pocomoke Sound). Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Fecal Coliform	2006	L	0.134
VAT-C09E_POC01A06 / Pocomoke River / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line downstream to mouth (confluence with Pocomoke Sound) within VA. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Fecal Coliform	2010	L	0.240
VAT-C09E_POC02A08 / Pocomoke Sound [C09 portion] / Pocomoke Sound downstream of the Pocomoke River (VA portion). Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 A (effective 20160711).	4A	Fecal Coliform	2010	L	0.726
VAT-C10E_HLD01A06 / Holdens Creek - Upper / Located southeast of Joeys Neck area. From confluence Sandy Bottom Br downstream to 0.5 mi of station @ 7-HLD002.67. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4A	Fecal Coliform	2006	L	0.034
VAT-C10E_HLD02A06 / Holdens Creek - Lower / Located southeast of Joeys Neck area. From 0.5 mi downstream of station @ 7-HLD002.67 downstream to mouth. Portion of CBP segment POCOH. Portion of DSS shellfish condemnation # 075-033 A (effective 20160711).	4A	Fecal Coliform	2006	L	0.050
VAT-C10E_POC01A08 / Pocomoke Sound - Lower [C10 portion] / Pocomoke Sound downstream of the Pocomoke River (VA portion). Area adjacent to Holdens Creek. Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 A (effective 20131023).	4A	Fecal Coliform	1998	L	1.452

Pocomoke River & Sound; Bullbegger & Holdens Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**2.636**		

Sources:

- Livestock (Grazing or Feeding Operations)
- Source Unknown
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09E-11-SF** **Unsegmented tidal tributaries in C09E-POCOH**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 075-033 (effective 20160711).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish is impaired based on the VDH DSS shellfish Condemnation #075-033 effective date 20160711. In previous IR's this AU segment had a VDH DSS Administrative Condemnation and therefore did not have SF use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09E_ZZZ01A06 / Unsegmented tidal tributaries in C09E-POCOH / Evaluated non segmented portions of C09E. Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 (effective 20160711).	4A	Fecal Coliform	2006	L	0.006

Unsegmented tidal tributaries in C09E-POCOH **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.006**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09R-01-DO** **Unnamed tributary to Pitts Creek**

Cause Location: This cause encompasses the riverine portion of this tributary to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life Use is impaired due to low dissolved oxygen at station 7-XAE001.42 (12 violates / 36 obs.; VAT-C09R-01) which exceed the minimum criteria for this parameter. The DO impairment and TP CD listing are covered under the TMDL "Pitts Creek - UNT" EPA approved (35650 & 35649) 11/07/2008. The DO impairment is mitigated by the TMDL for TN & TP (35649 & 35650) approved by EPA 11/7/08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09R_XAE01A00 / Unnamed tributary to Pitts Creek / Riverine portion of these tribs to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.	4A	Oxygen, Dissolved	1998	L	7.50

Unnamed tributary to Pitts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09R-02-BAC** **Unnamed tributary to Pitts Creek**

Cause Location: This cause encompasses the riverine portion of this tributary to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired (8 violate / 35 obs.) at station 7-XAE001.42 due to exceedance of the instantaneous criteria for E.coli bacteria. Previous (2006 IR) Use Flag ID = VAT-C09R-02. TMDL For UT to Pitts Creek for E.coli EPA approved 9/20/2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09R_XAE01A00 / Unnamed tributary to Pitts Creek / Riverine portion of these tribs to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.	4A	Escherichia coli	2004	L	7.50

Unnamed tributary to Pitts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C09R-02-PH** **Unnamed tributary to Pitts Creek**

Cause Location: This cause encompasses the riverine portion of this tributary to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The Aquatic Life Use is impaired due to low pH (6 violates / 36 obs.; VAT-C09R-02) concentrations at station 7-XAE001.42, which exceed the minimum criteria for this parameter.

Upstream discharge from Tyson Foods 001 may have impact on this impairment. Also need to investigate if natural conditions (leaf litter/organic content) may be the cause of the low pH.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09R_XAE01A00 / Unnamed tributary to Pitts Creek / Riverine portion of these tribs to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.	5A	pH	2006	L	7.50

Unnamed tributary to Pitts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**7.50**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-02-BAC** **Muddy Creek - Upper**

Cause Location: This cause encompasses the upper portion of Muddy Creek, from end of tidal waters downstream to Pettigrew Bend. Portion of CBP segment POCMH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is impairment is retained since the 2014 IR. Data outside assessment window is from 2005 & 2006. Enterococcus bacteria data from 2010 at DEQ AQM station @ 7-MUD002.29 (3 viol / 15 obs.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_MUD01A04 / Muddy Creek - Upper / Located southeast of Byrds Marsh and northeast of Town of Bloxom. From end of tidal waters downstream to Poulson Pt. Portion of CBP segment POCMH. DSS shellfish condemnation # 076-176 B(effective 20160711).	5A	Enterococcus	2006	L	0.301

Muddy Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.301**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-02-SF** **Tyler Creek, Shanks Creek, Tangier Sound**

Cause Location: This cause encompasses the assessment unit VACB-C10E_TNN01D18.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

VDH DSS condemnation #074-226 (Restricted) effective 2/26/2015

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-C10E_TNN01D18 / Tyler Creek, Shanks Creek, Tangier Sound / Tyler Creek, Shanks Creek, Tangier Sound - Portion of CBP segment TANMH. Restricted waters of the DSS cond # 074-226 eff 2/26/2015. Split from VACB-C10E-TAN.	5B	Fecal Coliform	2018	L	2.169

Tyler Creek, Shanks Creek, Tangier Sound	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**2.169**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-03-SF** **Pocomoke Sound**

Cause Location: This cause encompasses the assessment unit VACB-C10E_POC01B18.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

VDH DSS condemnation #075-033 (Restricted) effective 7/11/2016

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-C10E_POC01B18 / Pocomoke Sound / Pocomoke Sound - VDH DSS condemnation #075-033 (Restricted)	5B	Fecal Coliform	2018	L	0.111

Pocomoke Sound	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.111**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-05-BAC** **Messongo Creek - Upper**

Cause Location: This cause encompasses the southeast of Marsh Market. Running parallel with Rt. 692 upstream to the end of tidal waters. Portion of CBP segment POCMH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Recreation Use is impaired based on exceedance Enterococci data with 3 viol / 17 obs) at station 7-MES001.34. The impairment is part of the July 1999 EPA Consent Decree (Attachment C & Attachment A, Category 1, Part 2). Previous (2006 IR) Use ID = VAT-C10E-05. Contained under EPA TMDL _ID = 34492, EPA approved 6/11/08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_MES01A06 / Messongo Creek - Upper / Located southeast of Marsh Market & start of Rec TMDL (213) . Running parallel with Rt 692 upstream to the end of tidal waters. POCMH. Upstream portion of DSS shellfish condemnation # 076-167 A (effective 20160711).	4A	Fecal Coliform	1998	L	0.042

Messongo Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-07-BAC** **Hunting Creek - Upper & Lower**

Cause Location: This cause encompasses Hunting Creek - Upstream portion, from end of tidal waters downstream to mouth. Portion of CBP segment POCMH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on exceedance of the Enterococcus bacteria criteria at station 7-HUN001.88 (9 violates / 35 obs.). Previous Use ID (2006 IR) as TMDL ID: VAT-C10E-07. Considered NESTED under TMDL (35566) VAT-C10E-11 EPA approved 2/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_HUN01A00 / Hunting Creek - Upper / W of Hopkins. Upper portion, from end of tidal waters downstream to end of DSS condemnation (downstream of Town of Hopkins). CBP segment POCMH. DSS shellfish direct harvesting condemnation # 077-138 B (effective 20150708).	4A	Enterococcus	2006	L	0.168
VAT-C10E_HUN02A06 / Hunting Creek - Lower / West of Town of Hopkins. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting condemnation # 077-138 (effective 20150708).	4A	Enterococcus	2006	L	0.674

Hunting Creek - Upper & Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.842**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-10-SF** **Bagwell Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 077-138 A, 7/8/2015.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_BAG01A00 / Bagwell Creek / Northwest of Town of Justisville. Entirety of creek. Portion of CBP segment POCMH. DSS shellfish direct harvesting condemnation # 077-138 A (effective 20150708).	4A	Fecal Coliform	1998	L	0.102

Bagwell Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.102**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-11-SF** **Deep Creek - Middle & Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 077-138 C , 7/8/2015.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation. Covered under TMDL (35552) VAT-C10E-18 EPA approved 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_DEP01A06 / Deep Creek - Middle / East of town of Bayside. Middle portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150708).	4A	Fecal Coliform	1998	L	0.090
VAT-C10E_DEP01B10 / Deep Creek - Upper / East of town of Bayside. Upper portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150108).	4A	Fecal Coliform	2018	L	0.114

Deep Creek - Middle & Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.204**		

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Source Unknown
- Wastes from Pets

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-12-SF** **Guilford Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 076-176 A, 7/11/2016.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 076-176 A (effective 20160711). Covered under TMDL 'Messongo and Guilford Creeks' (25411) VAT-C10E-04-SF EPA approved 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_GLF01A06 / Guilford Creek - Upper / Northeast of Town of Guilford. Upper portion of creek, from end of tidal waters downstream to end of DSS condemnation portion. Portion of CBP segment POCMH. DSS shellfish condemnation # 076-176 A (effective 20160711).	4A	Fecal Coliform	1998	L	0.152

Guilford Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.152**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-17-BAC** **Messongo Creek-Lower**

Cause Location: This cause encompasses the lower creek from the intersection of Saxis and Belinda Rd downstream to the mouth.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on the exceedance of Enterococcus bacteria with 3 viol / 17 obs at station 7-MES001.34. This is a new listing in 2018 for Recreation Use. Segment is nested within existing Shellfish TMDL for Messongo Cr EPA approved 6/7/2006. The new recreation impairment has the same sources that are adequately addressed in the existing SF TMDL. The impairment is within the tidal range of the existing TMDL boundary with comparable land use. The SF TMDL already sets reductions for human, pet and livestock at 100% and wildlife at 88 %.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_MES03A06 / Messongo Creek - Lower / Located south of Saxis and Belinda Rd intersection downstream to the mouth. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation.	4A	Enterococcus	2018	L	1.106

Messongo Creek-Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**1.106**		

Sources:

- Discharges from Biosolids (SLUDGE) Storage, Application or Disposal
- Livestock (Grazing or Feeding Operations)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-17-SF** **Messongo Creek - Upper & Middle**

Cause Location: Described in VDH Notice and description of Shellfish Condemnation # 076-167 A (effective 20160711).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish use is now impaired based on the 20160711 Restricted Condemnation # 076-167 A. The shellfish impairment is nested in the 2018 IR with the Recreation-Fecal Coliform Messongo Cr EPA approved TMDL 6/11/2008. Proj # 213. Nesting is possible for a SF into a Rec Impairment because the TMDL:
1) The fecal source was represented in the Recreation TMDL by using the downstream boundary source: estuary and the bay boundary.

2) The standard for the SF Messongo Cr TMDL approved in 2006 (P# 732) of 14 and 49 MPN/100 ml was used as the boundary station for the impaired segment addressed in the Recreation TMDL (213).

3) Reductions required in the Rec TMDL: 100 % redux of human sources, loading from livestock, and pets and 97% redux from wildlife.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_MES01A06 / Messongo Creek - Upper / Located southeast of Marsh Market & start of Rec TMDL (213) . Running parallel with Rt 692 upstream to the end of tidal waters. POCMH. Upstream portion of DSS shellfish condemnation # 076-167 A (effective 20160711).	4A	Fecal Coliform	1998	L	0.042
VAT-C10E_MES02A06 / Messongo Creek - Middle [TMDL-732] / South of Town of Belinda. Portion of CBP segment POCMH. TMDL P# 732- SF. DSS Condemnation # 076-167 (effective 20160711).	4A	Fecal Coliform	2006	L	0.156

Messongo Creek - Upper & Middle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.197**		

Sources:

- Livestock (Grazing or Feeding Operations)
- Unpermitted Discharge (Domestic Wastes)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-18-SF** **Hunting Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 077-138 B, 7/8/2015.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation. Previous Use ID (2006 IR) as TMDL ID: VAT-C10E-18. Considered NESTED under TMDL (35566) VAT-C10E-11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_HUN01A00 / Hunting Creek - Upper / W of Hopkins. Upper portion, from end of tidal waters downstream to end of DSS condemnation (downstream of Town of Hopkins). CBP segment POCMH. DSS shellfish direct harvesting condemnation # 077-138 B (effective 20150708).	4A	Fecal Coliform	1998	L	0.168

Hunting Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.168**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10E-20-SF** **Muddy Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 076-176 B(effective 20160711).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5A

The shellfish use is impaired based on the Restricted Condemnation # 076-176 B effective date 20160711. Muddy Creek was a part of the 1999 Consent Decree for shellfish, VAT-C07E-16. In 2010 the Shellfish Use was removed due to Admin Condemn # 076-176 A (effective 20080708). In 2014 IR the Shellfishing Use was added because the area was Opened for shellfishing based on new VDH Condemn # 076-176 (8/10/2012).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10E_MUD01A04 / Muddy Creek - Upper / Located southeast of Byrds Marsh and northeast of Town of Bloxom. From end of tidal waters downstream to Poulson Pt. Portion of CBP segment POCMH. DSS shellfish condemnation # 076-176 B(effective 20160711).	5A	Fecal Coliform	2006	L	0.301

Muddy Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.301**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-01-BAC** **Unnamed tributary to Sandy Bottom Branch**

Cause Location: This cause encompasses the portion of this unnamed tributary to Sandy Bottom Branch, originating at outfall 001 of VPDES VA0004049 downstream to confluence with Sandy Bottom Branch (@ Rt. 693 crossing).

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use impairment is retained based on exceedances of the criteria for E.coli bacteria (1 viol / 7 obs.) at station 7-XAZ000.30. Previously station violation rate was 4 viol / 11 obs. No bacteria data collected within assessment window.

1998 CD segment for benthics & FC (Attachment A, Category 1, Part 1) VAT-C10R-01. The Recreation Use is covered under a TMDL for bacteria in the stream segment [35939] as approved by EPA 11/7/08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_XAZ01A00 / Unnamed tributary to Sandy Bottom Branch / Located south of Makemie Park area. Portion of unnamed trib. (originating at outfall 001 of VPDES VA0004049) from confluence of UT from north downstream to confluence with Sandy Bottom Branch (@ Rt 693 crossing).	4A	Escherichia coli	2006	L	1.13

Unnamed tributary to Sandy Bottom Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-01-BAC2** **Unnamed tributary from Tyson Foods**

Cause Location: This cause encompasses the area south of Makemie Park. A portion of unnamed trib. from origin at outfall 001 of VPDES VA0004049 downstream to the confluence of the UT from north (upstream of Rt. 693 crossing).

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired based on exceedances of the criteria for E.coli bacteria (4 viol / 11 obs.) in 2012 IR downstream station 7-XAZ000.30 and now has 1 viol / 7 obs. This segment is an extension of the stream that was on the CD. The impaired segment was not included in the EPA approved (11/7/2008) TMDL for E.coli for Holdens Creek and Sandy Bottom Branch and UT to SBB. However, it is now nested because it uses same listing station, bacteria reductions apply to entire watershed, and land uses are consistent. Nested in 2014.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_XCX01A08 / Unnamed tributary from Tyson Foods / Located south of Makemie Park area. Portion of unnamed trib. from origin at outfall 001 of VPDES VA0004049 downstream to the confluence of the UT from north (upstream of Rt 693 crossing).	4A	Escherichia coli	2010	L	1.40

Unnamed tributary from Tyson Foods **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-01-BEN** **Unnamed tributary to Sandy Bottom Branch**

Cause Location: This cause encompasses the portion of this unnamed tributary to Sandy Bottom Branch, originating at outfall 001 of VPDES VA0004049 downstream to confluence with Sandy Bottom Branch (@ Rt. 693 crossing).

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4B

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. EPA approved March 2010 the re-categorization of the benthic impairment for SBB and UTSBB. "These waters were originally identified as impaired based on biological monitoring data, a current analysis of the benthic community has shown that through the issuance of permit limitations, water quality conditions in SBB and UTSBB have improved. Therefore there is no need for a benthic TMDL for SBB and UTSBB at this time."
Benthic impairment assessment is based on VCPMI scores [2012_IM: S=21.9, F=37.0 2013: S=10.8 F= 7.7 2014: F=31.9 2015: S= 27.6 F=19.7 2016: S= 7.8 F= 31.7] at DEQ (BIO) station @ 7-XAZ000.30.

1998 CD segment for benthics & FC (Attachment A, Category 1, Part 1) VAT-C10R-01.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_XAZ01A00 / Unnamed tributary to Sandy Bottom Branch / Located south of Makemie Park area. Portion of unnamed trib. (originating at outfall 001 of VPDES VA0004049) from confluence of UT from north downstream to confluence with Sandy Bottom Branch (@ Rt 693 crossing).	4B	Benthic-Macroinvertebrate Bioassessments	1996	L	1.13

Unnamed tributary to Sandy Bottom Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-01-BEN2** **Unnamed tributary from Tyson Foods**

Cause Location: This cause encompasses the area south of Makemie Park. A portion of unnamed trib. from origin at outfall 001 of VPDES VA0004049 downstream to the confluence of the UT from north (upstream of Rt. 693 crossing).

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4B

The Aquatic Life Use is impaired due to impacts to the stream's benthic population at the downstream station. Benthic impairment assessment is based on VCPMI scores [2016 S= 7.8 F= 31.7 2015: S=27.6 F=19.7 2014: F= 31.9 2013: S=10.8 F=7.7 2012: S=21.9, F=37.0] at DEQ (BIO) station @ 7-XAZ000.30.

EPA approved March 2010 the re-categorization of the benthic impairment for SBB and UTSBB. "These waters were originally identified as impaired based on biological monitoring data, a current analysis of the benthic community has shown that through the issuance of permit limitations, water quality conditions in SBB and UTSBB have improved. Therefore there is no need for a benthic TMDL for SBB and UTSBB at this time. "

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_XCX01A08 / Unnamed tributary from Tyson Foods / Located south of Makemie Park area. Portion of unnamed trib. from origin at outfall 001 of VPDES VA0004049 downstream to the confluence of the UT from north (upstream of Rt 693 crossing).	4B	Benthic-Macroinvertebrate Bioassessments	2008	L	1.40

Unnamed tributary from Tyson Foods	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-02-BAC** **Sandy Bottom Branch**

Cause Location: This cause encompasses the entirety of Sandy Bottom Branch downstream to the confluence with Holdens Creek.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use remains impaired due to exceedance of the criteria for E.coli bacteria @ 7-SBB000.17 (21 violates / 33 obs). The Recreation Use is covered under a TMDL for bacteria in the stream segment [35941] as approved by EPA 11/7/08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_SBB01A00 / Sandy Bottom Branch / Located southwest of Makemie Park area. Entire Sandy Bottom Branch downstream to confluence with Holdens Creek.	4A	Escherichia coli	2004	L	1.29

Sandy Bottom Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-02-BEN** **Sandy Bottom Branch**

Cause Location: This cause encompasses the entirety of Sandy Bottom Branch downstream to the confluence with Holdens Creek.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4B

The Benthic impairment will be maintained for the 2018 IR. The most recent 2 years of VCPMI scores are: 2016 - Spring = 7.1 and Fall = 66.4 ; 2015 - Spring = 53.3 and Fall = 15.1 with 2 yr avg of 35.5. No delist since average and recent scores fall below 40 VCPMI threshold. However, stations benthics scores seem to be improving.

The EPA approved March 2010 the re-categorization of the benthic impairment for SBB and UTSBB. "These waters were originally identified as impaired based on biological monitoring data, a current analysis of the benthic community has shown that through the issuance of permit limitations, water quality conditions in SBB and UTSBB have improved. Therefore there is no need for a benthic TMDL for SBB and UTSBB at this time. "

Benthic impairment assessment is based on biological benthic monitoring VCPMI [2012_IM: S=31, F=35.5 2013: S=23.3, F=43.5, 2014: F=65.3, 2015: S= 53.3, F= 15.1, 2016: S= 7.1 F= 66.4]. At DEQ (BIO) station @ 7-SBB000.17.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_SBB01A00 / Sandy Bottom Branch / Located southwest of Makemie Park area. Entire Sandy Bottom Branch downstream to confluence with Holdens Creek.	4B	Benthic-Macroinvertebrate Bioassessments	2004	L	1.29

Sandy Bottom Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.29**

Sources:

Agriculture	Animal Feeding Operations (NPS)	Permitted Runoff from Confined Animal Feeding Operations (CAFOs)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-02-CU** **Sandy Bottom Branch**

Cause Location: This cause encompasses the entirety of Sandy Bottom Branch downstream to the confluence with Holdens Creek.

City / County: Accomack Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Copper / 4B

The Aquatic Life and Wildlife Uses are impaired due to exceedance of the freshwater acute criteria for copper. Freshwater acute criteria for copper exceeded in monitoring @ 7-SBB000.17 (2 violates / 5 obs., during 2000 & 2001).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_SBB01A00 / Sandy Bottom Branch / Located southwest of Makemie Park area. Entire Sandy Bottom Branch downstream to confluence with Holdens Creek.	4B	Copper	2002	L	1.29
	4B	Copper	2002	L	1.29

Sandy Bottom Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Copper - Total Impaired Size by Water Type:			**2.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C10R-03-BEN** **Guilford Creek**

Cause Location: This cause encompasses Guilford Creek, from confluence of two branches west of Rt. 316 downstream to Rt. 658 crossing.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained due to impacts to the stream's benthic population: MI: S&F 05-06 at DEQ (BIO) station @ 7-GLF003.77. The stream was said to be moderately impaired and is retained due to lack of more recent data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C10R_GLF01A08 / Guilford Creek / South of Town of Bloxom. Stream portion from confluence of two branches west of Rt 316 downstream to Rt 658 crossing.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	0.85

Guilford Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-04-BAC** **North Branch, Onancock Creek**

Cause Location: This cause encompasses the entirety of the North Branch, Onancock Creek. CBP segment CB7PH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use impairment is retained for this Assessment. No Enterococci data is available at station 7-ONB000.20 or 7-ONB000.56. Covered under TMDL (25414) Onancock Creek, North Branch", VAT-C11E-04-SF, EPA approved 8/2/2006. Previous Use ID (2006 IR) as TMDL ID: VAT-C11E-04.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_ONB01A02 / North Branch, Onancock Creek / Located near Town of Onancock. Entire North Branch, Onancock Creek. CBP segment CB7PH. DSS shellfish condemnation (Admin Cond-PROHIBITION) # 081-013 D (effective 20131120).	4A	Enterococcus	2002	H, 2yr	0.021

North Branch, Onancock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.021**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-05-BAC** **Central Branch, Onancock Creek**

Cause Location: This cause encompasses the entirety of the Central Branch, Onancock Creek. CBP segment CB7PH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use impairment is retained from the 2006 IR based on previous exceedance of the Fecal Coliform bacteria criteria and exhibits Observed Effects due to insufficient exceedance of Enterococcus bacteria criteria within a small data set (1 violate / 3 obs.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_OCB01A00 / Central Branch, Onancock Creek / CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	4A	Enterococcus	2008	H, 2yr	0.018

Central Branch, Onancock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.018**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-06-BAC** **Southern Branch, Onancock Creek**

Cause Location: This cause encompasses the entirety of the Southern Branch, Onancock Creek. CBP segment CB7PH.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use impairment is retained from the 2006 IR based on previous exceedance of the Fecal Coliform bacteria criteria. No bacteria data in 2012. In 2010 station 7-OSB000.13 exhibits Observed Effects due to insufficient exceedance of Enterococcus bacteria criteria within a small data set (1 violate / 3 obs.). Previous Use ID (2006 IR) = VAT-C11E-06.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_OSB01A02 / Southern Branch, Onancock Creek / Near Town of Onancock. Entire Southern Branch Onancock Creek. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 081-013 A (effective 20131120).	4A	Enterococcus	1998	H, 2yr	0.058

Southern Branch, Onancock Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation				
	Enterococcus - Total Impaired Size by Water Type:	**0.058**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-07-BAC** **Onancock Mainstem and Upper Mainstem**

Cause Location: This cause encompasses the area from junction of N, Central & S Brs downstream to end of DSS condemnation near Finneys Wharf.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use impairment is retained in the 2018 IR. Data used to list as impaired is from 2009, 2010 and 2014. Now in 2018 two of the three years are outside the assessment window. Data within assessment window is 0 viol / 12 obs for Enterococci bacteria at station 7-OCN004.96. Not able to delist until additional data is collected.
Previous Use ID (2006 IR) = VAT-C11E-07. Recreation Use included under shellfish TMDL approved 8/2/06 under TMDL ID = VAT-C11E-14 (24499).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_OCN01A04 / Onancock Creek Mainstem - Upper [Admin Cond] / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation (by Finneys Wharf. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	4A	Enterococcus	2006	H, 2yr	0.129
VAT-C11E_OCN01C10 / Onancock Creek Mainstem - Upper / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation near Finneys Wharf. CBP segment CB7PH. Portion of DSS shellfish condemnation # 081-013 (effective 20131120).	4A	Enterococcus	2010	H, 2yr	0.097

Onancock Mainstem and Upper Mainstem	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.226**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-11-SF** **Chesconessex Creek - South Br. - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 079-112 A (effective 20150708).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS shellfish direct harvesting condemnation # 079-112 A (effective 20150708). Previous Use ID (2006 IR) as TMDL ID: VDH-Bay PCBs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_CSX01A00 / Chesconessex Creek - South Br. - Upper / South of Chesconessex and northwest of Onancock. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 A (effective 20150708).	4A	Fecal Coliform	1998	L	0.109

Chesconessex Creek - South Br. - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.109**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-12-SF** **Finneys Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 080-013 D (effective 20131120).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation # 080-013 B (effective 20131120). Covered under TMDL (31237) "Finneys Creek", VAT-C11E-01-SF, EPA approved 8/2/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_FNN01A00 / Finneys Creek - Upper / East of Bailey Neck area. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 B (effective 20131120).	4A	Fecal Coliform	1998	H, 2yr	0.069

Finneys Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.069**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-13-SF** **Cedar Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 080-169 A (effective 20131120).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to DSS shellfish direct harvesting condemnation # 080-013 E (effective 20131120). Covered under TMDL (33845) "Cedar Creek" VAT-C11E-02-SF EPA approved 8/2/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_CED01A00 / Cedar Creek / Entire estuarine portion of creek. North shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 C (effective 20131120).	4A	Fecal Coliform	1998	H, 2yr	0.063

Cedar Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.063**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11E-23-SF** **Onancock Creek Mainstem - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation # 081-013 (effective 20131120).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfishing Use is now impaired in the 2018 IR based on the DSS shellfish condemnation # 080-013 A (effective 20131120). Some area outside of TMDL is nested within the TMDL (25414) Onancock Creek, North Branch", VAT-C11E-04-SF, EPA approved 8/2/2006. Additional SF is within tidal range and TMDL watershed boundary. The additional area has similar land use and will be adequately addressed in the existing reductions called for in 88% reductions for Mainstem Onancock Cr with 100 % reductions for pet and human and 62% reductions for wildlife.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11E_OCN01C10 / Onancock Creek Mainstem - Upper / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation near Finneys Wharf. CBP segment CB7PH. Portion of DSS shellfish condemnation # 081-013 (effective 20131120).	4A	Fecal Coliform	2010	L	0.097

Onancock Creek Mainstem - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.097**		

Sources:

On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C11R-01-BAC** **Joynes Branch**

Cause Location: This cause encompasses Joynes Branch, eastern riverine tributary to the Central Branch of Onancock Creek

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use impairment is based on the 2014 data collected at station 7-JOY000.59 with 2 viol / 9 obs. Previously this impairment had been maintained since the data collected was from 2005-2006 with an exceedance of the criteria for E.coli bacteria (4 violates / 9 obs.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C11R_JOY01A08 / Joynes Branch / Eastern riverine tributary to the Central Branch of Onancock Creek.	5A	Escherichia coli	2008	H	2.37

Joynes Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**2.37**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C12E-10-SF** **Pungoteague Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 081-119 B (effective 20130325).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS condemnation # 081-119 B (effective 20130325). Covered under TMDL (25416) for VAT-C12E-10-SF (approved 6/7/06)].

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C12E_PUN01A06 / Pungoteague Creek - Upper / W of Melfa. Upper portion of Pungoteague Cr. from the end of tidal waters downstream to Boggs Wharf and Route 634. CBP segment CB7PH. DSS condemnation # 081-119 B (effective 20130325).	4A	Fecal Coliform	1998	L	0.232

Pungoteague Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.232**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C12E-11-SF** **Taylor Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 081-119 C (effective 20160401).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS shellfish condemnation # 081-119 C. The Shellfishing Use is impaired due to the DSS shellfish harvesting condemnation which is present. Covered under TMDL (25416) "Taylor Creek" for VAT-C12E-03-SF (EPA approved 6/7/06).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C12E_TAY01A06 / Taylor Creek / Located southwest of Harborton. From the end of tidal waters downstream Route 628 and Eastern Shore Yacht Club. Portion of CBP segment CB7PH. Portion of DSS condemnation # 081-119 C (effective 20160401).	4A	Fecal Coliform	1998	L	0.130

Taylor Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.130**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C12E-12-SF** **Underhill Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 081-119 A (effective 20160401).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS condemnation # 081-119 A (effective 20160401). Covered under TMDL (25416) "Taylor Creek" for VAT-C12E-03-SF (EPA approved 6/7/06).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C12E_UNR01A06 / Underhill Creek / In area of Mount Nebo. North shore tributary to Pungoteague Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 081-119 A (effective 20160401).	4A	Fecal Coliform	2006	L	0.070

Underhill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.070**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C12R-01-BEN** **Taylor Creek**

Cause Location: This cause encompasses the riverine portion of Taylor Creek, from the point where stream forks north of Rt. 180 downstream to the confluence of UT below Rt. 178.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is due to monitored impacts to the stream's benthic population. Assessment is based on biological benthic monitoring with VCPMI [2013: S=17.3 & 2010: S=11.9, F=9.7] at Station 7-TAY003.11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C12R_TAY01A04 / Taylor Creek / Located east of Town of Pungoteague. From point where stream forks north of Rt 180 downstream to confluence of UT below Rt 178.	5A	Benthic-Macroinvertebrate Bioassessments	2004	L	0.90

Taylor Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C12R-02-BEN** **Bull Branch**

Cause Location: This cause encompasses the riverine portion of Bull Branch, from headwaters near Rt. 609 (Accomack Co. Airport) downstream to confluence with eastern prong of upper Pungoteague Creek.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained for the 2014 IR due to impacts to the stream's benthic population. Benthic impairment assessment is based on biological benthic monitoring noting MI [MI: S&F-03, S-04; SI: F-04] at DEQ (BIO) station @ 7-BBR001.31.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C12R_BBR01A08 / Bull Branch / Located east of Town of Pungoteague. Eastern tributary to upper eastern prong of Pungoteague Cr. From headwaters near Rt 609 (Accomack Co. Airport) downstream to confluence with eastern prong of upper Pungoteague Cr.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.25

Bull Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.25**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-02-BAC** **Nassawadox Creek - Lower**

Cause Location: This cause encompasses the lower mainstem of Nassawadox Creek. Portion of CBP segment CB7PH.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus bacteria data which exceeded the criteria. (6 violate / 30 obs.) at DEQ (AQM) station @ 7-NSS001.62. Use ID = VAT-C13E-02. This segment is covered under revised TMDL for "Nassawadox Creek Watershed" (33777) EPA approved 8/15/2017.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_NSS02A06 / Nassawadox Creek - Lower / Mainstem of lower portion of creek to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 085-110 & 085-185 (effective 20161013).	4A	Enterococcus	2008	L	2.121

Nassawadox Creek - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**2.121**		

Sources:

- Animal Feeding Operations (NPS)
- Livestock (Grazing or Feeding Operations)
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-11-SF** **Church Creek -Upper**

Cause Location: This cause encompasses the area of Elliotts Neck. Tributary to Nassawadox Creek, upstream portion of Church Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-185 B (effective 20161013).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on the DSS shellfish direct harvesting condemnation # 085-185 B (effective 20161013). Previous Use ID (2006 IR) as TMDL ID: VAT-C13E-11. Portion of AU is Covered under TMDL for "Nassawadox Creek Watershed" (33777) EPA approved 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_CHC01B16 / Church Creek -Upper / In area of Elliotts Neck. Tributary to Nassawadox Creek, upstream portion of Church Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-185 B (effective 20161013).	4A	Fecal Coliform	2016	L	0.108

Church Creek -Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.108**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-11-SF2** **Church Creek - Middle, UT North Cove**

Cause Location: This cause encompasses the area of Elliotts Neck. Tributary to Church Creek - Middle, UT North Cove. Portion of CBP segment.

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation # 085-185 A (effective 20161013). Impairment included in revised TMDL for "Nassawadox Creek Watershed" (33777) EPA approved 9/20/2007, 2/1/2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_CHC01C10 / Church Creek - Middle- UT North Cove / area of Elliotts Neck. Tributary to Church Creek - Middle, UT North Cove. Portion of CBP segment CB7PH. DSS shellfish harvesting condemnation # 085-185 A (effective 20161013).	In4A	Fecal Coliform	2004	L	0.059

Church Creek - Middle, UT North Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.059**		

Sources:

Livestock (Grazing or Feeding Operations)	Wastes from Pets	Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-12-SF** **Craddock Creek - Upper [TMDL-bact.]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 085-110 E (effective 20121210).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS shellfish direct harvesting condemnation # 083-195 A (effective 20121210). Previous Use ID (2006 IR) as TMDL ID: VAT-C13E-12. Covered under TMDL for "Craddock Creek" (25417) EPA approved 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_CRA01A06 / Craddock Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to end of shellfish condemnation (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 083-195 A (effective 20121210).	4A	Fecal Coliform	1998	L	0.082

Craddock Creek - Upper [TMDL-bact.]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.082**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-13-SF** **Holly Grove Cove- Upper & Kelley Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 085-110 B (effective 20161013).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS shellfish direct harvesting condemnation # 085-110 B (effective 20161013). Previous Use ID (2006 IR) as TMDL ID: VAT-C13E-13. Covered under TMDL for "Nassawadox Creek Watershed" (33777) EPA approved 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_HGC01A06 / Holly Grove Cove / Located near Wellington Neck. From end of tidal waters downstream to mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-110 E (effective 20161013).	4A	Fecal Coliform	1998	L	0.143
VAT-C13E_KLL01A06 / Kelley Cove / From end of tidal waters downstream to confluence with Nassawadox Cr. (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 D (effective 201610137).	4A	Fecal Coliform	1998	L	0.026

Holly Grove Cove- Upper & Kelley Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.168**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-14-SF** **Nassawadox Creek - Upper [TMDL-bact.]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 085-110 D (effective 20161013).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS shellfish direct harvesting condemnation # 085-110 D(effective 20161013). Previous Use ID (2006 IR) as TMDL ID: VAT-C13E-14. Covered under TMDL for "Nassawadox Creek Watershed" (33777) EPA approved 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_NSS01A06 / Nassawadox Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to confluence with Kelly Cove (RM 5.2) area of TMDL-bact 6/07. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 B (effective 20161013).	4A	Fecal Coliform	1998	L	0.205

Nassawadox Creek - Upper [TMDL-bact.]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.205**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-15-SF** **Occohannock Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 084-043 A (effective 20161116).

City / County: Accomack Co. Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS condemnation # 084-043 A (effective 20161116). Covered under TMDL for "Occohannock Creek" (38189) EPA approved 6/7/2006).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_OCH01A06 / Occohannock Creek - Upper / Upper portion of Occohannock Creek and tidal tribs., from end of tidal waters downstream to the confluence of Wescott Cove (RM 5.3). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 A (effective 2016116).	4A	Fecal Coliform	1998	L	0.538

Occohannock Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.538**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-18-SF** **McLean Gut - Upper**

Cause Location: This cause encompasses the middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 B (effective 20160330).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 082-160 B (effective 20160330). Previous Use ID (2006 IR) as TMDL ID: VAT-C13E-18. Covered under TMDL for "Nandua and Currituck Creeks" (25419) EPA approved 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_MAG01A08 / McLean Gut - Upper / Southwest of Fairview Neck area. Middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 B (effective 20160330).	4A	Fecal Coliform	1998	L	0.038

McLean Gut - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.038**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-19-SF** **Nandua Creek - Upper [TMDL-bact.]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 082-160 A (effective 20160330).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 082-160 A (effective 20160330). Previous Use ID (2006 IR) as TMDL ID: VAT-C13E-19

Covered under TMDL for "Nandua and Currituck Creeks" (25419) EPA approved 6/7/2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_NAN01A00 / Nandua Creek - Upper [TMDL-bact.] / Southeast of Hacks Neck area. The two most upstream branches of Nandua Creek, incl. Kusian Cove. Portion of CBP segment CB7PH. DSS condemnation # 082-160 A&C (effective 20160330).	4A	Fecal Coliform	1998	L	0.144

Nandua Creek - Upper [TMDL-bact.]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.144**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-20-SF** **Nassawadox Creek - Middle, N. Shore Tribs**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 085-110 A, 10/13/2016.

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 085-110 A (effective 20161013). Covered under revised TMDL for "Nassawadox Creek Watershed" (68338) EPA approved 8/5/2017.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_NSS03A08 / Nassawadox Creek - Middle, N. Shore Tribs / Occohannock Neck Area. North Shore UTs to lower-middle mainstem Nassawadox. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 A &C(effective 20161013).	4A	Fecal Coliform	2008	L	0.126

Nassawadox Creek - Middle, N. Shore Tribs	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.126**		

Sources:

Livestock (Grazing or Feeding Operations)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13E-22-SF** **Shields Cove & Fisher Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 084-043 B, 11/16/2016.

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 084-043 B (effective 20111116). Not covered under TMDL for "Occohannock" (38189) EPA approved 6/7/2006. However will nest since SF impairment is within tidal range of Occohannock Creek TMDL, newly impaired segments are comparable and all existing sources are accounted for in the TMDL.(NESTED 2014:38189, 6/7/2006.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13E_OCH03A08 / Shields Cove & Fisher Cove / West of Belle Haven area. North and South shore tributaries of Occohannock Cr., NW of Youngs Pt. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 B & C (effective 20161116).	4A	Fecal Coliform	2008	L	0.087

Shields Cove & Fisher Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.087**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C13R-01-BEN** **Taylor Branch - Occohannock Creek**

Cause Location: This cause encompasses Taylor Branch, from the confluence of two branches upstream of station downstream to the confluence with Occohannock Creek.

City / County: Accomack Co. Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. Assessment is based on biological benthic monitoring in 2010 using VCPMI scoring [2010_IM: S=11.9, F=9.7] at DEQ (BIO) station @ 7-TLR000.75.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C13R_TLR01A08 / Taylor Branch - Occohannock Cr. / West of Painter. Tributary to most upstream portion of Occohannock Creek, west of Town of Painter. From confluence of two branches upstream of station downstream to the confluence with Occohannock Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	2.31

Taylor Branch - Occohannock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.31**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C14E-01-BAC** **Hungars Creek - Upper**

Cause Location: This cause encompasses the upper portion of Hungars Creek from end tidal waters downstream to Waterford Point (RM 1.8) @ confluence with Jacobus Creek.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Fecal Coliform impairment is retained from the 2006 IR as there are no Enterococci bacteria data to verify the assessment status. The Recreation Use is impaired based on exceedance (5 violates / 9 obs.) of the Fecal Coliform bacteria criteria (from 2006 IR) based on data from station 7-HUG004.40. NESTED: 35546, 4/30/2010

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C14E_HUG01A00 / Hungars Creek - Upper / Upper portion of Hungars Creek from end tidal waters downstream to Waterford Point (RM 1.8) @ confluence with Jacobus Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 A (effective 20150827).	4A	Fecal Coliform	1998	L	0.138

Hungars Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:	**0.138**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C14E-11-SF** **Hungars Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 086-136 A, 8/27/2015.

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 086-136 A. Previous (2006 IR) TMDL ID = VAT-C14E-01. No TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C14E_HUG01A00 / Hungars Creek - Upper / Upper portion of Hungars Creek from end tidal waters downstream to Waterford Point (RM 1.8) @ confluence with Jacobus Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 A (effective 20150827).	4A	Fecal Coliform	1998	L	0.138

Hungars Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.138**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C14E-13-SF** **Mattawoman Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 086-136 C, 8/27/2015.

City / County: Accomack Co. Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation. The Shellfishing Use is impaired based on the DSS shellfish harvesting condemnation which is present. TMDL 38541 EPA Approved 5/6/2010; SWCB Approved 9/30/2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C14E_MAT01A06 / Mattawoman Creek - Upper / South of Wilsonia Neck. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 C (effective 20150827).	4A	Fecal Coliform	1998	L	0.155

Mattawoman Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.155**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C14E-14-SF** **The Gulf - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 087-174 A (effective 20150827).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS shellfish direct harvesting condemnation # 087-174 A (effective 20150827). The Shellfishing Use is impaired due to the DSS shellfish harvesting condemnation which is present. Previous Use ID (2006 IR) as TMDL ID: VAT-C14E-14. This impairment is covered under TMDL for "The Gulf" (33770) VAT-C14E-14-SF, EPA approved 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C14E_THG01A06 / The Gulf - Upper / From end of tidal waters downstream to narrowing 0.45 mi. from mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 087-174 A (effective 20150827).	4A	Fecal Coliform	1998	L	0.090

The Gulf - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.090**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C14E-16-SF** **Westerhouse Creek - Upper and Middle South Branch [TMDL]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 085-199 A & B(effective 20130924).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Portion DSS shellfish direct harvesting condemnation # 085-199 A (effective 20130924). Previous Use ID (2006 IR) as TMDL ID: VAT-C14E-16. Covered under TMDL for "Nassawadox Creek Watershed" (33777) EPA approved 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C14E_WHS02A06 / Westerhouse Creek - Upper South Branch [TMDL] / In Church Neck area, west of Bridgetown. Upper portion of Westerhouse Creek South Branch. Portion of CBP segment CB7PH. Portion DSS shellfish direct harvesting condemnation # 085-199 A (effective 20130924).	4A	Fecal Coliform	1998	L	0.019

Westerhouse Creek - Upper and Middle South Branch [TMDL]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C14E-18-SF** **UT to Hungars Creek**

Cause Location: This cause encompasses the Northern trib between Great Neck and Sparrow Point. Restricted portion of SF. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 E (effective 20150827).

City / County: Accomack Co. Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfish Use is impaired based on DSS shellfish direct harvesting condemnation # 086-136 E (effective 20150827). Not covered under TMDL for "Hungars Creek Watershed" (34370) EPA approved 4/30/2008. However will nest IN 2016 since SF impairment is within tidal range of Hungars Creek TMDL, newly impaired segments are comparable and all existing sources are accounted for in the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C14E_HUG02B12 / UT to Hungars Creek / Northern trib between Great Neck and Sparrow Point. Restricted portion of SF. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 E (effective 20150827).	4A	Fecal Coliform	2012	L	0.039

UT to Hungars Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.039**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C14E-19-SF** **Hungars Creek - Northern Trib**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 086-136 D (effective 20150827).

City / County: Accomack Co. Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

DSS shellfish direct harvesting condemnation # 086-136 D (effective 20150827). Not covered under TMDL for "Hungars Creek Watershed" (34370) EPA approved 4/30/2008. However will nest since SF impairment is within tidal range of Hungars Creek TMDL, newly impaired segments are comparable and all existing sources are accounted for in the TMDL. Segment was NESTED in the 2014 IR: 34370, 4/30/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C14E_HUG02C14 / Hungars Creek - Northern Trib / Lower portion of Hungars Creek, Trib north of the mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 D (effective 20150827).	4A	Fecal Coliform	2014	L	0.073

Hungars Creek - Northern Trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.073**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C15E-10-SF** **Kings Creek - Upper Forks and Middle**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 088-139 A (20161227).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation # 088-139 A (effective 20161227). Previous Use ID (2006 IR) as TMDL ID: VAT-C15E-10. This impairment is covered under TMDL for "Cherrystone Inlet" which includes Kings Creek (33772) VAT-C15E-10-SF, EPA approved 9/20/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C15E_KNS01A00 / Kings Creek - Upper Forks and Middle / From end of tidal waters downstream 0.16 mi. past confluence of the two most upstream forks. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 088-139 A (20161227).	4A	Fecal Coliform	1998	L	0.093

Kings Creek - Upper Forks and Middle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.093**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C15E-14-SF** **Cherrystone Inlet - Eyrehall Cr**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 088-139 B(20161227).

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5A

Shellfish Use is impaired based on newly restricted area SF with DSS Condemnation # 088-139 B effective date 20161227. No TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C15E_CRS01B18 / Cherrystone Inlet - Eyrehall Cr / SE trib to Cherryston Inlet. Portion of CBP segment CB7PH. DSS Restricted shellfish direct harvesting condemnation # 088-139 B(20161227).	5A	Fecal Coliform	2018	L	0.103

Cherrystone Inlet - Eyrehall Cr	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.103**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C16E-10-SF** **Old Plantation Creek - Upper [TMDL]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 090-152A, 12/22/2015.

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to the DSS shellfish harvesting condemnation # 090-152 A (effective 20151222). This impairment is covered under TMDL for "Old Plantation and Elliot Creeks" (33772) VAT-C16E-10-SF, EPA approved 8/30/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C16E_OPC01A06 / Old Plantation Creek - Upper [TMDL-bact] / Upper portion of Old Plantation Creek within TMDL-Bact (33771). CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	4A	Fecal Coliform	1998	L	0.044

Old Plantation Creek - Upper [TMDL]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.044**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* C16E-10-SF2** **Old Plantation Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 090-152 A,B,C 12/22/2015.

City / County: Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to the DSS shellfish harvesting condemnation # 090-152 A,B,C (effective 20151222). This impairment is NOT covered under TMDL for "Old Plantation and Elliot Creeks" (33771) VAT-C16E-10-SF, EPA approved 8/30/2007. However the impairment was nested in 2014 IR since SF impairment is within tidal range of Old Plantation and Elliot Creeks TMDL, newly impaired segments are comparable and all existing sources are accounted for in the TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C16E_OPC01B08 / Old Plantation Creek - Upper [No TMDL-bact] / Upper portion of Old Plantation Creek and one southeast embayment not within TMDL-Bact (33771). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	4A	Fecal Coliform	2008	L	0.152

Old Plantation Creek - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.152**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* CB5MH-DO-BAY Chesapeake Bay segment CB5MH**

Cause Location: This cause encompasses the complete CBP segment CB5MH.

City / County: Chesapeake Bay - County Not Applicable. Lancaster Co. Northumberland Co.

Use(s): Aquatic Life Deep-Water Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The 30-day dissolved oxygen criteria for open water use (summer) and the 30-day dissolved oxygen criteria for deep water use failed for the 2018 assessment in segment CB5MH. There are insufficient data to assess remaining shorter-term dissolved oxygen criteria for the open water and deep water uses. The instantaneous oxygen criteria for deep channel use was met.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-CB5 / Chesapeake Bay - VA portion of CBP Segment CB5MH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment CB5MH, located in the northern part of the Virginia mainstem Bay from the mouth of the Rappahannock River and northward. HUC: 02080101.	4A	Oxygen, Dissolved	2004	L	185.848
VAP-C01E_ASH01A10 / Ashleys Cove / Described in VDH-DSS condemnation 016-024D, 1/28/2005 CB5MH	4A	Oxygen, Dissolved	2016	L	0.056
VAP-C01E_BEL01A08 / Bells Creek / Described in VDH condemnation 016-057B, 12/13/2006. CB5MH	4A	Oxygen, Dissolved	2002	L	0.042
VAP-C01E_BLS01A02 / Balls Creek / Described in the condemnation notice 89B, 5/28/1997. CB5MH	4A	Oxygen, Dissolved	2006	L	0.064
VAP-C01E_BLS02A08 / Balls Creek / Portion of condemnation notice 013-089F, 4/28/2016 not included in 89B, 5/28/1997. CB5MH	4A	Oxygen, Dissolved	2006	L	0.113
VAP-C01E_BRS01A08 / Barnes Creek / Tidal portion of Barnes Creek CB5MH	4A	Oxygen, Dissolved	2008	L	0.331
VAP-C01E_DIV01B12 / Dividing Creek / Portion of VDH-DSS condemnation 022, 2/27/1997 open on 015-022, 5/9/2016. Shortened in the 2018 cycle. CB5MH	4A	Oxygen, Dissolved	2016	L	0.201
VAP-C01E_DIV01C14 / Dividing Creek, UT / VDH-DSS condemnation 015-022G, 5/9/2016 CB5MH	4A	Oxygen, Dissolved	2018	L	0.009
VAP-C01E_DIV03A00 / Dividing Creek / From the downstream limit of VDH-DSS SFC 022, 2/27/1997, to the mouth at Chesapeake Bay. CB5MH	4A	Oxygen, Dissolved	2006	L	0.816

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C01E_DYM02A00 / Dymer Creek / Dymer Creek downstream of VDH-DSS SFC 016-024A 1/28/2005, to start of deep water at Grog Island unless otherwise segmented.	4A	Oxygen, Dissolved	2016	L	0.595
CB5MH					
VAP-C01E_DYM03A06 / Dymer Creek / Mouth of Dymer Creek at Grog Island	4A	Oxygen, Dissolved	2006	L	0.090
CB5MH					
VAP-C01E_FLB01A00 / Fleets Bay / Fleets Bay north of Bluff Point at Barnes Creek south to Fleets Island.	4A	Oxygen, Dissolved	2002	L	5.187
CB5MH					
Size adjusted in 2006 cycle.					
VAP-C01E_GEO01A98 / Georges Cove / Described in condemnation notice 016-024E, 1/28/2005.	4A	Oxygen, Dissolved	2016	L	0.034
CB5MH					
VAP-C01E_GOU01A06 / Gougher Creek / Described in VDH-DSS Shellfish Condemnation 013-220G, 4/28/2016	4A	Oxygen, Dissolved	2006	L	0.036
CB5MH					
VAP-C01E_GWR02A00 / Great Wicomico River / From VDH-DSS SFC 013-089A, 4/28/2016, downstream to Rogue Point unless otherwise segmented.	4A	Oxygen, Dissolved	2006	L	2.065
CB5MH					
VAP-C01E_GWR02B06 / Great Wicomico River / As described in VDH-DSS Shellfish Condemnation 013-089M2, 4/28/2018	4A	Oxygen, Dissolved	2016	L	0.017
CB5MH					
VAP-C01E_GWR02C06 / Great Wicomico River at Coles Creek / As described in VDH-DSS Shellfish Condemnation 013-089M1, 4/28/2016	4A	Oxygen, Dissolved	2006	L	0.008
CB5MH					
VAP-C01E_GWR02D12 / Great Wicomico River / VDH-DSS SFC 013-089M3, 4/28/2016	4A	Oxygen, Dissolved	2006	L	0.008
CB5MH					
VAP-C01E_GWR02E16 / Great Wicomico River, UT / Described in VDH-DSS condemnation 013-089H, 4/28/2016	4A	Oxygen, Dissolved	2006	L	0.033
CB5MH					
VAP-C01E_GWR03A06 / Great Wicomico River / From Rogue Point (GWR02A00) downstream to Ingram Bay at Dameron Marsh.	4A	Oxygen, Dissolved	2006	L	5.800
CB5MH					
VAP-C01E_HEN01A00 / Henrys Creek / Described in VDH condemnation 016-057D, 12/19/2016.	4A	Oxygen, Dissolved	2006	L	0.017
Shrank in the 2018 cycle.					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH

VAP-C01E_HEN01B14 / Henrys Creek / Portion of VDH condemnation 016-057C, 1/28/2005 open on 12/19/2016.

Expanded in the 2018 cycle.

4A	Oxygen, Dissolved	2006	L	0.053

CB5MH

VAP-C01E_HEN02A14 / Henrys Creek / Downstream of 016-057C, 1/28/2005

4A	Oxygen, Dissolved	2006	L	0.103

CB5MH

VAP-C01E_HNT01A98 / Hunts Cove / Described in the condemnation notice 016-024B, 1/28/2005.

4A	Oxygen, Dissolved	2016	L	0.040

CB5MH

VAP-C01E_IND01A98 / Indian Creek / VDH-DSS condemnation notice 016-057E, 12/19/2016 (not administratively condemned) and 016-057C, 12/19/2016

Shrank in the 2018 cycle.

4A	Oxygen, Dissolved	2016	L	0.147

CB5MH

VAP-C01E_IND01B10 / Indian Creek / VDH-DSS condemnation notice 016-057A, 12/19/2016 (administratively condemned).

4A	Oxygen, Dissolved	2016	L	0.037

CB5MH

VAP-C01E_IND01C10 / Indian Creek / Downstream portion of condemnation notice 016-057A, 12/13/2006 open on 12/19/2016.

4A	Oxygen, Dissolved	2016	L	0.137

CB5MH

VAP-C01E_IND01D14 / Indian Creek / Described in condemnation notice 016-057M2, 12/19/2016.

Expanded upstream in the 2018 cycle.

4A	Oxygen, Dissolved	2016	L	0.131

CB5MH

VAP-C01E_IND01E16 / Indian Creek / Portion of condemnation notice 016-057A, 12/28/2012 that is open 12/19/2016.

4A	Oxygen, Dissolved	2016	L	0.040

CB5MH

VAP-C01E_IND03A00 / Indian Creek / Indian Creek from end of condemnation 016-057A, 12/13/2006, downstream to mouth unless otherwise segmented.

4A	Oxygen, Dissolved	2002	L	0.600

CB5MH

VAP-C01E_IND03B06 / Indian Creek / As described in VDH-DSS Seasonal Shellfish Condemnation 016-057M1, 12/19/2016

4A	Oxygen, Dissolved	2002	L	0.017

CB5MH

VAP-C01E_JOH01A06 / Johnson Creek / As described in VDH-DSS SFC 016-024C, 12/30/2015

4A	Oxygen, Dissolved	2016	L	0.029

CB5MH

VAP-C01E_MIL01B06 / Mill Creek / Mouth of Mill Creek at Ingram

4A	Oxygen, Dissolved	2006	L	1.173

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Bay

CB5MH

VAP-C01E_PNT02A02 / Prentice Creek / Downstream of DSS condemnation 015-022E, 5/9/2016 to its mouth.	A	Oxygen, Dissolved	2016	L	0.159

CB5MH

VAP-C01E_PNT02B10 / Prentice Creek / Downstream limit of DSS condemnation 022C & D, 2/27/1997 to limit of 015-022E, 5/9/2016.	A	Oxygen, Dissolved	2016	L	0.014

CB5MH

VAP-C01E_TBS02A00 / Tabbs Creek / Tabbs Creek downstream of VDH-DSS SFC 016-133, 12/13/2006.	A	Oxygen, Dissolved	2006	L	0.175

CB5MH

Size adjusted in 2006 cycle.

VAP-C01E_WCO02A08 / Warehouse Creek / Portion of VDH condemnation notice 013-220A, 4/28/2016 not included in 89E, 5/28/1997	A	Oxygen, Dissolved	2006	L	0.008

CB5MH

VAP-C01E_XES01A12 / XES - Dividing Creek, UT / Described in the VDH-DSS condemnation 015-022D, 5/9/2016.	A	Oxygen, Dissolved	2018	L	0.029

CB5MH

Chesapeake Bay segment CB5MH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**204.260**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: CB5MH-EBEN-BAY **Chesapeake Bay segment CB5MH**

Cause Location: This cause encompasses the complete CBP segment CB5MH.

City / County: Chesapeake Bay - County Not Applicable. Northumberland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The benthic assessment is based on 18 estuarine benthic samples over a 6 year period. Benthic Assessment Analysis performed by ODU in 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-CB5 / Chesapeake Bay - VA portion of CBP Segment CB5MH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment CB5MH, located in the northern part of the Virginia mainstem Bay from the mouth of the Rappahannock River and northward. HUC: 02080101.	5A	Estuarine Bioassessments	2004	L	185.848
VAP-C01E_FLB01A00 / Fleets Bay / Fleets Bay north of Bluff Point at Barnes Creek south to Fleets Island.	5A	Estuarine Bioassessments	2018	L	5.187

CB5MH

Size adjusted in 2006 cycle.

Chesapeake Bay segment CB5MH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**191.035**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* CB5MH-SAV-BAY Chesapeake Bay segment CB5MH**

Cause Location: This cause encompasses the complete CBP segment CB5MH.

City / County: Chesapeake Bay - County Not Applicable. Lancaster Co. Northumberland Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

Submerged Aquatic Vegetation acres goal is 7,633 acres but only 16% was attained found in the most recent 3 years according to aerial analysis of SAV. Only 69% of water clarity goal met according to 2013 and 2014 Dataflow surveys.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-CB5 / Chesapeake Bay - VA portion of CBP Segment CB5MH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment CB5MH, located in the northern part of the Virginia mainstem Bay from the mouth of the Rappahannock River and northward. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	185.848
VAP-C01E_ANT01A98 / Antipoison Creek / Described in the condemnation notice 017-188A, 12/16/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
CB5MH					
VAP-C01E_ANT01B08 / Antipoison Creek, UT / Described in the condemnation notice 017-188C, 12/16/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.004
CB5MH					
VAP-C01E_ANT01C08 / Antipoison Creek, UT / Described in the condemnation notice 017-188B, 12/16/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.013
CB5MH					
VAP-C01E_ANT02A08 / Antipoison Creek / Downstream of condemnation notice 017-188A, 12/16/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.361
CB5MH					
VAP-C01E_ANT02B12 / Antipoison Creek / Described in condemnation notice 017-188M1, 12/16/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.007
CB5MH					
VAP-C01E_ASH01A10 / Ashleys Cove / Described in VDH-DSS condemnation 016-024D, 1/28/2005	4A	Aquatic Plants (Macrophytes)	2006	L	0.056
CB5MH					
VAP-C01E_BAI01A16 / Bailey Prong / Described in VDH-DSS condemnation 013-220H, 4/1/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.052
CB5MH					
VAP-C01E_BAL01A02 / Ball Creek / VDH condemnation notice 014-124B, 5/15/2001	4A	Aquatic Plants (Macrophytes)	2006	L	0.080
CB5MH					
VAP-C01E_BAL02A02 / Ball Creek / From VDH-DSS SFC 014-124B, 5/15/2001, downstream to its mouth.	4A	Aquatic Plants (Macrophytes)	2006	L	0.128

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH VAP-C01E_BAR01A98 / Barrett Creek / Described in the condemnation notice, 013-089I, 7/31/2012.	4A	Aquatic Plants (Macrophytes)	2006	L	0.038
CB5MH VAP-C01E_BAR02A08 / Barrett Creek / Described in VDH-DSS SFC 013-089H, 7/31/2012	4A	Aquatic Plants (Macrophytes)	2006	L	0.008
CB5MH VAP-C01E_BEL01A08 / Bells Creek / Described in VDH condemnation 016-057B, 12/13/2006.	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
CB5MH VAP-C01E_BLS01A02 / Balls Creek / Described in the condemnation notice 89B, 5/28/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.064
CB5MH VAP-C01E_BLS02A08 / Balls Creek / Portion of condemnation notice 013-089F, 4/28/2016 not included in 89B, 5/28/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.113
CB5MH VAP-C01E_BMC01A04 / Betts Mill Creek / Described in the VDH Shellfish Condemnation 013-089B, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.082
CB5MH VAP-C01E_BMS01A12 / Bush Mill Stream / Tidal limit to mouth at Great Wicomico River	4A	Aquatic Plants (Macrophytes)	2006	L	0.095
CB5MH VAP-C01E_BRS01A08 / Barnes Creek / Tidal portion of Barnes Creek	4A	Aquatic Plants (Macrophytes)	2006	L	0.331
CB5MH VAP-C01E_CHA01A08 / Dymer Creek, UT / Described in condemnation notice 016-024B, 12/30/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.018
CB5MH VAP-C01E_CHA01B12 / Chases Cove / Described in condemnation notices 016-024D, 12/30/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.023
CB5MH VAP-C01E_CLE01A98 / Cloverdale Creek / Described in the condemnation notice 014-124A, 6/2/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
CB5MH VAP-C01E_CLE02A06 / Cloverdale Creek / Downstream of condemnation notice 014-124A, 6/2/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.055
CB5MH VAP-C01E_COC01A98 / Cockrell Creek / As described in VDH-DSS Shellfish Condemnation 012-002B, 9/22/2005.	4A	Aquatic Plants (Macrophytes)	2006	L	0.612

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH

VAP-C01E_COC03A98 / Cockrell Creek / Described in the condemnation notice. VDH-DSS SFC 012-002C, 9/22/2005.	A	Aquatic Plants (Macrophytes)	2006	L	0.035

CB5MH

VAP-C01E_COC04B10 / Cockrell Creek / VDH-DSS Condemnation Notice 012-002A, 9/22/2005	A	Aquatic Plants (Macrophytes)	2006	L	0.470

CB5MH

VAP-C01E_COC05A06 / Cockrell Creek / From VDH-DSS SFC 012-002A, 9/22/2005, downstream to mouth at Fleet Point.	A	Aquatic Plants (Macrophytes)	2006	L	0.152

CB5MH

VAP-C01E_COL01A08 / Coles Creek / Described in VDH-DSS SFC 013-089C, 4/28/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.019

CB5MH

VAP-C01E_CRN01A06 / Cranes Creek / Described in VDH-DSS Shellfish Condemnation 013-220C, 4/28/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.019

CB5MH

VAP-C01E_CRN01B06 / Cranes Creek / Described in VDH-DSS Shellfish Condemnation 013-220M1, 8/9/2011	A	Aquatic Plants (Macrophytes)	2006	L	0.016

CB5MH

VAP-C01E_DIV01A98 / Dividing Creek / Described in VDH-DSS condemnation 015-022A, 5/9/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.091

Segment expanded in the 2018 cycle.

VAP-C01E_DIV01B12 / Dividing Creek / Portion of VDH-DSS condemnation 022, 2/27/1997 open on 015-022, 5/9/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.201

Shortened in the 2018 cycle.

CB5MH

VAP-C01E_DIV01C14 / Dividing Creek, UT / VDH-DSS condemnation 015-022G, 5/9/2016	A	Aquatic Plants (Macrophytes)	2006	L	0.009

CB5MH

VAP-C01E_DIV03A00 / Dividing Creek / From the downstream limit of VDH-DSS SFC 022, 2/27/1997, to the mouth at Chesapeake Bay.	A	Aquatic Plants (Macrophytes)	2006	L	0.816

CB5MH

VAP-C01E_DVN01A04 / Davenport Creek / Described in VDH Shellfish Condemnation 017-188A, 5/12/2012.	A	Aquatic Plants (Macrophytes)	2006	L	0.019

CB5MH

VAP-C01E_DYM01A98 / Dymer Creek / Described in the condemnation notice 016-024A, 12/30/2015.	A	Aquatic Plants (Macrophytes)	2006	L	0.177

Shrank in 2018 cycle.

CB5MH

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C01E_DYM02A00 / Dymer Creek / Dymer Creek downstream of VDH-DSS SFC 016-024A 1/28/2005, to start of deep water at Grog Island unless otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2006	L	0.595
CB5MH					
VAP-C01E_DYM02B14 / Dymer Creek / Portion of VDH-DSS SFC 016-024A 1/28/2005 open 12/30/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.135
Expanded in the 2018 cycle.					
CB5MH					
VAP-C01E_DYM03A06 / Dymer Creek / Mouth of Dymer Creek at Grog Island	4A	Aquatic Plants (Macrophytes)	2006	L	0.090
CB5MH					
VAP-C01E_FLB01A00 / Fleets Bay / Fleets Bay north of Bluff Point at Barnes Creek south to Fleets Island.	4A	Aquatic Plants (Macrophytes)	2006	L	5.187
CB5MH					
Size adjusted in 2006 cycle.					
VAP-C01E_GEO01A98 / Georges Cove / Described in condemnation notice 016-024E, 1/28/2005.	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
CB5MH					
VAP-C01E_GOU01A06 / Gougher Creek / Described in VDH-DSS Shellfish Condemnation 013-220G, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.036
CB5MH					
VAP-C01E_GSK01A10 / Gaskin Pond / As described in VDH-DSS condemnation 011-122A, 8/31/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.061
Size reduced in the 2018 cycle.					
VAP-C01E_GWR01A98 / Great Wicomico River / Portion of condemnation notice 089A, 5/28/1997 which is not administratively closed, excluding Head River Branch and Bush Mill Stream	4A	Aquatic Plants (Macrophytes)	2006	L	0.268
CB5MH					
VAP-C01E_GWR01B08 / Great Wicomico River / Blackwells Creek / Portion of condemnations 013-089A & 013-089G, 4/28/2016 not included in 089A, 5/28/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.125
CB5MH					
VAP-C01E_GWR01C10 / Great Wicomico River / Portion of condemnation notice 089A, 5/28/1997 which is administratively closed	4A	Aquatic Plants (Macrophytes)	2006	L	0.058
CB5MH					
VAP-C01E_GWR02A00 / Great Wicomico River / From VDH-DSS SFC 013-089A, 4/28/2016, downstream to Rogue Point unless otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2006	L	2.065
CB5MH					
VAP-C01E_GWR02B06 / Great Wicomico River / As described in VDH-DSS Shellfish Condemnation 013-089M2, 4/28/2018	4A	Aquatic Plants (Macrophytes)	2006	L	0.017

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH VAP-C01E_GWR02C06 / Great Wicomico River at Coles Creek / As described in VDH-DSS Shellfish Condemnation 013-089M1, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.008
CB5MH VAP-C01E_GWR02D12 / Great Wicomico River / VDH-DSS SFC 013-089M3, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.008
CB5MH VAP-C01E_GWR02E16 / Great Wicomico River, UT / Described in VDH-DSS condemnation 013-089H, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.033
CB5MH VAP-C01E_GWR03A06 / Great Wicomico River / From Rogue Point (GWR02A00) downstream to Ingram Bay at Dameron Marsh.	4A	Aquatic Plants (Macrophytes)	2006	L	5.800
CB5MH VAP-C01E_GWR03B16 / Great Wicomico River / Described in VDH-DSS condemnation 013-220F, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.004
CB5MH VAP-C01E_HAP01B10 / Harpers Creek / Described in the condemnation notice 017-188M2. 12/16/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.022
CB5MH VAP-C01E_HAV01A08 / Harveys Creek / Described in VDH Shellfish Condemnation 014-123B, 5/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.045
CB5MH VAP-C01E_HEN01A00 / Henrys Creek / Described in VDH condemnation 016-057D, 12/19/2016. Shrank in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.017
CB5MH VAP-C01E_HEN01B14 / Henrys Creek / Portion of VDH condemnation 016-057C, 1/28/2005 open on 12/19/2016. Expanded in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.053
CB5MH VAP-C01E_HEN02A14 / Henrys Creek / Downstream of 016-057C, 1/28/2005	4A	Aquatic Plants (Macrophytes)	2006	L	0.103
CB5MH VAP-C01E_HHB01A98 / Horn Harbor / Described in the condemnation notice 013-089D, 4/28/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.071
CB5MH VAP-C01E_HNT01A98 / Hunts Cove / Described in the condemnation notice 016-024B, 1/28/2005.	4A	Aquatic Plants (Macrophytes)	2006	L	0.040

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH

VAP-C01E_HRB01A12 / Head River Branch / Tidal limit to mouth at Bush Mill Stream. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.020

CB5MH

VAP-C01E_IND01A98 / Indian Creek / VDH-DSS condemnation notice 016-057E, 12/19/2016 (not administratively condemned) and 016-057C, 12/19/2016 | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.147

Shrank in the 2018 cycle.

CB5MH

VAP-C01E_IND01B10 / Indian Creek / VDH-DSS condemnation notice 016-057A, 12/19/2016 (administratively condemned). | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.037

CB5MH

VAP-C01E_IND01C10 / Indian Creek / Downstream portion of condemnation notice 016-057A, 12/13/2006 open on 12/19/2016. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.137

CB5MH

VAP-C01E_IND01D14 / Indian Creek / Described in condemnation notice 016-057M2, 12/19/2016. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.131

Expanded upstream in the 2018 cycle.

CB5MH

VAP-C01E_IND01E16 / Indian Creek / Portion of condemnation notice 016-057A, 12/28/2012 that is open 12/19/2016. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.040

CB5MH

VAP-C01E_IND02A98 / Indian Creek / Described in the condemnation notice 016-057F, 12/19/2016. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.015

CB5MH

VAP-C01E_IND03A00 / Indian Creek / Indian Creek from end of condemnation 016-057A, 12/13/2006, downstream to mouth unless otherwise segmented. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.600

CB5MH

VAP-C01E_IND03B06 / Indian Creek / As described in VDH-DSS Seasonal Shellfish Condemnation 016-057M1, 12/19/2016 | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.017

CB5MH

VAP-C01E_JAR01A02 / Jarvis Creek, UT / As described in the condemnation notice 015-022F, 5/5/2014. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.026

CB5MH

VAP-C01E_JAR01B08 / Jarvis Creek / As described in VDH-DSS condemnation 015-022H, 5/9/2016. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.016

CB5MH

VAP-C01E_JAR02A10 / Jarvis Creek / Downstream of VDH condemnations | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.200

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH

VAP-C01E_JOH01A06 / Johnson Creek / As described in VDH-DSS SFC 016-024C, 12/30/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.029

CB5MH

VAP-C01E_LEE01A02 / Lees Cove / As described in the condemnation notice 016-024C, 1/28/2005	4A	Aquatic Plants (Macrophytes)	2006	L	0.015

CB5MH

VAP-C01E_LEE02A12 / Lees Cove / Portion of VDH-DSS SFC 016-024B, 12/16/2014 not impaired in 016-024C, 1/28/2005.	4A	Aquatic Plants (Macrophytes)	2006	L	0.010

CB5MH

VAP-C01E_LOC01A08 / Long Creek / Described in VDH condemnation 016-057D, 12/13/2006.	4A	Aquatic Plants (Macrophytes)	2006	L	0.017

CB5MH

VAP-C01E_LRC01A12 / Lawrence Cove / Described in the VDH-DSS condemnation 015-022B, 5/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.744

Shortened slightly in the 2018 cycle.

CB5MH

VAP-C01E_LTB01A02 / Little Bay / Little Bay	4A	Aquatic Plants (Macrophytes)	2006	L	1.178

CB5MH

VAP-C01E_LTM01A98 / Little Taskmakers Creek / Described in the condemnation notice 011-190B, 7/24/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.049

CB5MH

VAP-C01E_MIL01A98 / Mill Creek / Described in the condemnation notice 123, 6/2/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.241

CB5MH

VAP-C01E_MIL01B06 / Mill Creek / Mouth of Mill Creek at Ingram Bay	4A	Aquatic Plants (Macrophytes)	2006	L	1.173

CB5MH

VAP-C01E_MIL02A08 / Mill Creek / Portion of VDH Condemnation 014-123A, 5/9/2016 not included in the notice 123, 6/2/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.135

CB5MH

VAP-C01E_MIL03A08 / Mill Creek / Middle Mill Creek downstream of condemnation to Ingrams Bay	4A	Aquatic Plants (Macrophytes)	2006	L	0.356

CB5MH

VAP-C01E_NPC01A16 / Natty Point Cove / Described in VDH-DSS condemnation 015-022C, 5/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.018

CB5MH

VAP-C01E_OHC01A08 / Old House Cove / Described in VDH-DSS SFC 015-022F, 5/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.024

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH VAP-C01E_OWP01A98 / Owens Pond / Downstream of VDH-DSS condemnations 011-122B and 011-122C, 8/31/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.076
CB5MH VAP-C01E_OWP02B12 / Owens Pond / VDH-DSS condemnation 011-122B, 8/31/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.037
CB5MH VAP-C01E_OWP02C12 / Owens Pond / VDH-DSS condemnation 011-122C, 8/31/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.073
CB5MH VAP-C01E_OYS01A08 / Oyster Creek / Described in VDH condemnation 018-053A, 1/4/2005	4A	Aquatic Plants (Macrophytes)	2006	L	0.103
CB5MH VAP-C01E_PEN01A12 / Penny Creek / Described in VDH-DSS Condemnation 013-220D, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
CB5MH VAP-C01E_PIT01A14 / Pitmans Cove / Described in condemnation notice 016-057B, 12/19/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.035
CB5MH VAP-C01E_PNT02A02 / Prentice Creek / Downstream of DSS condemnation 015-022E, 5/9/2016 to its mouth.	4A	Aquatic Plants (Macrophytes)	2006	L	0.159
CB5MH VAP-C01E_PNT02B10 / Prentice Creek / Downstream limit of DSS condemnation 022C & D, 2/27/1997 to limit of 015-022E, 5/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.014
CB5MH VAP-C01E_PNT03A02 / Prentice Creek / Described in condemnation notice 022D, 2/27/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.015
CB5MH VAP-C01E_REA01A10 / Reason Creek / Described in VDH-DSS condemnation 013-220C, 8/23/2010	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
CB5MH VAP-C01E_TBS01A14 / Tabbs Creek, UT / Described in VDH-DSS condemnation notice 016-133B, 12/28/2012	4A	Aquatic Plants (Macrophytes)	2006	L	0.016
CB5MH VAP-C01E_TBS01A98 / Tabbs Creek / Described in VDH-DSS condemnation notice 016-133A, 12/19/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.054

Segment shrunk in the 2018 cycle.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB5MH VAP-C01E_TBS01B10 / Tabbs Creek / Portion of the condemnation notice 016-133A, 12/13/2006 open on 12/19/2016. Size increased in the 2018 cycle.	A	Aquatic Plants (Macrophytes)	2006	L	0.123
CB5MH VAP-C01E_TBS02A00 / Tabbs Creek / Tabbs Creek downstream of VDH-DSS SFC 016-133, 12/13/2006. Size adjusted in 2006 cycle.	A	Aquatic Plants (Macrophytes)	2006	L	0.175
CB5MH VAP-C01E_TIP01A98 / Tipers Creek / Described in the condemnation notice 89C, 5/28/1997	A	Aquatic Plants (Macrophytes)	2006	L	0.083
CB5MH VAP-C01E_TIP02A08 / Tipers Creek / Portion of condemnation notice 013-089E, 4/28/2016 not included in 89C, 5/28/1997	A	Aquatic Plants (Macrophytes)	2006	L	0.039
CB5MH VAP-C01E_TOW01A06 / Towles Creek / Described in VDH-DSS Shellfish Condemnation 014-123M1, 5/9/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.027
CB5MH VAP-C01E_TSK01A14 / Taskmakers Creek / As described in VDH-DSS condemnation 011-190C, 10/10/2012	A	Aquatic Plants (Macrophytes)	2006	L	0.021
CB5MH VAP-C01E_WCO01A98 / Warehouse Creek / Described in the condemnation notice 89E, 5/28/1997	A	Aquatic Plants (Macrophytes)	2006	L	0.069
CB5MH VAP-C01E_WCO02A08 / Warehouse Creek / Portion of VDH condemnation notice 013-220A, 4/28/2016 not included in 89E, 5/28/1997	A	Aquatic Plants (Macrophytes)	2006	L	0.008
CB5MH VAP-C01E_WHY01A98 / Whays Creek / Described in the condemnation notice 089D, 4/3/2002	A	Aquatic Plants (Macrophytes)	2006	L	0.041
CB5MH VAP-C01E_WHY03A10 / Whays Creek / Downstream of condemnation notice 089D, 4/3/2002.	A	Aquatic Plants (Macrophytes)	2006	L	0.099
CB5MH VAP-C01E_XDL01A02 / XDL - Chesapeake Bay, UT (aka Big Fleets Pond) / As described in condemnation notice 011-190A, 7/24/2014.	A	Aquatic Plants (Macrophytes)	2006	L	0.018
CB5MH VAP-C01E_XDZ01A10 / XDZ - Mill Creek, UT (Gascony Cove) / Tidal limit to mouth at Mill Creek	A	Aquatic Plants (Macrophytes)	2006	L	0.028

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C01E_XEO01A10 / XEO - Reason Creek, UT / Described in VDH-DSS Condemnation 013-220E, 4/28/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.001
CB5MH					
VAP-C01E_XES01A12 / XES - Dividing Creek, UT / Described in the VDH-DSS condemnation 015-022D, 5/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.029
CB5MH					
VAP-C01E_XEU01A02 / XEU - Prentice Creek, UT / Described in the condemnation notice 022C, 2/27/1997	4A	Aquatic Plants (Macrophytes)	2006	L	0.011
CB5MH					
VAP-C01E_XEV01A12 / XEV - Mill Creek, UT / Described in VDH-DSS condemnation 014-123C, 5/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.007
CB5MH					
VAP-C01E_XEW01A14 / XEW - Chesapeake Bay, UT / Tidal limit to mouth	4A	Aquatic Plants (Macrophytes)	2006	L	0.022
VAP-C01E_XFC02C12 / XFC - Antipoison Creek, UT / Described in VDH-DSS condemnation 017-188D, 12/16/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.002
CB5MH					
VAP-C01E_XUC01A98 / XUC - Dividing Creek, UT / Described in the condemnation notice 015-022C, 4/17/2008.	4A	Aquatic Plants (Macrophytes)	2006	L	0.013
CB5MH					
VAP-C01E_ZZZ01B14 / Unsegmented estuaries in C01 / Unsegmented portion of watershed CB03.	4A	Aquatic Plants (Macrophytes)	2006	L	0.058
CB5MH					
VAP-C01E_ZZZ01C14 / Unsegmented estuaries in C01 / Unsegmented portion of watershed CB04.	4A	Aquatic Plants (Macrophytes)	2006	L	0.823
CB5MH					
VAP-C01E_ZZZ01D14 / Unsegmented estuaries in C01 / Unsegmented portion of watershed CB05.	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
CB5MH					

Chesapeake Bay segment CB5MH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**212.707**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* CB6PH-DO-BAY** **Chesapeake Bay segment CB6PH**

Cause Location: This cause encompasses the complete CBP segment CB6PH.

City / County: Chesapeake Bay - County Not Applicable.

Use(s): Aquatic Life Deep-Water Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A Oxygen, Dissolved / 4D

The 30-day dissolved oxygen criteria for open water use meets for the 2018 assessment. The 30-day dissolved oxygen criteria also meets for the deep water use, but because there are insufficient data to assess the remaining shorter-term dissolved oxygen criteria for both of these uses, it is classified as having insufficient data.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-CB6N / Chesapeake Bay - Northern portion of CBP Segment CB6PH / This assessment unit is the mainstem northern portion of Chesapeake Bay Program segment CB6PH, located in the northeastern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4A	Oxygen, Dissolved	2006	L	127.195
VACB-R01E-CB6S / Chesapeake Bay - Southern portion of CBP Segment CB6PH / This assessment unit is the mainstem southern portion of Chesapeake Bay Program segment CB6PH, located in the northeastern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4D	Oxygen, Dissolved	2006	L	160.307

Chesapeake Bay segment CB6PH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**287.502**		

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Non-Point Source
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* CB6PH-SAV-BAY Chesapeake Bay segment CB6PH**

Cause Location: This cause encompasses the complete CBP segment CB6PH.

City / County: Chesapeake Bay - County Not Applicable. Multiple Jurisdictions

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

Submerged Aquatic Vegetation acres goal is 1,268 acres but only 42% was attained found in the most recent 3 years according to aerial analysis of SAV. Only 88% of water clarity goal met according to 2012 Dataflow survey (the other surveys out are outside of the assessment period.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-CB6N / Chesapeake Bay - Northern portion of CBP Segment CB6PH / This assessment unit is the mainstem northern portion of Chesapeake Bay Program segment CB6PH, located in the northeastern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	127.195
VACB-R01E-CB6S / Chesapeake Bay - Southern portion of CBP Segment CB6PH / This assessment unit is the mainstem southern portion of Chesapeake Bay Program segment CB6PH, located in the northeastern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	160.307
VAP-C04E_BOR01A18 / Borum Creek / Described in VDH-DSS condemnation 039-026C, 3/7/2016.	4A	Aquatic Plants (Macrophytes)	2016	L	0.028
CB6PH					
VAP-C04E_DOC01A98 / Doctors Creek / Portion of VDH condemnation notice 26B, 2/25/1997 open in 039-026, 3/7/2016.	4A	Aquatic Plants (Macrophytes)	2016	L	0.010
CB6PH					
VAP-C04E_DOC01B14 / Doctors Creek / Described in VDH-DSS condemnation notice 039-026B, 3/7/2016.	4A	Aquatic Plants (Macrophytes)	2016	L	0.005
CB6PH					
VAP-C04E_DYE01A08 / Dyer Creek / Described in VDH-DSS Condemnation 039-100A, 2/24/2011.	4A	Aquatic Plants (Macrophytes)	2016	L	0.015
CB6PH					
VAP-C04E_DYE02A04 / Dyer Creek / Downstream limit of condemnation to mouth.	4A	Aquatic Plants (Macrophytes)	2016	L	0.272
CB6PH					
VAP-C04E_GDN01A06 / Garden Creek / Tidal limit to mouth.	4A	Aquatic Plants (Macrophytes)	2016	L	0.373
CB6PH					
VAP-C04E_HAH01A98 / Horn Harbor / Described in VDH condemnation notices 039-026A and -026E, 3/7/2016.	4A	Aquatic Plants (Macrophytes)	2016	L	0.146

Size increased in the 2018 cycle.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

CB6PH

VAP-C04E_HAH02A02 / Horn Harbor / From VDH-DSS condemnation 26A, 2/25/1997 downstream to the mouth, unless otherwise segmented. 4A Aquatic Plants (Macrophytes) 2016 L 1.474

CB6PH

VAP-C04E_HAH02B12 / Horn Harbor, UT / Described in VDH-DSS condemnation 039-026M2, 3/7/2016. 4A Aquatic Plants (Macrophytes) 2016 L 0.004

CB6PH

VAP-C04E_HAH02C12 / Horn Harbor / Portion of VDH-DSS condemnation 26A, 2/25/1997 open in the 039-026, 3/7/2016 condemnation. 4A Aquatic Plants (Macrophytes) 2016 L 0.054

Size reduced in the 2018 cycle.

CB6PH

VAP-C04E_HAH02D18 / Horn Harbor, UT / Described in VDH-DSS condemnation 039-026D, 3/7/2016. 4A Aquatic Plants (Macrophytes) 2016 L 0.005

CB6PH

VAP-C04E_HAH03A06 / Horn Harbor / Described in VDH-DSS SFC 039-026M1, 3/7/2016. 4A Aquatic Plants (Macrophytes) 2016 L 0.035

Size decreased in the 2018 cycle.

CB6PH

VAP-C04E_HAH04A06 / Horn Harbor, UT (Jacks Creek) / Described in VDH Shellfish Condemnation 039-100M1, 3/6/2013. 4A Aquatic Plants (Macrophytes) 2016 L 0.016

CB6PH

VAP-C04E_WIN01A06 / Winter Harbor, UT / Described in the condemnation notice 038-178B, 3/7/2016. 4A Aquatic Plants (Macrophytes) 2016 L 0.108

Expanded in the 2018 cycle.

CB6PH

VAP-C04E_WIN01B00 / Winter Harbor / Lower Winter Harbor, not otherwise segmented. 4A Aquatic Plants (Macrophytes) 2016 L 0.183

CB6PH

VAP-C04E_WIN02B06 / Winter Harbor / Described in VDH-DSS SFC 038-178M1, 3/7/2016. 4A Aquatic Plants (Macrophytes) 2016 L 0.037

CB6PH

VAP-C04E_WIN03A06 / Winter Harbor / Northern portion of Winter Harbor 4A Aquatic Plants (Macrophytes) 2016 L 0.736

CB6PH

VAP-C04E_WIN03B18 / Winter Harbor / Described in VDH-DSS condemnation 038-176A, 3/7/2016. 4A Aquatic Plants (Macrophytes) 2016 L 0.422

CB6PH

VAP-C04E_ZZZ02A06 / Unsegmented estuaries in C04 / 4A Aquatic Plants (Macrophytes) 2016 L 0.076

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Unsegmented portion within CB6PH

Chesapeake Bay segment CB6PH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**291.500**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* CB7PH-DO-BAY** **Chesapeake Bay segment CB7PH**

Cause Location: This cause encompasses the complete CBP segment CB7PH.

City / County: Accomack Co. Chesapeake Bay - Countywide Northampton Co.

Use(s): Aquatic Life Deep-Water Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A Oxygen, Dissolved / 4D

The 30-day dissolved oxygen criteria for the open water use failed for the 2018 assessment. The 30-day dissolved oxygen criteria for the deep water use was met. There are insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-04CE / Chesapeake Bay - Cape Charles BSS #089-011, Section A. / Va Dept of Health Shellfish (administrative) condemnation #089-011, Opposite Cape Charles City, Section A. HUC: 02080101.[effective 2005-3-08]	4A	Oxygen, Dissolved	2006	L	0.312
VACB-R01E-CB7N / Chesapeake Bay - Northern portion of CBP Segment CB7PH / This assessment unit is the mainstem northern portion of Chesapeake Bay Program segment CB7PH, located in the northwestern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4A	Oxygen, Dissolved	1998	L	168.626
VACB-R01E-CB7S / Chesapeake Bay - Southern portion of CBP Segment CB7PH / This assessment unit is the mainstem southern portion of Chesapeake Bay Program segment CB7PH, located in the southwestern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4A	Oxygen, Dissolved	1998	L	372.814
VAT-C10E_DEP01A06 / Deep Creek - Middle / East of town of Bayside. Middle portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150708).	4A	Oxygen, Dissolved	2006	L	0.090
VAT-C10E_DEP01B10 / Deep Creek - Upper / East of town of Bayside. Upper portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150108).	4A	Oxygen, Dissolved	2006	L	0.114
VAT-C10E_DEP02A06 / Deep Creek - Lower / East of town of Bayside. Lower portion of creek, from RM 1.6 downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 077-138 (effective 20150708).	4A	Oxygen, Dissolved	2006	L	0.489
VAT-C10E_DEP03A08 / Deep Creek - Lower [No DSS] / East of town of Bayside. Lower portion of creek, from RM 1.6 downstream to mouth. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Oxygen, Dissolved	2006	L	0.220
VAT-C10E_ISB01A06 / Island Bay - [No DSS] / Between Russell Island & Long Ridge area. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnations.	4A	Oxygen, Dissolved	2006	L	0.953
VAT-C10E_ZZZ01A06 / Unsegmented Bay Waters in C10E-CB7PH. / Evaluated non-segmented Bay Waters in C10E not contained within VACB-R01E-CB7S. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnations.	4A	Oxygen, Dissolved	2006	L	1.415
VAT-C11E_CED01A00 / Cedar Creek / Entire estuarine portion of creek. North shore tributary of Onancock Creek. Portion of CBP	4A	Oxygen, Dissolved	2006	L	0.063

segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 C (effective 20131120).					
VAT-C11E_CSX01A00 / Chesconessex Creek - South Br. - Upper / South of Chesconessex and northwest of Onancock. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 A (effective 20150708).	4A	Oxygen, Dissolved	2006	L	0.109
VAT-C11E_CSX01B10 / Chesconessex Creek - South Br. - Middle / South of Chesconessex and northwest of Onancock. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 OPEN(effective 20150708).	4A	Oxygen, Dissolved	2006	L	0.100
VAT-C11E_CSX02A06 / Chesconessex Creek - N. Branch / Lower portion of Creek, including tidal tribs., from the end DSS condemnation # 079-112 downstream to mouth. Portion of CBP segment CB7PH. Part of area contains no DSS Condemnation remainder is OPEN 079-112 (20150708).	4A	Oxygen, Dissolved	2006	L	1.832
VAT-C11E_CSX02B10 / Chesconessex Creek - N. Branch / North Branch portion of creek at marina area. DSS Admin condemnation # 079-112 B (effective 20150708). Portion of CBP segment CB7PH.	4A	Oxygen, Dissolved	2006	L	0.030
VAT-C11E_FNN01A00 / Finneys Creek - Upper / East of Bailey Neck area. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 B (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.069
VAT-C11E_FNN02A00 / Finneys Creek - Lower / East of Bailey Neck area. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.119
VAT-C11E_LTH01A00 / Leatherberry Creek / Entire estuarine portion of creek. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 081-013 A (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.070
VAT-C11E_MTC01A06 / Matchotank Creek - Upper / South of Broadway Neck area. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-169 (effective 20071219).	4A	Oxygen, Dissolved	2006	L	0.069
VAT-C11E_MTC02A06 / Matchotank Creek - Lower / South of Broadway Neck area. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-169 (effective 20071219) & no DSS area identified.	4A	Oxygen, Dissolved	2006	L	0.116
VAT-C11E_OCB01A00 / Central Branch, Onancock Creek / CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.018
VAT-C11E_OCN01A04 / Onancock Creek Mainstem - Upper [Admin Cond] / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation (by Finneys Wharf. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.129
VAT-C11E_OCN01C10 / Onancock Creek Mainstem - Upper / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation near Finneys Wharf. CBP segment CB7PH. Portion of DSS shellfish condemnation # 081-013 (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.097
VAT-C11E_OCN02A04 / Onancock Creek Mainstem - Lower / East of Bailey Neck area. Mainstem of Onancock Creek- lower. From Finneys Wharf downstream to mouth. Portion of CBP segment	4A	Oxygen, Dissolved	2006	L	1.953

CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (effective 20131120).					
VAT-C11E_OCN02B08 / Onancock Creek Mainstem - Poplar Cove / East of Bailey Neck area. Mainstem of Onancock Creek. Marina in area of Poplar Cove. Portion of CBP segment CB7PH. DSS (SEASONAL) shellfish direct harvesting condemnation # 080-013 M2 (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.016
VAT-C11E_ONB01A02 / North Branch, Onancock Creek / Located near Town of Onancock. Entire North Branch, Onancock Creek. CBP segment CB7PH. DSS shellfish condemnation (Admin Cond-PROHIBITION) # 081-013 D (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.021
VAT-C11E_OSB01A02 / Southern Branch, Onancock Creek / Near Town of Onancock. Entire Southern Branch Onancock Creek. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 081-013 A (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.058
VAT-C11E_PRK01A08 / Parkers Creek - Upper / South shore tributary of Onancock Creek at Finneys Neck. Upstream portion of creek. Portion of CBP segment CB7PH. DSS shellfish OPEN direct harvesting condemnation # 080-013 (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.035
VAT-C11E_PRK02A08 / Parkers Creek - Middle / South shore tributary of Onancock Creek at Finneys Neck. Middle portion of creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.041
VAT-C11E_PRK03A08 / Parkers Creek - Lower / South shore tributary of Onancock Creek at Finneys Neck. Area around marina at mouth of Parkers Creek. Portion of CBP segment CB7PH. DSS shellfish seasonal condemnation # 080-013 M1 (effective 20131120).	4A	Oxygen, Dissolved	2006	L	0.086
VAT-C11E_TAR01A06 / Tarkill Creek / Located in Sluitkill Neck area. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Oxygen, Dissolved	2006	L	0.190
VAT-C11E_ZZZ01A00 / Unsegmented estuaries in C11E. / Evaluated non segmented portions of C11E not contained within VACB-R01E-CB7S. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (20131120).	4A	Oxygen, Dissolved	2006	L	1.538
VAT-C12E_PUN01A06 / Pungoteague Creek - Upper / W of Melfa. Upper portion of Pungoteague Cr. from the end of tidal waters downstream to Boggs Wharf and Route 634. CBP segment CB7PH. DSS condemnation # 081-119 B (effective 20130325).	4A	Oxygen, Dissolved	2006	L	0.232
VAT-C12E_PUN01B16 / Pungoteague Creek - Middle-Upper / W of Melfa. Upper portion of Pungoteague Cr. from the Boggs Warf to Horse Hole Creek. CBP segment CB7PH. DSS OPEN condemnation OPEN # 081-119 (effective 20160401).	4A	Oxygen, Dissolved	2006	L	0.262
VAT-C12E_PUN02A06 / Pungoteague Creek - Lower / Located west of Town of Melfa. Lower portion of Pungoteague Cr. from Horse Hole Creek downstream to mouth. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 081-119 (effective 20160401).	4A	Oxygen, Dissolved	2006	L	1.186
VAT-C12E_TAY01A06 / Taylor Creek / Located southwest of Harborton. From the end of tidal waters downstream Route 628 and Eastern Shore Yacht Club. Portion of CBP segment CB7PH. Portion of DSS condemnation # 081-119 C (effective 20160401).	4A	Oxygen, Dissolved	2006	L	0.130
VAT-C12E_TAY02A14 / Taylor Creek- Mouth / Located southwest of Harborton. From Route 628 and Eastern Shore Yacht Club to	4A	Oxygen, Dissolved	2006	L	0.035

Puncoteague confluence. Portion of CBP segment CB7PH. Portion of DSS condemnation # 081-119 OPEN &M1 (effective 20160401).					
VAT-C12E_UNR01A06 / Underhill Creek / In area of Mount Nebo. North shore tributary to Pungoteague Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 081-119 A (effective 20160401).	4A	Oxygen, Dissolved	2006	L	0.070
VAT-C12E_WRP01A06 / Warehouse Prong - Upper / Located north of Bobtown and east of Boggs Wharf. Upper portion, from headwaters to confluence with UT. Portion of CBP segment CB7PH. Portion of DSS (Admin Cond) condemnation # 081-119 D (effective 20160401).	4A	Oxygen, Dissolved	2006	L	0.042
VAT-C12E_WRP02A06 / Warehouse Prong - Lower / Located north of Bobtown and east of Boggs Wharf. Lower portion, from confluence with UT downstream to confluence with Pungoteague Cr. Portion of CBP segment CB7PH. DSS (Admin Cond) condemnation # 081-119 B (effective 20160401).	4A	Oxygen, Dissolved	2006	L	0.054
VAT-C12E_ZZZ01A00 / Unsegmented Bay Waters in C12E. / Evaluated non segmented portions of C12E, UT south of Pungoteague Cr. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Oxygen, Dissolved	2006	L	0.002
VAT-C13E_BCE01A08 / Back Creek / Southwest of Fairview Neck area. North shore tributary of Nandua Cr. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Oxygen, Dissolved	2006	L	0.141
VAT-C13E_BOS01A08 / Boggs Gut / Southwest of Fairview Neck area. South shore tributary of Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Oxygen, Dissolved	2006	L	0.034
VAT-C13E_CHC01A00 / Church Creek / In area of Elliotts Neck. Tributary to Nassawadox Creek. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 085-185 (effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.430
VAT-C13E_CHC01B16 / Church Creek -Upper / In area of Elliotts Neck. Tributary to Nassawadox Creek, upstream portion of Church Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-185 B (effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.108
VAT-C13E_CHC01C10 / Church Creek - Middle- UT North Cove / In area of Elliotts Neck. Tributary to Church Creek - Middle, UT North Cove. Portion of CBP segment CB7PH. DSS shellfish harvesting condemnation # 085-185 A (effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.059
VAT-C13E_CRA01A06 / Craddock Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to end of shellfish condemnation (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 083-195 A (effective 20121210).	4A	Oxygen, Dissolved	2006	L	0.082
VAT-C13E_CRA02A08 / Craddock Creek - Lower and UT / Most of Craddock Cr. excluding SF condemnation in upper creek. Including all tribs. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 083-195 (effective 20121210).	4A	Oxygen, Dissolved	2006	L	0.911
VAT-C13E_CRR01A08 / Curratuck Creek / Southwest of Fairview Neck area. Lower south shore tributary of middle Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Oxygen, Dissolved	2006	L	0.277
VAT-C13E_HGC01A06 / Holly Grove Cove / Located near	4A	Oxygen, Dissolved	2006	L	0.143

Wellington Neck. From end of tidal waters downstream to mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-110 E (effective 20161013).					
VAT-C13E_KLL01A06 / Kelley Cove / From end of tidal waters downstream to confluence with Nassawadox Cr. (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 D (effective 201610137).	4A	Oxygen, Dissolved	2006	L	0.026
VAT-C13E_MAG01A08 / McLean Gut - Upper / Southwest of Fairview Neck area. Middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 B (effective 20160330).	4A	Oxygen, Dissolved	2006	L	0.038
VAT-C13E_MAG02A08 / McLean Gut - Lower / Southwest of Fairview Neck area. Middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Oxygen, Dissolved	2006	L	0.032
VAT-C13E_NAN01A00 / Nandua Creek - Upper [TMDL-bact.] / Southeast of Hacks Neck area. The two most upstream branches of Nandua Creek, incl. Kusian Cove. Portion of CBP segment CB7PH. DSS condemnation # 082-160 A&C (effective 20160330).	4A	Oxygen, Dissolved	2006	L	0.144
VAT-C13E_NAN01B08 / Nandua Creek - Lower Upper / Southwest of Fairview Neck area. North shore tributary of Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Oxygen, Dissolved	2006	L	0.223
VAT-C13E_NAN02A06 / Nandua Creek - Lower / Lower portion of Nandua Creek including unsegmented tidal tribs., from the confluence of Boggs Gut downstream to mouth (RM 0.0). Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Oxygen, Dissolved	2006	L	3.150
VAT-C13E_NSS01A06 / Nassawadox Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to confluence with Kelly Cove (RM 5.2) area of TMDL-bact 6/07. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 B (effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.205
VAT-C13E_NSS01B08 / Nassawadox Creek - Upper / From confluence with Kelly Cove (RM 5.2) downstream to mainstem (outside of area of TMDL-bact 6/07). Portion of CBP segment CB7PH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 085-110 (effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.169
VAT-C13E_NSS02A06 / Nassawadox Creek - Lower / Mainstem of lower portion of creek to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 085-110 & 085-185 (effective 20161013).	4A	Oxygen, Dissolved	2006	L	2.121
VAT-C13E_NSS03A08 / Nassawadox Creek - Middle, N. Shore Tribs / Occohannock Neck Area. North Shore UTs to lower-middle mainstem Nassawadox. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 A &C(effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.126
VAT-C13E_OCH01A06 / Occohannock Creek - Upper / Upper portion of Occohannock Creek and tidal tribs., from end of tidal waters downstream to the confluence of Wescott Cove (RM 5.3). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 A (effective 2016116).	4A	Oxygen, Dissolved	2006	L	0.538
VAT-C13E_OCH02A06 / Occohannock Creek - Lower / Lower portion of Occohannock Creek and tidal tribs., from downstream of Youngs Pt. to mouth (RM 0.0). Portion of CBP segment CB7PH. DSS	4A	Oxygen, Dissolved	2006	L	2.469

(OPEN) shellfish direct harvesting condemnation # 084-043 (effective 20161116).					
VAT-C13E_OCH02B08 / Occohannock Creek - Middle Marina Area / In middle portion of Occohannock Creek, marina area of Davis Wharf. Portion of CBP segment CB7PH. DSS SEASONAL shellfish direct harvesting condemnation # 084-043 M1 (effective 20161116).	4A	Oxygen, Dissolved	2006	L	0.034
VAT-C13E_OCH03A08 / Shields Cove & Fisher Cove / West of Belle Haven area. North and South shore tributaries of Occohannock Cr., NW of Youngs Pt. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 B & C (effective 20161116).	4A	Oxygen, Dissolved	2006	L	0.087
VAT-C13E_WHC01A06 / Warehouse Creek - Upper / Southeast fork of upper portion of creek. Portion of CBP segment CB7PH. DSS ADMIN-PROHIB shellfish direct harvesting condemnation # 085-110 F (effective 20161013) (VPDES outfall condemnation for Shore Memorial Hospital STP VA0027537).	4A	Oxygen, Dissolved	2006	L	0.032
VAT-C13E_WHC01B10 / Warehouse Creek - Upper Middle (Admin Cond) / Including northern fork and continuing downstream to bend near Wellington Neck. Portion of CBP segment CB7PH. DSS (Admin Cond) shellfish direct harvesting condemnation # 085-110C (effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.166
VAT-C13E_WHC02A06 / Warehouse Creek - Lower / Including bend near Wellington Neck to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 085-110 (effective 20161013).	4A	Oxygen, Dissolved	2006	L	0.246
VAT-C13E_ZZZ01A00 / Unsegmented estuaries in C13E. / Evaluated non segmented portions of C13E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Oxygen, Dissolved	2006	L	0.752
VAT-C14E_BRL01A06 / Barlow Creek / In area of Old Town Neck. South shore tributary to lower Mattawoman Cr. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.049
VAT-C14E_HUG01A00 / Hungars Creek - Upper / Upper portion of Hungars Creek from end tidal waters downstream to Waterford Point (RM 1.8) @ confluence with Jacobus Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 A (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.138
VAT-C14E_HUG02A00 / Hungars Creek - Lower / Lower portion of Hungars Creek from Waterford Point (RM 1.8) @ confluence with Jacobus Cr. downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Oxygen, Dissolved	2006	L	1.187
VAT-C14E_HUG02B12 / UT to Hungars Creek / Northern trib between Great Neck and Sparrow Point. Restricted portion of SF. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 E (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.039
VAT-C14E_HUG02C14 / Hungars Creek - Northern Trib / Lower portion of Hungars Creek, Trib north of the mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 D (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.073
VAT-C14E_JAC01A06 / Jacobus Creek - Upper South Fork / West of Johnsontown. Trib to Hungars Cr. Uppermost portion of south branch. Portion of CBP segment CB7PH. DSS (Admin - Prohibition) due to STP VA0023817 Outfall) shellfish direct harvesting condemnation # 086-136F (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.028

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Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C14E_JAC02A06 / Jacobus Creek - Upper Forks / West of Johnsontown. Trib to Hungars Cr. Middle mainstem, north fork and lower portion of south fork. Portion of CBP segment CB7PH. DSS (Admin Cond) shellfish direct harvesting condemnation # 086-136 B (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.152
VAT-C14E_JAC03A06 / Jacobus Creek - Lower / West of Johnsontown. South shore trib. to Hungars Cr. Lower mainstem portion. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.187
VAT-C14E_MAT01A06 / Mattawoman Creek - Upper / South of Wilsonia Neck. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 C (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.155
VAT-C14E_MAT02A10 / Mattawoman Creek - Lower / South of Wilsonia Neck - mouth of Mattawoman Cr. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.357
VAT-C14E_THG01A06 / The Gulf - Upper / From end of tidal waters downstream to narrowing 0.45 mi. from mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 087-174 A (effective 20150827).	4A	Oxygen, Dissolved	2006	L	0.090
VAT-C14E_THG02A06 / The Gulf - Lower / From narrowing 0.45 mi. from mouth downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish condemnation # 087-174 (20150827) & no DSS.	4A	Oxygen, Dissolved	2006	L	0.204
VAT-C14E_WHS01A06 / Westerhouse Creek - North Branch& Upper Middle [TMDL] / In Church Neck area, west of Bridgetown. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-199 (20161013).	4A	Oxygen, Dissolved	2006	L	0.243
VAT-C14E_WHS02A06 / Westerhouse Creek - Upper South Branch [TMDL] / In Church Neck area, west of Bridgetown. Upper portion of Westerhouse Creek South Branch. Portion of CBP segment CB7PH. Portion DSS shellfish direct harvesting condemnation # 085-199 A (effective 20130924).	4A	Oxygen, Dissolved	2006	L	0.019
VAT-C14E_ZZZ01A00 / Unsegmented estuaries in C14E. / Evaluated non segmented portions of C14E - mouth of Matchotank & Hungars Crs. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136.	4A	Oxygen, Dissolved	2006	L	0.838
VAT-C15E_CCB01A06 / Cape Charles Beach / Located west of Town of Cape Charles, along Chesapeake Bay. Portion of CBP segment CB7PH. DSS (Administrative) shellfish harvesting condemnation 089-011 A (effective 20051202) which is present.	4A	Oxygen, Dissolved	2006	L	0.079
VAT-C15E_CRS01A06 / Cherrystone Inlet - Upper / From Eyreville Neck end of tidal waters downstream to confluence with Chesapeake Bay. Including Old Castle Cr. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 088-139 (20161227).	4A	Oxygen, Dissolved	2006	L	2.381
VAT-C15E_CRS01B18 / Cherrystone Inlet - Eyrehall Cr / SE trib to Cherryston Inlet. Portion of CBP segment CB7PH. DSS Restricted shellfish direct harvesting condemnation # 088-139 B(20161227).	4A	Oxygen, Dissolved	2006	L	0.103
VAT-C15E_KNS01A00 / Kings Creek - Upper Forks and Middle / From end of tidal waters downstream 0.16 mi. past confluence of the two most upstream forks. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 088-139 A (20161227).	4A	Oxygen, Dissolved	2006	L	0.093
VAT-C15E_KNS03A08 / Kings Creek - Lower Middle / From start of	4A	Oxygen, Dissolved	2006	L	0.247

Chesapeake Bay/Atlantic/Small Coastal Basins

DSS marina area downstream to Cherrystone. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 088-139 (20161227) &Seasonal Condemnation M1.					
VAT-C15E_ZZZ01A08 / Unsegmented estuaries in C15E. / Evaluated non segmented portions of C15E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Oxygen, Dissolved	2006	L	0.587
VAT-C16E_CCH01A04 / Cape Charles Harbor - Upper / From most upstream end of harbor downstream to 1/2 distance to mouth (RM 0.23). Portion of CBP segment CB7PH. DSS ADMINISTRATIVE shellfish harvesting condemnation # 089-011 B (effective 20051202) (VPDES outfall Town of Cape Charles STP VA0021288).	4A	Oxygen, Dissolved	2006	L	0.056
VAT-C16E_CCH02A00 / Cape Charles Harbor - Lower / From 1/2 distance to mouth (RM 0.23) downstream to mouth. Portion of CBP segment CB7PH. DSS ADMINISTRATIVE shellfish harvesting condemnation # 089-011 A (effective 20051202) (VPDES outfall Town of Cape Charles STP VA0021288).	4A	Oxygen, Dissolved	2006	L	0.060
VAT-C16E_KPT01A06 / Kiptopeke Beach / Located west of Cedar Grove, along Chesapeake Bay, near southern tip of Eastern Shore. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation present.	4A	Oxygen, Dissolved	2006	L	0.044
VAT-C16E_OPC01A06 / Old Plantation Creek - Upper [TMDL-bact] / Upper portion of Old Plantation Creek within TMDL-Bact (33771). CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	4A	Oxygen, Dissolved	2006	L	0.044
VAT-C16E_OPC01B08 / Old Plantation Creek - Upper [No TMDL-bact] / Upper portion of Old Plantation Creek and one southeast embayment not within TMDL-Bact (33771). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	4A	Oxygen, Dissolved	2006	L	0.152
VAT-C16E_OPC02A00 / Old Plantation Creek - Lower / Lower portion of Old Plantation Creek, from approx. Red Bank (RM 2.0) downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 090-152 (20151222).	4A	Oxygen, Dissolved	2006	L	0.926
VAT-C16E_ZZZ01A00 / Unsegmented estuaries in C16E. / Evaluated non segmented portions of C16E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Oxygen, Dissolved	2006	L	0.146

Chesapeake Bay segment CB7PH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**575.220**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* CB7PH-SAV-BAY Chesapeake Bay segment CB7PH**

Cause Location: This cause encompasses the complete CPB segment CB7PH.

City / County: Accomack Co. Chesapeake Bay - County Not Applicable.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The acres of submerged aquatic vegetation (SAV) mapped through aerial surveys does not meet the criteria. Aerial analysis of SAV over the three most recent years of data indicate segment is short of this goal by 50%. There is insufficient data to assess the water clarity criteria.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-04CE / Chesapeake Bay - Cape Charles BSS #089-011, Section A. / Va Dept of Health Shellfish (administrative) condemnation #089-011, Opposite Cape Charles City, Section A. HUC: 02080101.[effective 2005-3-08]	4A	Aquatic Plants (Macrophytes)	2006	L	0.312
VACB-R01E-CB7N / Chesapeake Bay - Northern portion of CBP Segment CB7PH / This assessment unit is the mainstem northern portion of Chesapeake Bay Program segment CB7PH, located in the northwestern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	168.626
VACB-R01E-CB7S / Chesapeake Bay - Southern portion of CBP Segment CB7PH / This assessment unit is the mainstem southern portion of Chesapeake Bay Program segment CB7PH, located in the southwestern half of the Virginia Chesapeake Bay between the mouths of the James and Rappahannock Rivers. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	372.814
VAT-C10E_DEP01A06 / Deep Creek - Middle / East of town of Bayside. Middle portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.090
VAT-C10E_DEP01B10 / Deep Creek - Upper / East of town of Bayside. Upper portion of creek adjacent to Town of Deep Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 077-138 C (effective 20150108).	4A	Aquatic Plants (Macrophytes)	2006	L	0.114
VAT-C10E_DEP02A06 / Deep Creek - Lower / East of town of Bayside. Lower portion of creek, from RM 1.6 downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 077-138 (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.489
VAT-C10E_DEP03A08 / Deep Creek - Lower [No DSS] / East of town of Bayside. Lower portion of creek, from RM 1.6 downstream to mouth. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.220
VAT-C10E_ISB01A06 / Island Bay - [No DSS] / Between Russell Island & Long Ridge area. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	0.953
VAT-C10E_ZZZ01A06 / Unsegmented Bay Waters in C10E-CB7PH. / Evaluated non-segmented Bay Waters in C10E not contained within VACB-R01E-CB7S. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	1.415
VAT-C11E_CED01A00 / Cedar Creek / Entire estuarine portion of	4A	Aquatic Plants (Macrophytes)	2006	L	0.063

creek. North shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 C (effective 20131120).					
VAT-C11E_CSX01A00 / Chesconessex Creek - South Br. - Upper / South of Chesconessex and northwest of Onancock. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 A (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.109
VAT-C11E_CSX01B10 / Chesconessex Creek - South Br. - Middle / South of Chesconessex and northwest of Onancock. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 OPEN(effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.100
VAT-C11E_CSX02A06 / Chesconessex Creek - N. Branch / Lower portion of Creek, including tidal tribs., from the end DSS condemnation # 079-112 downstream to mouth. Portion of CBP segment CB7PH. Part of area contains no DSS Condemnation remainder is OPEN 079-112 (20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	1.832
VAT-C11E_CSX02B10 / Chesconessex Creek - N. Branch / North Branch portion of creek at marina area. DSS Admin condemnation # 079-112 B (effective 20150708). Portion of CBP segment CB7PH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.030
VAT-C11E_FNN01A00 / Finneys Creek - Upper / East of Bailey Neck area. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 B (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.069
VAT-C11E_FNN02A00 / Finneys Creek - Lower / East of Bailey Neck area. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.119
VAT-C11E_LTH01A00 / Leatherberry Creek / Entire estuarine portion of creek. South shore tributary of Onancock Creek. Portion of CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 081-013 A (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.070
VAT-C11E_MTC01A06 / Matchotank Creek - Upper / South of Broadway Neck area. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-169 (effective 20071219).	4A	Aquatic Plants (Macrophytes)	2006	L	0.069
VAT-C11E_MTC02A06 / Matchotank Creek - Lower / South of Broadway Neck area. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-169 (effective 20071219) & no DSS area identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.116
VAT-C11E_OCB01A00 / Central Branch, Onancock Creek / CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.018
VAT-C11E_OCN01A04 / Onancock Creek Mainstem - Upper [Admin Cond] / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation (by Finneys Wharf. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 080-013 A (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.129
VAT-C11E_OCN01C10 / Onancock Creek Mainstem - Upper / Near Town of Onancock. From junction of N, Central & S Brs downstream to end of DSS condemnation near Finneys Wharf. CBP segment CB7PH. Portion of DSS shellfish condemnation # 081-013 (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.097
VAT-C11E_OCN02A04 / Onancock Creek Mainstem - Lower / East of Bailey Neck area. Mainstem of Onancock Creek- lower. From	4A	Aquatic Plants (Macrophytes)	2006	L	1.953

Finneys Wharf downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (effective 20131120).					
VAT-C11E_OCN02B08 / Onancock Creek Mainstem - Poplar Cove / East of Bailey Neck area. Mainstem of Onancock Creek. Marina in area of Poplar Cove. Portion of CBP segment CB7PH. DSS (SEASONAL) shellfish direct harvesting condemnation # 080-013 M2 (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.016
VAT-C11E_ONB01A02 / North Branch, Onancock Creek / Located near Town of Onancock. Entire North Branch, Onancock Creek. CBP segment CB7PH. DSS shellfish condemnation (Admin Cond-PROHIBITION) # 081-013 D (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
VAT-C11E_OSB01A02 / Southern Branch, Onancock Creek / Near Town of Onancock. Entire Southern Branch Onancock Creek. CBP segment CB7PH. Portion of DSS (Admin Cond) shellfish condemnation # 081-013 A (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.058
VAT-C11E_PRK01A08 / Parkers Creek - Upper / South shore tributary of Onancock Creek at Finneys Neck. Upstream portion of creek. Portion of CBP segment CB7PH. DSS shellfish OPEN direct harvesting condemnation # 080-013 (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.035
VAT-C11E_PRK02A08 / Parkers Creek - Middle / South shore tributary of Onancock Creek at Finneys Neck. Middle portion of creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 080-013 (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.041
VAT-C11E_PRK03A08 / Parkers Creek - Lower / South shore tributary of Onancock Creek at Finneys Neck. Area around marina at mouth of Parkers Creek. Portion of CBP segment CB7PH. DSS shellfish seasonal condemnation # 080-013 M1 (effective 20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	0.086
VAT-C11E_TAR01A06 / Tarkill Creek / Located in Sluitkill Neck area. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.190
VAT-C11E_ZZZ01A00 / Unsegmented estuaries in C11E. / Evaluated non segmented portions of C11E not contained within VACB-R01E-CB7S. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 080-013 (20131120).	4A	Aquatic Plants (Macrophytes)	2006	L	1.538
VAT-C12E_PUN01A06 / Pungoteague Creek - Upper / W of Melfa. Upper portion of Pungoteague Cr. from the end of tidal waters downstream to Boggs Wharf and Route 634. CBP segment CB7PH. DSS condemnation # 081-119 B (effective 20130325).	4A	Aquatic Plants (Macrophytes)	2006	L	0.232
VAT-C12E_PUN01B16 / Pungoteague Creek - Middle-Upper / W of Melfa. Upper portion of Pungoteague Cr. from the Boggs Warf to Horse Hole Creek. CBP segment CB7PH. DSS OPEN condemnation OPEN # 081-119 (effective 20160401).	4A	Aquatic Plants (Macrophytes)	2006	L	0.262
VAT-C12E_PUN02A06 / Pungoteague Creek - Lower / Located west of Town of Melfa. Lower portion of Pungoteague Cr. from Horse Hole Creek downstream to mouth. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 081-119 (effective 20160401).	4A	Aquatic Plants (Macrophytes)	2006	L	1.186
VAT-C12E_TAY01A06 / Taylor Creek / Located southwest of Harborton. From the end of tidal waters downstream Route 628 and Eastern Shore Yacht Club. Portion of CBP segment CB7PH. Portion of DSS condemnation # 081-119 C (effective 20160401).	4A	Aquatic Plants (Macrophytes)	2006	L	0.130
VAT-C12E_TAY02A14 / Taylor Creek- Mouth / Located southwest	4A	Aquatic Plants (Macrophytes)	2006	L	0.035

of Harborton. From Route 628 and Eastern Shore Yacht Club to Puncoteague confluence. Portion of CBP segment CB7PH. Portion of DSS condemnation # 081-119 OPEN &M1 (effective 20160401).					
VAT-C12E_UNR01A06 / Underhill Creek / In area of Mount Nebo. North shore tributary to Pungoteague Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 081-119 A (effective 20160401).	4A	Aquatic Plants (Macrophytes)	2006	L	0.070
VAT-C12E_WRP01A06 / Warehouse Prong - Upper / Located north of Bobtown and east of Boggs Wharf. Upper portion, from headwaters to confluence with UT. Portion of CBP segment CB7PH. Portion of DSS (Admin Cond) condemnation # 081-119 D (effective 20160401).	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
VAT-C12E_WRP02A06 / Warehouse Prong - Lower / Located north of Bobtown and east of Boggs Wharf. Lower portion, from confluence with UT downstream to confluence with Pungoteague Cr. Portion of CBP segment CB7PH. DSS (Admin Cond) condemnation # 081-119 B (effective 20160401).	4A	Aquatic Plants (Macrophytes)	2006	L	0.054
VAT-C12E_ZZZ01A00 / Unsegmented Bay Waters in C12E. / Evaluated non segmented portions of C12E, UT south of Pungoteague Cr. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.002
VAT-C13E_BCE01A08 / Back Creek / Southwest of Fairview Neck area. North shore tributary of Nandua Cr. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Aquatic Plants (Macrophytes)	2006	L	0.141
VAT-C13E_BOS01A08 / Boggs Gut / Southwest of Fairview Neck area. South shore tributary of Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
VAT-C13E_CHC01A00 / Church Creek / In area of Elliotts Neck. Tributary to Nassawadox Creek. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 085-185 (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.430
VAT-C13E_CHC01B16 / Church Creek -Upper / In area of Elliotts Neck. Tributary to Nassawadox Creek, upstream portion of Church Creek. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-185 B (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.108
VAT-C13E_CHC01C10 / Church Creek - Middle- UT North Cove / In area of Elliotts Neck. Tributary to Church Creek - Middle, UT North Cove. Portion of CBP segment CB7PH. DSS shellfish harvesting condemnation # 085-185 A (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.059
VAT-C13E_CRA01A06 / Craddock Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to end of shellfish condemnation (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 083-195 A (effective 20121210).	4A	Aquatic Plants (Macrophytes)	2006	L	0.082
VAT-C13E_CRA02A08 / Craddock Creek - Lower and UT / Most of Craddock Cr. excluding SF condemnation in upper creek. Including all tribs. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 083-195 (effective 20121210).	4A	Aquatic Plants (Macrophytes)	2006	L	0.911
VAT-C13E_CRR01A08 / Curratuck Creek / Southwest of Fairview Neck area. Lower south shore tributary of middle Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Aquatic Plants (Macrophytes)	2006	L	0.277

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VAT-C13E_HGC01A06 / Holly Grove Cove / Located near Wellington Neck. From end of tidal waters downstream to mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-110 E (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.143
VAT-C13E_KLL01A06 / Kelley Cove / From end of tidal waters downstream to confluence with Nassawadox Cr. (area of TMDL-bact 6/07). Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 D (effective 201610137).	4A	Aquatic Plants (Macrophytes)	2006	L	0.026
VAT-C13E_MAG01A08 / McLean Gut - Upper / Southwest of Fairview Neck area. Middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 B (effective 20160330).	4A	Aquatic Plants (Macrophytes)	2006	L	0.038
VAT-C13E_MAG02A08 / McLean Gut - Lower / Southwest of Fairview Neck area. Middle south shore tributary of middle Nandua Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Aquatic Plants (Macrophytes)	2006	L	0.032
VAT-C13E_NAN01A00 / Nandua Creek - Upper [TMDL-bact.] / Southeast of Hacks Neck area. The two most upstream branches of Nandua Creek, incl. Kusian Cove. Portion of CBP segment CB7PH. DSS condemnation # 082-160 A&C (effective 20160330).	4A	Aquatic Plants (Macrophytes)	2006	L	0.144
VAT-C13E_NAN01B08 / Nandua Creek - Lower Upper / Southwest of Fairview Neck area. North shore tributary of Nandua Cr. near mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 082-160 (effective 20160330).	4A	Aquatic Plants (Macrophytes)	2006	L	0.223
VAT-C13E_NAN02A06 / Nandua Creek - Lower / Lower portion of Nandua Creek including unsegmented tidal tribs., from the confluence of Boggs Gut downstream to mouth (RM 0.0). Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	3.150
VAT-C13E_NSS01A06 / Nassawadox Creek - Upper [TMDL-bact.] / From end of tidal waters downstream to confluence with Kelly Cove (RM 5.2) area of TMDL-bact 6/07. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 B (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.205
VAT-C13E_NSS01B08 / Nassawadox Creek - Upper / From confluence with Kelly Cove (RM 5.2) downstream to mainstem (outside of area of TMDL-bact 6/07). Portion of CBP segment CB7PH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 085-110 (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.169
VAT-C13E_NSS02A06 / Nassawadox Creek - Lower / Mainstem of lower portion of creek to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 085-110 & 085-185 (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	2.121
VAT-C13E_NSS03A08 / Nassawadox Creek - Middle, N. Shore Tribs / Occohannock Neck Area. North Shore UTs to lower-middle mainstem Nassawadox. Portion of CBP segment CB7PH. Portion of DSS shellfish direct harvesting condemnation # 085-110 A &C(effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.126
VAT-C13E_OCH01A06 / Occohannock Creek - Upper / Upper portion of Occohannock Creek and tidal tribs., from end of tidal waters downstream to the confluence of Wescott Cove (RM 5.3). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 A (effective 2016116).	4A	Aquatic Plants (Macrophytes)	2006	L	0.538
VAT-C13E_OCH02A06 / Occohannock Creek - Lower / Lower portion of Occohannock Creek and tidal tribs., from downstream of	4A	Aquatic Plants (Macrophytes)	2006	L	2.469

Youngs Pt. to mouth (RM 0.0). Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 084-043 (effective 20161116).					
VAT-C13E_OCH02B08 / Occohannock Creek - Middle Marina Area / In middle portion of Occohannock Creek, marina area of Davis Wharf. Portion of CBP segment CB7PH. DSS SEASONAL shellfish direct harvesting condemnation # 084-043 M1 (effective 20161116).	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
VAT-C13E_OCH03A08 / Shields Cove & Fisher Cove / West of Belle Haven area. North and South shore tributaries of Occohannock Cr., NW of Youngs Pt. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 084-043 B & C (effective 20161116).	4A	Aquatic Plants (Macrophytes)	2006	L	0.087
VAT-C13E_WHC01A06 / Warehouse Creek - Upper / Southeast fork of upper portion of creek. Portion of CBP segment CB7PH. DSS ADMIN-PROHIB shellfish direct harvesting condemnation # 085-110 F (effective 20161013) (VPDES outfall condemnation for Shore Memorial Hospital STP VA0027537).	4A	Aquatic Plants (Macrophytes)	2006	L	0.032
VAT-C13E_WHC01B10 / Warehouse Creek - Upper Middle (Admin Cond) / Including northern fork and continuing downstream to bend near Wellington Neck. Portion of CBP segment CB7PH. DSS (Admin Cond) shellfish direct harvesting condemnation # 085-110C (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.166
VAT-C13E_WHC02A06 / Warehouse Creek - Lower / Including bend near Wellington Neck to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 085-110 (effective 20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.246
VAT-C13E_ZZZ01A00 / Unsegmented estuaries in C13E. / Evaluated non segmented portions of C13E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.752
VAT-C14E_BRL01A06 / Barlow Creek / In area of Old Town Neck. South shore tributary to lower Mattawoman Cr. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.049
VAT-C14E_HUG01A00 / Hungars Creek - Upper / Upper portion of Hungars Creek from end tidal waters downstream to Waterford Point (RM 1.8) @ confluence with Jacobus Cr. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 A (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.138
VAT-C14E_HUG02A00 / Hungars Creek - Lower / Lower portion of Hungars Creek from Waterford Point (RM 1.8) @ confluence with Jacobus Cr. downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	1.187
VAT-C14E_HUG02B12 / UT to Hungars Creek / Northern trib between Great Neck and Sparrow Point. Restricted portion of SF. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 E (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.039
VAT-C14E_HUG02C14 / Hungars Creek - Northern Trib / Lower portion of Hungars Creek, Trib north of the mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 D (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.073
VAT-C14E_JAC01A06 / Jacobus Creek - Upper South Fork / West of Johnsontown. Trib to Hungars Cr. Uppermost portion of south branch. Portion of CBP segment CB7PH. DSS (Admin - Prohibition) due to STP VA0023817 Outfall) shellfish direct harvesting	4A	Aquatic Plants (Macrophytes)	2006	L	0.028

condemnation # 086-136F (effective 20150827).					
VAT-C14E_JAC02A06 / Jacobus Creek - Upper Forks / West of Johnsontown. Trib to Hungars Cr. Middle mainstem, north fork and lower portion of south fork. Portion of CBP segment CB7PH. DSS (Admin Cond) shellfish direct harvesting condemnation # 086-136 B (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.152
VAT-C14E_JAC03A06 / Jacobus Creek - Lower / West of Johnsontown. South shore trib. to Hungars Cr. Lower mainstem portion. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.187
VAT-C14E_MAT01A06 / Mattawoman Creek - Upper / South of Wilsonia Neck. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 086-136 C (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.155
VAT-C14E_MAT02A10 / Mattawoman Creek - Lower / South of Wilsonia Neck - mouth of Mattawoman Cr. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136 (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.357
VAT-C14E_THG01A06 / The Gulf - Upper / From end of tidal waters downstream to narrowing 0.45 mi. from mouth. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 087-174 A (effective 20150827).	4A	Aquatic Plants (Macrophytes)	2006	L	0.090
VAT-C14E_THG02A06 / The Gulf - Lower / From narrowing 0.45 mi. from mouth downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish condemnation # 087-174 (20150827) & no DSS.	4A	Aquatic Plants (Macrophytes)	2006	L	0.204
VAT-C14E_WHS01A06 / Westerhouse Creek - North Branch& Upper Middle [TMDL] / In Church Neck area, west of Bridgetown. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 085-199 (20161013).	4A	Aquatic Plants (Macrophytes)	2006	L	0.243
VAT-C14E_WHS02A06 / Westerhouse Creek - Upper South Branch [TMDL] / In Church Neck area, west of Bridgetown. Upper portion of Westerhouse Creek South Branch. Portion of CBP segment CB7PH. Portion DSS shellfish direct harvesting condemnation # 085-199 A (effective 20130924).	4A	Aquatic Plants (Macrophytes)	2006	L	0.019
VAT-C14E_ZZZ01A00 / Unsegmented estuaries in C14E. / Evaluated non segmented portions of C14E - mouth of Matchotank & Hungars Crs. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 086-136.	4A	Aquatic Plants (Macrophytes)	2006	L	0.838
VAT-C15E_CCB01A06 / Cape Charles Beach / Located west of Town of Cape Charles, along Chesapeake Bay. Portion of CBP segment CB7PH. DSS (Administrative) shellfish harvesting condemnation 089-011 A (effective 20051202) which is present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.079
VAT-C15E_CRS01A06 / Cherrystone Inlet - Upper / From Eyreville Neck end of tidal waters downstream to confluence with Chesapeake Bay. Including Old Castle Cr. Portion of CBP segment CB7PH. DSS OPEN shellfish direct harvesting condemnation # 088-139 (20161227).	4A	Aquatic Plants (Macrophytes)	2006	L	2.381
VAT-C15E_CRS01B18 / Cherrystone Inlet - Eyrehall Cr / SE trib to Cherryston Inlet. Portion of CBP segment CB7PH. DSS Restricted shellfish direct harvesting condemnation # 088-139 B(20161227).	4A	Aquatic Plants (Macrophytes)	2006	L	0.103
VAT-C15E_KNS01A00 / Kings Creek - Upper Forks and Middle / From end of tidal waters downstream 0.16 mi. past confluence of the two most upstream forks. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 088-139 A (20161227).	4A	Aquatic Plants (Macrophytes)	2006	L	0.093

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VAT-C15E_KNS03A08 / Kings Creek - Lower Middle / From start of DSS marina area downstream to Cherrystone. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 088-139 (20161227) &Seasonal Condemnation M1.	4A	Aquatic Plants (Macrophytes)	2006	L	0.247
VAT-C15E_ZZZ01A08 / Unsegmented estuaries in C15E. / Evaluated non segmented portions of C15E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.587
VAT-C16E_CCH01A04 / Cape Charles Harbor - Upper / From most upstream end of harbor downstream to 1/2 distance to mouth (RM 0.23). Portion of CBP segment CB7PH. DSS ADMINISTRATIVE shellfish harvesting condemnation # 089-011 B (effective 20051202) (VPDES outfall Town of Cape Charles STP VA0021288).	4A	Aquatic Plants (Macrophytes)	2006	L	0.056
VAT-C16E_CCH02A00 / Cape Charles Harbor - Lower / From 1/2 distance to mouth (RM 0.23) downstream to mouth. Portion of CBP segment CB7PH. DSS ADMINISTRATIVE shellfish harvesting condemnation # 089-011 A (effective 20051202) (VPDES outfall Town of Cape Charles STP VA0021288).	4A	Aquatic Plants (Macrophytes)	2006	L	0.060
VAT-C16E_KPT01A06 / Kiptopeke Beach / Located west of Cedar Grove, along Chesapeake Bay, near southern tip of Eastern Shore. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.044
VAT-C16E_OPC01A06 / Old Plantation Creek - Upper [TMDL-bact] / Upper portion of Old Plantation Creek within TMDL-Bact (33771). CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	4A	Aquatic Plants (Macrophytes)	2006	L	0.044
VAT-C16E_OPC01B08 / Old Plantation Creek - Upper [No TMDL-bact] / Upper portion of Old Plantation Creek and one southeast embayment not within TMDL-Bact (33771). Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 090-152 A (effective 20151222).	4A	Aquatic Plants (Macrophytes)	2006	L	0.152
VAT-C16E_OPC02A00 / Old Plantation Creek - Lower / Lower portion of Old Plantation Creek, from approx. Red Bank (RM 2.0) downstream to mouth. Portion of CBP segment CB7PH. DSS (OPEN) shellfish direct harvesting condemnation # 090-152 (20151222).	4A	Aquatic Plants (Macrophytes)	2006	L	0.926
VAT-C16E_ZZZ01A00 / Unsegmented estuaries in C16E. / Evaluated non segmented portions of C16E. Portion of CBP segment CB7PH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.146

Chesapeake Bay segment CB7PH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**575.220**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Source Unknown	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

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Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* CB8PH-SAV-BAY Chesapeake Bay segment CB8PH**

Cause Location: This cause encompasses the complete CPB segment CB8PH.

City / County: Chesapeake Bay - Countywide. Hampton City Not Applicable. Norfolk City Virginia Beach City

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The acres of submerged aquatic vegetation (SAV) mapped through aerial surveys do not meet the criteria. Submerged Aquatic Vegetation acres goal is 10 acres. Aerial analysis of SAV over the three most recent years of data indicate segment has attained 61% of this goal. There is insufficient data to assess the water clarity criteria.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-04DE / Chesapeake Bay - S. Thimble Island BSS Condemnation #163 / Va Dept of Health Shellfish zone #163. Open to shellfish harvesting as of 4/25/2007. S. Thimble Island. HUC: 02080101	4A	Aquatic Plants (Macrophytes)	2006	L	0.027
VACB-R01E-04EE / Chesapeake Bay - Off Little Creek BSS #068-017, Section C. / Va Dept of Health Shellfish (administrative) closure #068-017, A portion of section C. Off Little Creek. HUC: 02080101.[effective 2005-3-08]	4A	Aquatic Plants (Macrophytes)	2006	L	0.540
VACB-R01E-04GE / Chesapeake Bay - Off Little Creek BSS #068-017, Areas A & B / Va Dept of Health Shellfish (administrative) closure #068-017, Off Little Creek, Sections A and B. HUC: 02080101.[effective 2005-3-08]	4A	Aquatic Plants (Macrophytes)	2006	L	1.355
VACB-R01E-CB8 / Chesapeake Bay - CBP Segment CB8PH / This assessment unit is the mainstem portion of Chesapeake Bay Program segment CB8PH, located in the Virginia Chesapeake Bay between the mouths of the James River and mouth of Chesapeake Bay. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	141.796
VAT-C07E_BCB01A06 / Buckroe Beaches / From northeast of Buckroe Beach southwest to parallel with start of Mill Cr. Portion of CBP Segment CB8PH. No DSS shellfish condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	0.224
VAT-C07E_FMB01A12 / Fort Monroe Beaches / All of Fort Monroe Beach from the start of Mill Cr south to Lighthouse Old Point Comfort. Portion of CBP Segment CB8PH. No DSS shellfish condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	0.333
VAT-C07E_GRV01A06 / Grandview Pier & Saltponds Beaches / From Grandview beach southwest to northeast of Buckroe Beach. Offshore of Buckroe Beach VDH monitoring. area Portion of CBP Segment CB8PH. No DSS shellfish condemnation present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.241
VAT-C07E_GRV02A10 / Grandview Pier & Saltponds Beaches [No TMDL] / From southernmost point of Grandview Beach southwest to northeast of Buckroe Beach. Shoreward of GRV01A06. Portion of CBP Segment CB8PH. DSS ADMIN shellfish condemnation # 055-216 A (effective 20080530).	4A	Aquatic Plants (Macrophytes)	2006	L	0.119
VAT-C08E_CBB01A06 / 13th View Beach / Located along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.353
VAT-C08E_CBB01B14 / Sara Constance Park and Ocean View Park Beaches / Located along Chesapeake Bay, in Norfolk. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting	4A	Aquatic Plants (Macrophytes)	2006	L	0.140

condemnations present.					
VAT-C08E_CBB01C16 / 10th View Beach / Located along Chesapeake Bay, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.152
VAT-C08E_CBB02A16 / Ches Bay Beaches / Located along Chesapeake Bay, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.675
VAT-C08E_CBB03A16 / Chicks Beach / Located along Chesapeake Bay near Chesapeake Bay Bridge Tunnel, in cities of Norfolk and Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.433
VAT-C08E_CBB04A16 / Shore Drive Beaches -East / Located along Chesapeake Bay, Virginia Beach. Portion of CBP segment CB8PH. No DSS shellfish direct harvesting condemnations present.	4A	Aquatic Plants (Macrophytes)	2006	L	1.041
VAT-C08E_LCC01A08 / Little Creek & Harbor / Entire area of Little Creek and upper portion of Little Creek Harbor. From headwaters of Little Cr. downstream to lower portion of Harbor at mouth of Bay. CBP segment CB8PH. DSS (ADMINISTRATIVE) condemnation # 068-017 C (effective 20050308).	4A	Aquatic Plants (Macrophytes)	2006	L	1.064

Chesapeake Bay segment CB8PH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**148.492**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Source Unknown	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D01E-02-BAC** **Little Mosquito Creek**

Cause Location: This cause encompasses the upper and lower portions of the Creek.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is not supporting due to exceedance of the criteria for Enterococci bacteria (7 violates / 35 obs.) at 7-LTM000.80. TMDL for Little Mosquito approved for SF and Recreation 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D01E_LTM01A06 / Little Mosquito Creek - Upper / From headwaters downstream to confluence of Snead Branch. Area of DSS Prohibited (ADMINISTRATIVE-due to VPDES outfall @ VA0024457) condemnation 100-032 B (effective 2010-11-08).	4A	Enterococcus	2004	L	0.071
VAT-D01E_LTM02A04 / Little Mosquito Creek - Lower / From confluence of Snead Branch downstream to mouth. DSS shellfish ADMINISTRATIVE CONDEMNATION # 100-032 A (effective 2010-11-08).	4A	Enterococcus	2004	L	0.138

Little Mosquito Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.208**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D01E-02-DO** **Little Mosquito Creek**

Cause Location: This cause encompasses the upper and lower portions of the Creek.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Aquatic Life Use not supporting based on DO criteria exceedances with 5 violations / 35 observation at the downstream station. pH supports Aquatic Life Use with 0 violations / 35 observations. The data to assess the Aquatic Life Use is extrapolated from downstream station (DEQ-AQM station @ 7-LTM000.80).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D01E_LTM01A06 / Little Mosquito Creek - Upper / From headwaters downstream to confluence of Snead Branch. Area of DSS Prohibited (ADMINISTRATIVE-due to VPDES outfall @ VA0024457) condemnation 100-032 B (effective 2010-11-08).	5A	Oxygen, Dissolved	2008	H	0.071
VAT-D01E_LTM02A04 / Little Mosquito Creek - Lower / From confluence of Snead Branch downstream to mouth. DSS shellfish ADMINISTRATIVE CONDEMNATION # 100-032 A (effective 2010-11-08).	5A	Oxygen, Dissolved	2004	H	0.138

Little Mosquito Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.208**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D01E-04-BAC** **Swans Gut Creek**

Cause Location: This cause encompasses from the Virginia/Maryland state line downstream to Rivermile 0.13, above the confluence with Chincoteague Bay.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Recreation Use is impaired based on exceeding criteria (8 violates / 17 obs.) for Enterococcus bacteria @ 7-SGT002.46. Impairment is included in the Bacteria TMDL for Swans Gut Creek EPA approved 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D01E_SGT01A04 / Swans Gut Creek / From Virginia/Maryland state line downstream to RM 0.13, above the confluence with Chincoteague Bay. DSS shellfish direct harvesting Restricted ADMIN condemnation # 100-097 A (effective 2012-10-25).	4A	Enterococcus	2006	L	0.100

Swans Gut Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.100**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D01E-04-DO** **Swan Gut Creek**

Cause Location: This cause encompasses the entirety of Swan Gut Creek. From Virginia/Maryland state line downstream to Rivermile 0.13, above the confluence with Chincoteague Bay.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO exceedances of 2 / 17 at station 7-SGT002.46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D01E_SGT01A04 / Swans Gut Creek / From Virginia/Maryland state line downstream to RM 0.13, above the confluence with Chincoteague Bay. DSS shellfish direct harvesting Restricted ADMIN condemnation # 100-097 A (effective 2012-10-25).	5A	Oxygen, Dissolved	2004	L	0.100

Swan Gut Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.100**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D01E-13-SF** **Greenbackville Harbor**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 100-153 A, 11/9/2005.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting due to the DSS shellfish harvesting condemnation # 100-153 A effective date 11-09-2005 within this segment. Shellfish Impairment included in Chincoteague Bay EPA approved 1/15/2008 TMDL.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D01E_GBV01A06 / Greenbackville Harbor - DSS / Northern Chincoteague Bay DSS condemnation # 100-153 A (effective 2005-11-09).	4A	Fecal Coliform	1998	L	0.009

Greenbackville Harbor	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D01E-17-SF** **Swans Gut Creek-restricted SF**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 100-097 A (effective 2012-10-25).

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is not supported based on the DSS Condemnation # 100-097 A effective date 20121025. This impairment was split from VAT-D01E_SGT02A08 in 2016. This SF restricted area in 2016 is included in the TMDL for Shellfish Areas Listed due to Bacterial Contamination: Chincoteague Bay EPA approved 7/31/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D01E_SGT01B16 / Swans Gut Creek / From RM 0.13 to end of restricted SF area (confluence with Chincoteague Bay). DSS shellfish direct harvesting condemnation # 100-097 A (effective 2012-10-25).	4A	Fecal Coliform	2016	L	0.004

Swans Gut Creek-restricted SF	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.004**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D02E-01-BAC** **Assawoman Creek**

Cause Location: This cause encompasses the entirety of Assawoman Creek. This Creek is North of Assawoman Island and discharges to Womans Bay.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is not supporting based on Enterococcus exceedances of the swimming criteria indicator at the lower segment (12 violates / 34 obs.) at Station 7-ASW003.36. The upper portion of Assawoman assess Recreation Use based on the extrapolated from downstream station.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D02E_ASW01A00 / Assawoman Creek - Upper / From headwaters downstream to confluence of Pettit Branch (RM 3.4). Portion of DSS shellfish direct harvesting condemnation # 099-135A (effective 2016-10-27)	4A	Enterococcus	1998	L	0.073
VAT-D02E_ASW02A00 / Assawoman Creek - Lower / From confluence of Pettit Branch downstream to end of Shellfish Condemnation. Portion of DSS shellfish direct harvesting condemnation # 099-135 (effective date 2016-10-27).	4A	Enterococcus	1998	L	0.054
VAT-D02E_ASW02B12 / Assawoman Creek - Lower / From end of condemnation to mouth . Portion of DSS shellfish direct harvesting condemnation # OPEN 099-135 (effective date 2016-10-27).	4A	Enterococcus	1998	L	0.010

Assawoman Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.136**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D02E-01-DO** **Assawoman Creek**

Cause Location: This cause encompasses the entirety of Assawoman Creek. This Creek is North of Assawoman Island and discharges to Womans Bay.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO concentrations that exceed the criteria for this parameter with 8 violates/ 36 obs. At Station 7-ASW003.36. The upper portion of Assawoman Creek assessed using downstream monitoring at Station 7-ASW003.36.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D02E_ASW01A00 / Assawoman Creek - Upper / From headwaters downstream to confluence of Pettit Branch (RM 3.4). Portion of DSS shellfish direct harvesting condemnation # 099-135A (effective 2016-10-27)	5A	Oxygen, Dissolved	2008	H	0.073
VAT-D02E_ASW02A00 / Assawoman Creek - Lower / From confluence of Pettit Branch downstream to end of Shellfish Condemnation. Portion of DSS shellfish direct harvesting condemnation # 099-135 (effective date 2016-10-27).	5A	Oxygen, Dissolved	2004	H	0.054
VAT-D02E_ASW02B12 / Assawoman Creek - Lower / From end of condemnation to mouth . Portion of DSS shellfish direct harvesting condemnation # OPEN 099-135 (effective date 2016-10-27).	5A	Oxygen, Dissolved	2004	H	0.010

Assawoman Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.136**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D02E-01-SF** **Assawoman Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 099-135 A 10/27/2016.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting based on DSS Condemnation # 099-135 A effective date 10-27-2016. TMDL for Recreation and Shellfish bacteria impairments completed and approved 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D02E_ASW01A00 / Assawoman Creek - Upper / From headwaters downstream to confluence of Pettit Branch (RM 3.4). Portion of DSS shellfish direct harvesting condemnation # 099-135A (effective 2016-10-27)	4A	Fecal Coliform	1998	L	0.073
VAT-D02E_ASW02A00 / Assawoman Creek - Lower / From confluence of Pettit Branch downstream to end of Shellfish Condemnation. Portion of DSS shellfish direct harvesting condemnation # 099-135 (effective date 2016-10-27).	4A	Fecal Coliform	1998	L	0.054

Assawoman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.126**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D02E-10-SF** **Unsegmented estuaries in D02E**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 099-135 A 10/27/2016.

City / County: Accomack Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting based on DSS Condemnation # 099-135 A effective date 10-27-2016. Nested within Assawoman Creek TMDL completed and approved 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D02E_ZZZ01B10 / Unsegmented estuaries in D02E / Evaluated non-segmented estuaries in D02E. DSS shellfish condemnations 099-135 A (effective 10/27/2016).	4A	Fecal Coliform	2010	L	0.007

Unsegmented estuaries in D02E	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.007**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D02R-01-BAC** **Pettit Branch**

Cause Location: This cause encompasses the entirety of the Pettit Branch water. South shore tributary to Assawoman Creek. From headwaters to start of tidal waters.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired due to exceedance of the criteria for E.coli bacteria at station 7-PET000.80. TMDL completed and approved 11/7/2008.

1998 CD segment for FC & benthics (Attachment A, Category 1, Part 1) VAT-D02R-01.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D02R_PET01A00 / Pettit Branch / South shore tributary to Assawoman Creek. From headwaters to start of tidal waters.	4A	Escherichia coli	1998	L	1.88

Pettit Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.88**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D02R-01-BEN** **Pettit Branch**

Cause Location: This cause encompasses the entirety of the Pettit Branch water. South shore tributary to Assawoman Creek. From headwaters to start of tidal waters.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

DEQ Streams Benthic-Macroinvertebrate Bioassessments using VCPMI. The Aquatic Life Use is impaired due to impacts to the stream's benthic population (VCPMI [2015: S= 25.4 F= 9.2 ; 2013: 14.4, 2010_IM: S=9.0, F=20.2] [2008_IM: S=11.7, F=23.0]. Possible runoff effects from Eastern Shore Seafood.

TMDL EPA approved 7/29/2010 for benthic D02R-01-BEN

1998 CD segment for FC & benthics (Attachment A, Category 1, Part 1) VAT-D02R-01.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D02R_PET01A00 / Pettit Branch / South shore tributary to Assawoman Creek. From headwaters to start of tidal waters.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.88

Pettit Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.88**

Sources:

Seafood Processing Operations	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03E-01-DO** **Gargathy Creek - Upper & Lower**

Cause Location: This cause encompasses the entirety of the Gargathy Creek upper and lower portions.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life use is impaired based on concentrations that exceed the criteria for this parameter (5 violates / 36 obs.) at Station 7-GAR001.80. EPA approved DO TMDL 10/17/2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03E_GAR01A04 / Gargathy Creek - Upper / Upper estuarine portion of Gargathy Creek from headwaters downstream to end of DSS condemnation. Portion of DSS OPEN shellfish direct harvesting condemnation # 098-172 (effective 2010-06-30).	4A	Oxygen, Dissolved	2006	L	0.122
VAT-D03E_GAR02A04 / Gargathy Creek - Lower / Lower estuarine portion of Gargathy Creek, from point at Cutoff Creek to downstream confluence with Gargathy Bay (RM 1.38). Portion of DSS shellfish direct harvesting condemnation # 098-172 (effective 2010-06-30).	4A	Oxygen, Dissolved	2004	L	0.009

Gargathy Creek - Upper & Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.130**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03E-02-BAC** **Finney Creek - Upper**

Cause Location: This cause encompasses the upper portion of Gargathy Creek. Tributary to Hummock Cove, station located near Locustville. Upper portion upstream of widening (approx, RM 2.38).

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 4A

The Recreation Use is impaired due to 7 viol / 11 obs. of the criteria for Enterococci bacteria at DEQ (AQM) station @ 7-FNC002.46. Previous impairment was based on Fecal Coliform data during the 2006 cycle at Station 7-FNC002.43. The Recreation Use impairment is included in the TMDL for Pathogens for Finney Creek, EPA approved 9/ 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03E_FNC01A04 / Finney Creek - Upper / Tributary to Hummock Cove, station located near Locustville. Upper portion upstream of widening (approx. RM 2.38). No DSS shellfish direct harvesting condemnation.	4A	Fecal Coliform	2004	L	0.002

Finney Creek - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.002**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03E-04-BAC** **Folly Creek - Upper & Middle**

Cause Location: This cause encompasses the upper and middle portions of Folly Creek. Tributary to Metompkin Bay. Upper estuarine portion of Folly Creek, from headwaters past Cross Creek and discharges into Metompkin Bay.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus concentrations that exceed the swimming criteria indicator (3 violates / 35 obs.) at downstream Station 7-FLL002.46. Recreation impairment is nested within the Shellfish TMDL EPA approved 1/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03E_FLL01A08 / Folly Creek - Upper & Middle / Tributary to Metompkin Bay. Upper and middle estuarine portion of Folly Creek, from end of tidal downstream to end of shellfish condemnation. DSS OPEN shellfish condemnation # 097-173 (effective date 20130905).	4A	Enterococcus	2006	L	0.376

Folly Creek - Upper & Middle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.376**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03E-05-BAC** **Parker Creek - Middle & Lower**

Cause Location: This cause encompasses the middle and lower portions of Parker Creek. Tributary to Metompkin Bay. Middle estuarine portion of creek, from confluence of North Fork (RM 1.3) downstream to end of DSS condemnation.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on Enterococcus data collected at 7-PAR001.20 with 4 viol /11 obs. There is a TMDL for Recreation and Shellfish impairments that was EPA approved 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03E_PAR01A06 / Parker Creek - Middle / Tributary to Metompkin Bay. Middle estuarine portion of creek, from confluence of North Fork (RM 1.3) downstream to end of DSS (ADMINISTRATIVE) shellfish condemnation # 098-098B (effective 2005-06-15).	4A	Enterococcus	2006	L	0.018
VAT-D03E_PAR02A06 / Parker Creek - Lower / Tributary to Metompkin Bay. Lower estuarine portion of creek, from start of DSS shellfish condemnation downstream to mouth (RM 0.0). DSS shellfish condemnation # 098-098A (effective 2005-06-15).	4A	Enterococcus	2006	L	0.029

Parker Creek - Middle & Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.047**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03E-07-BAC** **Wachapreague Channel**

Cause Location: This cause encompasses a portion of Wachapreague Channel. Portion below Bunting Point Road to boat launch. Segment around area at Wachapreague Harbor.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

Recreational Use is not supported based on the Enterococci data which violates 2 out of 11 observations at DEQ station @ 7-WAS003.26.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04E_WAS02A14 / Wachapreague Channel / Located east of Wachapreague. Segment around area at Wachapreague harbor. DSS shellfish harvesting condemnation # 097-219 M1 (effective 2013-09-05).	5A	Enterococcus	2008	L	0.026

Wachapreague Channel **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.026**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03E-07-DO** **Wachapreague Channel**

Cause Location: This cause encompasses a portion of Wachapreague Channel. Portion below Bunting Point Road to boat launch. Segment around area at Wachapreague Harbor.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Aquatic Life Use is impaired for DO with 2 viol / 17 obs at station 7-WAS003.26.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03E_WAS01A08 / Wachapreague Channel / Located east of Wachapreague. Segment around area at Wachapreague harbor. DSS shellfish seasonal direct harvesting condemnation Seasonal # 097-219 M1 (effective 2013-09-05).	5A	Oxygen, Dissolved	2018	L	0.072
VAT-D04E_WAS02A14 / Wachapreague Channel / Located east of Wachapreague. Segment around area at Wachapreague harbor. DSS shellfish harvesting condemnation # 097-219 M1 (effective 2013-09-05).	5A	Oxygen, Dissolved	2018	L	0.026

Wachapreague Channel **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.098**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03E-08-DO** **Northam Creek**

Cause Location: This cause encompasses a portion of Northam narrows between Hog Neck Creek and Mud Narrows, below Assawoman Creek.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is retained due to dissolved oxygen concentrations from 2008 Assessment (3 violates / 3 obs.) below the criteria minimum.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03E_NOT01A08 / Northam Creek / Estuarine portion of Northam Creek DSS (OPEN) # 099-135 OPEN effective date 2016-10-27.	5A	Oxygen, Dissolved	2004	L	0.028

Northam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.028**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-01-BAC** **Parker Creek**

Cause Location: This cause encompasses the Riverine section of Parker Creek, from headwaters (at PERDUE plant - VA0003808) downstream to start of tidal waters (downstream of RM 2.9). Located northeast of Accomack.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use is impaired due to exceedance of the criteria for E.coli bacteria (7-PAR003.09 - 26 violates / 33 obs.) and (7-PAR004.35 - 0 violates / 2 obs. impairments dropped off and therefore station can not be delisted).NESTED within Parker Creek TMDL for Recreation and Shellfish impairments EPA approved 1/15/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_PAR01A00 / Parker Creek / Riverine section of Parker Creek, from headwaters (at PERDUE plant - VA0003808) downstream to start of tidal waters (downstream of RM 2.9). Located northeast of Accomack.	4A	Escherichia coli	1994	L	2.02

Parker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.02**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-01-BEN** **Parker Creek**

Cause Location: This cause encompasses the Riverine section of Parker Creek, from headwaters (at PERDUE plant - VA0003808) downstream to start of tidal waters (downstream of RM 2.9). Located northeast of Accomack.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. Benthic population impacts were recorded at the following sample events:
7-PAR003.09 - VCPMI [2012_IM: S=8.0, F=14.4, 2013: S=10.7 F=15.5 2014: F=18.0 2015: S= 9.1 F = 7.7 2016: S = 8.0 F= 31.2]
7-PAR004.35 - VCPMI [2009: S=1.9 F=10.5 2010: S=12.7 F=19.1 2011: S=16.5 F=12.5 2012: S=13.2, F=31.2; 2013: S=19.4 F=17.6 2014: F=18.8 2015: S= 13.2 F= 18.8 2016: S= 9.0 F= 22.3]
TMDL for benthic EPA approved 11/7/08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_PAR01A00 / Parker Creek / Riverine section of Parker Creek, from headwaters (at PERDUE plant - VA0003808) downstream to start of tidal waters (downstream of RM 2.9). Located northeast of Accomack.	4A	Benthic-Macroinvertebrate Bioassessments	1994	L	2.02

Parker Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.02**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-02-BAC** **Gargathy Creek**

Cause Location: This cause encompasses the Riverine portion of Gargathy Creek, from headwaters downstream to beginning of tidal waters. Located southeast of Nelsonia.

City / County: Accomack Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreation Use impairment is retained from 2004 list date for Fecal Coliform. No bacteria data within assessment window. TMDL of DO and Pathogens for Gargathy Creek (Upper, Lower and Riverine Portions) in Accomack County, Virginia EPA approved 10/17/2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_GAR01A02 / Gargathy Creek / Riverine portion of Gargathy Creek, from headwaters downstream to beginning of tidal waters. Located southeast of Nelsonia.	4A	Escherichia coli	2004	L	2.83

Gargathy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-03-BEN** **Ross Branch**

Cause Location: This cause encompasses the Riverine section of Ross Branch, segment begins at headwaters extending downstream to start of tidal waters. Located south of Accomack. Tributary to Folly Creek.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. DEQ Streams Benthic-Macroinvertebrate Bioassessments using VCPMI at Station 7-RSS001.40. VCPMI [2014: F=26.4 2012: F=29.3, 2010: S=13.0, F=12.6] Site is often dominated by high numbers of scuds which drive down taxa richness scores. Site is possibly affected by agricultural runoff.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_RSS01A02 / Ross Branch / Tributary to Folly Creek. Riverine section of Ross Branch, segment begins at headwaters extending downstream to start of tidal waters. Located south of Accomack.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	3.20

Ross Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.20**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-04-BEN** **Unnamed tributary to Folly Creek**

Cause Location: This cause encompasses the headwaters downstream to start of tidal waters. Located east of Accomack, near Edge Hill Cemetery.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on benthic VCPMI scores. Benthic population impacts were recorded at the following sample events: 7-XDE000.40 - VCPMI [2012: F=36.4] and [2014: F=50.4] and [2010_IM: S=14.1, F=54.0] and [2008: S=13.0, F=37.3] and [2007: S-12.2 and F = 29.7]. Observations during benthic data collection - Stream has a petroleum smell.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_XDE01A02 / Unnamed tributary to Folly Creek / Segment begins at headwaters downstream to start of tidal waters. Located east of Accomack, near Edge Hill Cemetery.	5A	Benthic-Macroinvertebrate Bioassessments	2002	L	1.53

Unnamed tributary to Folly Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.53**

Sources:

Leaking Underground Storage Tanks	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-05-BEN** **Rattrap Creek**

Cause Location: This cause encompasses the end of Finneys Creek near Locustville. Near Intersection of Drummond Rd and Locustville Rd, approx 2.6 mi.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the streams Benthic population as recorded at the following sample event: 7-RTT000.49 with VCPMI [IM_ 2014: S=35.3 2013: F=31.6 2010: S=23.2, F=26.8].

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_RTT01A12 / Rattrap Creek / End of Finneys Creek near Locustville. Near Intersection of Drummond Rd and Locustville Rd, approx 2.6 mi.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.73

Rattrap Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.73**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-06-BEN** **North Fork**

Cause Location: This cause encompasses the north Fork of Parker Creek. Near Parker Neck. From the end of tidal waters crossing US Route 13 to end of stream.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the benthic VCPMI scores collected at station 7-PNF001.98. Benthic Data IM [2011: S=39.4 F=10.0 2013: F=7.2 2014: S=16.4]. There is potential stress causing the low scores at this site. Physical habitat conditions may also be influencing diversity, as riparian zone width is suboptimal and there is noticeable sedimentation in the stream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_PNF01A14 / North Fork / North Fork of Parker Creek. Near Parker Neck. From the end of tidal waters crossing US Route 13 to end of stream.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	3.13

North Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.13**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D03R-07-BEN** **Custis Creek**

Cause Location: This cause encompasses the riverine portion of Creek off of Burtons Bay near Locustville.

City / County: Accomack Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is not supported based on the benthic macroinvertebrate data collected at Station 7-CUS004.08. Benthic data was evaluated using the VCPMI index. Data was collected in 2013 with S=17.5 and F= 15.5. This is a small first order stream on the eastern shore similar to Ross Branch in habitat. Custis Creek site has limited instream habitat for colonization of benthic organisms and may be subject to agricultural runoff from nearby farm fields. The stream seems to be dominated by midges and fingernail clams. Both values are below the 40 VCPMI criteria and therefore this station is listed as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D03R_CUS01A16 / Custis Creek / Riverine portion of Creek off of Burtons Bay near Locustville.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	1.22

Custis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.22**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D04E-01-DO** **Red Bank Creek**

Cause Location: This cause encompasses all portions of Red Bank Creek. Tributary to Hog Island Bay.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is retained from 2008 Assessment. No new data within assessment window. Impaired (2 violates / 3 obs.) due to dissolved oxygen concentrations below the criteria minimum (4.0 mg/l).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04E_RBC01A08 / Red Bank Creek - Upper / Tributary to Hog Island Bay. Southeast of Marionville, near Brick House Neck. Segment from end of tidal waters downstream to confluence of UT (XDF). DSS shellfish direct harvesting condemnation # 095-192 (effective 2011-9-08).	5A	Oxygen, Dissolved	2004	L	0.003

Red Bank Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.003**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D04E-02-DO** **Unnamed tributary to Red Bank Creek**

Cause Location: This cause encompasses a portion of an unnamed Tributary to Red Bank Creek. Southeast of Marionville, near Brick House Neck. Segment from first branching of creek (RM 0.3) downstream to confluence with Red Bank Creek. DSS shellfish direct harvesting condemnation

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is retained based on DO violations. Previous Assessment: The Aquatic Life Use is impaired due to dissolved oxygen concentrations (2 violates / 4 obs.) below the criteria minimum (4.0 mg/l).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04E_XDF01A04 / Unnamed tributary to Red Bank Creek / Tributary to Red Bank Creek. Southeast of Marionville, near Brick House Neck. Segment from first branching of creek (RM 0.3) downstream to confluence with Red Bank Creek. DSS OPEN shellfish direct harvesting condemnation # 095-192 A (effective 2011-9-08).	5A	Oxygen, Dissolved	2004	L	0.009

Unnamed tributary to Red Bank Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.009**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D04E-05-BAC** **Machipongo River**

Cause Location: This cause encompasses from the end of tidal waters downstream to 0.5 mi. south of Rt. 182 crossing (minus area at mouth of Greens Creek).

City / County: Accomack Co. Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use is impaired based on E.coli concentration exceed the swimming criteria indicator at station 7-MAC008.55 (2 violates/ 15 obs.). A Bacteria TMDL Development in Red Bank Creek and Machipongo River, Virginia was completed and EPA approved 1/26/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04E_MAC01A00 / Machipongo River / Located east of Exmore. Segment extends from end of tidal waters downstream to 0.5 mi. south of Rt 182 crossing (minus area at mouth of Greens Creek). DSS condemnation # 096-218 A (effective date 2009-9-11).	4A	Enterococcus	2008	L	0.314

Machipongo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.314**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D04E-05-SF** **Machipongo River**

Cause Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation #096-218A (effective date 2009-09-11).

City / County: Accomack Co. Northampton Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is not supporting with DSS shellfish condemnation #096-218A (effective date 2009-9-11). Bacteria TMDL Development in Red Bank Creek and Machipongo River, Virginia was completed and EPA approved 1/26/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04E_MAC01A00 / Machipongo River / Located east of Exmore. Segment extends from end of tidal waters downstream to 0.5 mi. south of Rt 182 crossing (minus area at mouth of Greens Creek). DSS condemnation # 096-218 A (effective date 2009-9-11).	4A	Fecal Coliform	2008	L	0.314

Machipongo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.314**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D04R-01-DO** **Red Bank Creek**

Cause Location: This cause encompasses the area southeast of Marionville. Segment from headwaters downstream to end of tidal waters.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired for DO at Station 3-RBC003.87 with DO 5 viol /16 ob. pH is supported with 0 viol / 16 obs. Draft DO natural conditions evaluation for this impairment and Unnamed tributary to Red Bank Creek .

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04R_RBC01A04 / Red Bank Creek / Southeast of Marionville. Segment from headwaters downstream to end of tidal waters.	5C	Oxygen, Dissolved	2016	L	1.36

Red Bank Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.36**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D04R-03-BEN** **Frogstool Branch**

Cause Location: This cause encompasses the area near Red Hill.

City / County: Accomack Co. Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Aquatic Life Use is impaired based on Benthic IM at Station 7-FRB001.94. VCPMI [2010_IM: S=24.9, F=38.8 2013: F=57.0 2014: S=18.3 2016: F=84.2].

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04R_FRB01A12 / Frogstool Branch / Tributary to Machipongo River near Red Hill.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	4.27

Frogstool Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.27**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D04R-04-BEN** **Unnamed Tributary to Mill Creek**

Cause Location: This cause encompasses the Unnamed Trib to Mill Creek Stream. Stream is east of Treherneville crossing over Route 600.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The ALUS is not supported based on the benthic data collected in 2011 using the VCPMI. The Spring score was 20.9 and the Fall was 9.0. Habitat is adequate for colonization of a healthy benthic community, but pH is somewhat acidic and dissolved oxygen was very low in the spring. The stream was dominated by midge larvae, a frequent indicator of human disturbance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D04R_XER01A14 / UT to Mill Creek / Unnamed trib to Mill Creek Stream. Stream is east of Treherneville crossing over Route 600.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	1.48

Unnamed Tributary to Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.48**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D05E-01-BAC** **Oyster Slip (Harbor) - Upper**

Cause Location: This cause encompasses area adjacent to Brockenberry Bay within upper portion of the harbor. Located in the town of Oyster, east of Cheriton.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Recreation Use impairment is retained, data within assessment window is from 2005 with 0 viol/ 3 obs. of the instantaneous criteria for Enterococcus bacteria at DEQ (AQM) station @ 7-OSS000.37. Nested within Shellfish TMDL completed 6/19/2009.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D05E_OSS01A00 / Oyster Slip (Harbor) - Upper / Located in the town of Oyster, east of Cheriton. Adjacent to Brockenberry Bay. Upper portion of the harbor. DSS Seasonal shellfish direct harvesting condemnation # 094-012 M1 (effective 2014-02-26).	4A	Enterococcus	2006	L	0.034

Oyster Slip (Harbor) - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.034**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D05E-01-HG** **Oyster Slip (Harbor) - Upper**

Cause Location: This causes encompasses the area adjacent to Brockenberry Bay within upper portion of the harbor. Located in the town of Oyster, east of Cheriton.

City / County: Northampton Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Fish Consumption is impaired based on Fish Tissue data collected 08-IM, FT_Met-Hg Sandbar Shark; 08-OE-Pb Oyster; 08 PCB Support at DEQ (AQM) station @ 7-OSS000.20.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D05E_OSS01A00 / Oyster Slip (Harbor) - Upper / Located in the town of Oyster, east of Cheriton. Adjacent to Brockenberry Bay. Upper portion of the harbor. DSS Seasonal shellfish direct harvesting condemnation # 094-012 M1 (effective 2014-02-26).	5A	Mercury in Fish Tissue	2010	L	0.034

Oyster Slip (Harbor) - Upper **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:	**0.034**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D05R-01-BAC** **Taylor Creek**

Cause Location: This cause encompasses area from Penn Central RR crossing downstream to impoundment 0.1 mi. downstream of station. Located northeast of Simpkins.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

The Recreation Use is impaired based on E.coli exceedance of the swimming criteria (7 violates / 12 obs.).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D05R_TAL01A02 / Taylor Creek / Located northeast of Simpkins. Segment from Penn Central RR crossing downstream to impoundment 0.1 mi. downstream of station.	5A	Fecal Coliform	2002	L	1.26

Taylor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**1.26**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D05R-02-BAC** **Holt Creek**

Cause Location: This cause encompasses the area from headwaters downstream to start of tidal waters. Located east of Martins Siding.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Recreation Use is impaired due to E.coli bacteria concentrations exceeding the instantaneous swimming indicator criteria. Impairment 7 violates/ 17 obs at DEQ (AQM) station @ 7-HLT002.08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D05R_HLT01A04 / Holt Creek / Located east of Martins Siding. Segment from headwaters downstream to start of tidal waters.	5A	Escherichia coli	2004	L	1.74

Holt Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.74**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D05R-03-BAC** **Holt Creek Unnamed Tributary**

Cause Location: This cause encompasses the area from Penn Central RR crossing near headwaters downstream to confluence with Holt Creek. Located east of Martins Siding.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use impairment is retained based on Fecal Coliform data. Current E.coli data collected is 1 violates / 1 obs. Previous (2006 IR) TMDL ID = VAT-D05R-03.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D05R_XDI01A04 / Holt Creek Unnamed Tributary / Located east of Martins Siding. Segment from Penn Central RR crossing near headwaters downstream to confluence with Holt Creek.	5A	Escherichia coli	2004	L	1.42

Holt Creek Unnamed Tributary **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D05R-03-BEN** **Holt Creek Unnamed Tributary**

Cause Location: This cause encompasses the area from Penn Central RR crossing near headwaters downstream to confluence with Holt Creek. Located east of Martins Siding.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the benthic data collected at 7-XDI000.88: IM VCPMI [2014: S=25.4] [2013: F=41.3] [2009_IM: S=8.6, F=48.4] Habitat is good at this site and there are no obvious point sources, so it is likely that non-point sources are responsible for impairment here. The scores at this site jump around a good bit with a tendency for higher scores in the fall indicating that seasonal effects are probably also being picked up by the metrics in addition to any anthropogenic effects.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D05R_XDI01A04 / Holt Creek Unnamed Tributary / Located east of Martins Siding. Segment from Penn Central RR crossing near headwaters downstream to confluence with Holt Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	1.42

Holt Creek Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06E-01-DO** **Magothy Bay - Lower**

Cause Location: This cause encompasses the area east of Skidmore Island.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life use is impaired based on data from 2008 Assessment for the DO concentration exceeding the criteria for this parameter (4 violates / 21 obs.). Now data from 01 and 02 drop out therefore 2 /5 violate. Can not delist DO.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06E_MAG01A04 / Magothy Bay - Lower / Located east of Skidmore Island. No DSS shellfish condemnation.	5A	Oxygen, Dissolved	2004	L	0.037

Magothy Bay - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.037**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06E-02-PCB** **Raccoon Creek**

Cause Location: This cause encompasses Raccoon Creek. The area southwest of Magothy Bay.

City / County: Northampton Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on Fish Tissue data collected for PCBs with an observed effect for arsenic. Station 7-RAC000.00 is impaired for PCBs in FT found in Bass, Trout and Blue Crab from 2008 and 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06E_RAC01A08 / Raccoon Creek / South west of Magothy Bay. No DSS condemnation area.	5A	PCB in Fish Tissue	2010	L	0.004

Raccoon Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**0.004**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06R-01-DO** **Mill Creek**

Cause Location: This cause encompasses the area at the start of Mill Creek upstream of Penn central RR crossing and ends downstream of Rt. 600 at the beginning of the impoundment upstream of tidal waters. Located north of Capeville.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Aquatic Life Use is impaired based on the dissolved oxygen (5 violates / 13 obs.) below the criteria minimum (4.0 mg/l) at DEQ station @ 7-MCR002.00.
TMDL EPA approved 6/24/2009 for DO.
Low DO is caused by high inflow of nitrogen and organic carbon. The high temperature, low re-aeration, decay of organic materials and nitrogen oxidation, and the high SOD due to accumulated deposition of organic matter, are the dominant causes of low DO (reference from TMDL).

1998 CD segment for DO (Attachment A, Category 1, Part 2) VAT-D06R-01.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06R_MCR01A00 / Mill Creek / Located north of Capeville. Segment begins at the start of Mill Creek upstream of Penn central RR crossing and ends downstream of Rt 600 at the beginning of the impoundment upstream of tidal waters.	4A	Oxygen, Dissolved	1998	L	2.23

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06R-01-PH** **Mill Creek**

Cause Location: This cause encompasses the area at the start of Mill Creek upstream of Penn central RR crossing and ends downstream of Rt. 600 at the beginning of the impoundment upstream of tidal waters. Located north of Capeville.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

The Aquatic Life Use is impaired for pH in the 2016 IR 4 violates / 23 obs. and in 2018 1 viol / 13 obs below the criteria minimum (6.0 SU) at DEQ station @ 7-MCR002.00. No delist for 2018 IR. Review additional years worth of data in the 2020 to see if pH can be delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06R_MCR01A00 / Mill Creek / Located north of Capeville. Segment begins at the start of Mill Creek upstream of Penn central RR crossing and ends downstream of Rt 600 at the beginning of the impoundment upstream of tidal waters.	5A	pH	1998	L	2.23

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06R-02-BAC** **Narrow Channel Branch**

Cause Location: This cause encompasses the area from headwaters downstream to start of tidal waters. Located east of Bayview.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use is impaired with 3 violations / 5 observations at Station 7-NCB000.97.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06R_NCB01A04 / Narrow Channel Branch / Located east of Bayview. Segment from headwaters downstream to start of tidal waters.	5A	Escherichia coli	2004	L	1.84

Narrow Channel Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.84**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06R-02-BEN** **Narrow Channel Branch**

Cause Location: This cause encompasses the area from headwaters downstream to start of tidal waters. Located east of Bayview.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained for 2018 Assessment. No new benthic data within the assessment window. The Aquatic Life Use is impaired due to impacts to the stream's benthic population. DEQ (Bio) monitoring determines impairment by benthic assessment ratings of SI (spring 2001) & MI (fall 2001).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06R_NCB01A04 / Narrow Channel Branch / Located east of Bayview. Segment from headwaters downstream to start of tidal waters.	5A	Benthic-Macroinvertebrate Bioassessments	2004	L	1.84

Narrow Channel Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.84**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06R-02-DO** **Narrow Channel Branch**

Cause Location: This cause encompasses the area from headwaters downstream to start of tidal waters. Located east of Bayview.

City / County: Northampton Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on 2011 and 2012 data for DO that exceed the WQS with 2 viol/ 6 obs. Additional monitoring is requested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06R_NCB01A04 / Narrow Channel Branch / Located east of Bayview. Segment from headwaters downstream to start of tidal waters.	5A	Oxygen, Dissolved	2014	L	1.84

Narrow Channel Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.84**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D06R-03-BAC** **Tommy's Ditch**

Cause Location: This cause encompasses the entirety of Tommy's Ditch west of Kiptopeke State Park.

City / County: Northampton Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on E.coli criteria exceeded (7 viol / 15 obs) at DEQ station @ 7-TOM001.73.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D06R_TOM01A08 / Tommy's Ditch / East of Kiptopeke State Park	5A	Escherichia coli	2008	L	1.44

Tommy's Ditch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.44**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D07E-02-SF** **Lake Rudee - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 073-074A (effective 2013-06-11).

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish condemnation # 073-074A (effective 2013-06-11)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D07E_LAI01A06 / Lake Rudee - Upper / Lake Rudee, from end of Owl Creek downstream to approx. RM 0.4 (upstream of confluence of Lake Holly with Rudee Inlet canal). Portion of DSS shellfish condemnation # 073-074 A (effective 2013-06-11).	5B	Fecal Coliform	2006	H, 2yr	0.099

Lake Rudee - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.099**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D07E-04-BAC** **Owl Creek - Upper**

Cause Location: This cause encompasses the Headwaters of Owl Creek downstream to point where creek widens.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

Recreation Use impaired due to Enterococcus bacteria concentrations exceeding (2 violates / 12 obs.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D07E_OWL01A02 / Owl Creek- Upper / Headwaters tributary to Lake Rudee, located west of Lake Christine. Segment from headwaters downstream to point where creek broadens. Portion of DSS shellfish direct harvesting condemnation # 073-074 A (effective 2013-06-11).	5A	Enterococcus	2002	H, 2yr	0.005

Owl Creek - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.005**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D07E-04-DO** **Owl Creek - Upper**

Cause Location: This cause encompasses the upper portion of Owl Creek a tributary to Lake Rudee, located west of Lake Christine.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired due to dissolved oxygen concentrations at station 7-OWL000.77 and 7OWL-2-VAMSC with 2 violates / 6 obs. and 5 viol/ 9 obs below the criteria minimum (4.0 mg/l). This TMDL ID (VAT-D07E-05) is added for the 2006 IR.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D07E_OWL01A02 / Owl Creek- Upper / Headwaters tributary to Lake Rudee, located west of Lake Christine. Segment from headwaters downstream to point where creek broadens. Portion of DSS shellfish direct harvesting condemnation # 073-074 A (effective 2013-06-11).	5A	Oxygen, Dissolved	2006	M, 2yr	0.005

Owl Creek - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.005**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D07E-04-SF** **Owl Creek - Upper & Lower**

Cause Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 073-074A (effective 2013-06-11).

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish condemnation # 073-074A (effective 2013-06-11).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D07E_OWL01A02 / Owl Creek- Upper / Headwaters tributary to Lake Rudee, located west of Lake Christine. Segment from headwaters downstream to point where creek broadens. Portion of DSS shellfish direct harvesting condemnation # 073-074 A (effective 2013-06-11).	5B	Fecal Coliform	2006	H, 2yr	0.005
VAT-D07E_OWL02A02 / Owl Creek - Lower / Headwaters tributary to Lake Rudee, located west of Lake Christine. Segment from mid-way point where creek broadens downstream to confluence with Lake Rudee. Portion of DSS shellfish direct harvesting condemnation # 073-074 A (effective 2013-06-11).	5B	Fecal Coliform	2006	H, 2yr	0.019

Owl Creek - Upper & Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* D07E-10-SF** **Lake Rudee - Lower and Lake Wesley**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 073-074 A, 6/11/2013.

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

The Shellfish Use is impaired based on DSS Condemnation # 073-074 A effective date 2013-06-11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-D07E_LAE01A06 / Lake Wesley - Upstream Branches / From start of both branches downstream to confluence with Rudee Inlet. Segment reflects status of station at mid-embayment. DSS shellfish condemnation # 073-074 A (effective 2013-06-11).	5B	Fecal Coliform	2006	H, 2yr	0.034
VAT-D07E_LAI02A06 / Lake Rudee - Lower (Rudee Inlet Canal) / Lower portion of Lake Rudee, including Rudee Inlet Canal. From RM 0.4 (upstream of confluence of Lake Holly with Rudee Inlet canal) downstream through Inlet canal to mouth. Portion of DSS shellfish harvesting condemnation # 073-074 (effective 2013-06-11).	5B	Fecal Coliform	2006	H, 2yr	0.026

Lake Rudee - Lower and Lake Wesley **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.060**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* LYNPH-DO-BAY** **Lynnhaven River and Broad Bay System CBP segment LYNPH and Tributaries**

Cause Location: This cause encompasses the entirety of the Lynnhaven River CBP segment LYNPH and Tributaries. Tributary to south shore of Chesapeake Bay. CBP segment LYNPH.

City / County: Virginia Beach City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_BBY01A14 / Broad Bay / East of Lynnhaven River. Located adjacent to Broad Bay Colony area of VB. CBP segment LYNPH. BIBI segment LYNPHa. DSS (OPEN) shellfish direct harvesting condemnation # 071-095 (effective 20160211)	4A	Oxygen, Dissolved	2006	L	1.213
VAT-C08E_BBY01B10 / Broad Bay - UTs W. Shore [Admin Cond] / East of Lynnhaven River. Located adjacent to Broad Bay Colony area. UTs along W. Shore of Broad Bay [Admin Cond]. CBP segment LYNPH. BIBI segment LYNPHa. DSS (Admin Cond) shellfish condemnation # 071-095 D, F, G (effective 201060211).	4A	Oxygen, Dissolved	2006	L	0.039
VAT-C08E_CRY01A00 / Crystal Lake / Includes Rainey Gut. Located in North Linkhorn Park area in Virginia Beach. East of Lynnhaven River. CBP segment LYNPH. DSS ADMIN condemnation # 071-010 B (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.128
VAT-C08E_DEY01A00 / Dey Cove/Mill Dam Creek- Upper / Tributary on western shore of Broad Bay near Great Neck Area in VB. East of Lynnhaven River. CBP segment LYNPH BIBI segment LYNPHa. DSS condemnation # 071-095 E (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.075
VAT-C08E_DEY02A18 / Dey Cove/Mill Dam Creek- Mouth / Located attached to west shore of Broad Bay Colony area of VB. East of Lynnhaven River. CBP segment LYNPH BIBI segment LYNPHa. DSS condemnation # 071-095 E (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.020
VAT-C08E_EBL01A06 / Eastern Branch - Upper, Lynnhaven River / From end of London Br. Cr. (Rt 58 crossing) downstream to Smith Point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS ADMIN condemnation # 070-025 A (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.226
VAT-C08E_EBL01B10 / Eastern Branch - Lower Upper, Lynnhaven River / From Smith Point downstream to Sandy point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS condemnation # 070-025 A (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.263
VAT-C08E_EBL02A08 / Eastern Branch - Lower, Lynnhaven River / From Mapps Point to the eastern shore embayment near Forest Hills. CBP segment LYNPH. Portion of DSS condemnation # 070-025 A (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.385
VAT-C08E_LKN01A00 / Linkhorn Bay - Upper / South of Linkhorn Estates area of VB upstream to Laskin Rd (58). East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish ADMIN harvesting condemnation # 071-010 A (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.103

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Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C08E_LKN01B14 / Linkhorn Bay - Upper / Located adjacent to Alexander Estates area of VB. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa OPEN. DSS shellfish direct harvesting condemnation # 071-010 (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.040
VAT-C08E_LKN02A10 / Linkhorn Bay - Lower / Located adjacent to Linkhorn Estates area of VB upstream to Alanton at The Narrows. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS OPEN shellfish direct harvesting area # 071-010 (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.581
VAT-C08E_LKN02B10 / Linkhorn Bay - Coves [Admin Condem] / Embayments adjacent to LKN02A10. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS [Admin Cond] shellfish direct harvesting condemnation # 071-010 C,D,E,F,G,H, I,J,K,L, M (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.223
VAT-C08E_LNC01A00 / Little Neck Creek - Upper / Eastern shore tributary of Linkhorn Bay, near Laskin Road and south of Linkhorn Park. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting ADMIN condemnation # 071-227 A (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.078
VAT-C08E_LNC01B16 / Little Neck Creek-Lower / Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 071-227 A (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.035
VAT-C08E_LNC02A12 / Little Neck Creek-Lower / Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting Seasonal & OPEN condemnation # 071-227 M1 (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.155
VAT-C08E_LNC02B12 / Little Neck Creek-Lower (DSS ADMIN) / Embayments adjacent to Little Neck Creek. Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting ADMIN condemnation # 071-227 B,C,D,E,F,G,H (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.072
VAT-C08E_LOB01A00 / London Bridge Creek / Entirety of creek, from headwaters near Shipps Corner downstream to Rt. 58 crossing. CBP segment LYNPH. BIBI segment LYNPHa. ADMIN DSS # 070-025 A (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.059
VAT-C08E_LON01A00 / Long Creek / Northern shore tributary of Broad Bay, near Bay Island area. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS (ADMIN) shellfish direct harvesting condemnation # 071-095 A,B,C, I (effective 20160211).	4A	Oxygen, Dissolved	2006	L	0.316
VAT-C08E_LYN01A06 / Lynnhaven River & Bay - Mainstem / Tributary to south shore of Chesapeake Bay. Mainstem area near mouth. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 070-025 C1 Conditionally Condemned (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.982
VAT-C08E_LYN01B10 / Lynnhaven River & Bay Coves [Admin Cond] / Embayments of LYN01A06 [DSS Admin Cond]. Tributary to south shore of Chesapeake Bay. CBP segment LYNPH. BIBI segment LYNPHa. DSS ADMIN shellfish harvesting condemnation # 070-025 (A-M) (effective 20160218) .	4A	Oxygen, Dissolved	2006	L	0.557
VAT-C08E_LYN01C12 / Lynnhaven River & Bay - DSS Cond / Tributary to south shore of Chesapeake Bay. Mainstem area. Segments near Mouth of Pleasure House and Brocks Cove. CBP segment LYNPH. DSS shellfish direct harvesting condemn # 070-025	4A	Oxygen, Dissolved	2006	L	0.198

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Chesapeake Bay/Atlantic/Small Coastal Basins

A & M (effective 20160218) .

VAT-C08E_THA01A02 / Thalia Creek, Thurston Branch & Buchanan Creek / Beginning of Thalia Creek (incl. Thurston Br & Buchanan Cr) from headwaters downstream to Western Br. Lynnhaven R. CBP segment LYNPH. BIBI segment LYNPHa. DSS ADMIN condemnation # 070-025 H (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.286
VAT-C08E_WES01A06 / Western Branch - Upper, Lynnhaven River / From the end of Thurston Branch downstream to Hebden Cove. CBP segment LYNPH. BIBI segment LYNPHa. Portion of ADMIN DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.151
VAT-C08E_WES01B16 / Western Branch - Middle, Lynnhaven River / From Witch Duck Bay to Witchduck Point. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish ADMIN condemnation #070-025 H (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.174
VAT-C08E_WES02A06 / Western Branch - Middle, Lynnhaven River / From Bayville Cr to Thoroughgood Cove. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.156
VAT-C08E_WES03A10 / Western Branch - Lower, Lynnhaven River / From Bayville Creek downstream to confluence with mainstem. CBP segment LYNPH. BIBI segment LYNPHa. DSS Conditionally Condemned shellfish condemnation #070-025 C1 (effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.170
VAT-C08E_WNC01A00 / West Neck Creek (Upper) to London Bridge Creek / From Princess Anne Rd. crossing downstream to junction with London Bridge Cr. at Shipps Corner area. Segment determined to drain to C08E (Lynnhaven River). CBP segment LYNPH. BIBI segment LYNPHa.	4A	Oxygen, Dissolved	2006	L	0.084
VAT-C08E_XBO01A00 / Canal No. 2 / Man-Made tributary to London Bridge Creek. Entire length of Canal No. 2. Portion of CBP segment LYNPH.	4A	Oxygen, Dissolved	2006	L	0.040
VAT-C08E_ZZZ01A00 / Unsegmented tidal tributaries in C08E-LYNPH / Tidal tributaries to Eastern and Western Branch Lynnhaven River. Portion of CBP segment LYNPH. BIBI segment LYNPHa. Portions of DSS shellfish ADMIN condemnation # 070-025 A & H(effective 20160218).	4A	Oxygen, Dissolved	2006	L	0.959
VAT-C08E_ZZZ01B10 / Unsegmented tidal tributary to Lynnhaven R. & Linkhorn Bay / Unsegmented tidal tributaries to Lynnhaven R. & Linkhorn Bay. CBP segment LYNPH. No DSS category.	4A	Oxygen, Dissolved	2006	L	0.210

Lynnhaven River and Broad Bay System CBP segment LYNPH and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**7.976**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* LYNPH-SAV-BAY** **Lynnhaven River and Broad Bay System CBP segment LYNPH and Tributaries**

Cause Location: This cause encompasses the entirety of the Lynnhaven River CBP segment LYNPH and Tributaries. Tributary to south shore of Chesapeake Bay. CBP segment LYNPH.

City / County: Virginia Beach City

Use(s): Aquatic Life — Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The polyhaline Lynnhaven River did not meet the Chesapeake Bay Shallow Water Subuse's submerged aquatic vegetation acreage criterion. The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010, this segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C08E_BBY01A14 / Broad Bay / East of Lynnhaven River. Located adjacent to Broad Bay Colony area of VB. CBP segment LYNPH. BIBI segment LYNPHa. DSS (OPEN) shellfish direct harvesting condemnation # 071-095 (effective 20160211)	4A	Aquatic Plants (Macrophytes)	2006	L	1.213
VAT-C08E_BBY01B10 / Broad Bay - UTs W. Shore [Admin Cond] / East of Lynnhaven River. Located adjacent to Broad Bay Colony area. UTs along W. Shore of Broad Bay [Admin Cond]. CBP segment LYNPH. BIBI segment LYNPHa. DSS (Admin Cond) shellfish condemnation # 071-095 D, F, G (effective 201060211).	4A	Aquatic Plants (Macrophytes)	2010	L	0.039
VAT-C08E_CRY01A00 / Crystal Lake / Includes Rainey Gut. Located in North Linkhorn Park area in Virginia Beach. East of Lynnhaven River. CBP segment LYNPH. DSS ADMIN condemnation # 071-010 B (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2006	L	0.128
VAT-C08E_DEY01A00 / Dey Cove/Mill Dam Creek- Upper / Tributary on western shore of Broad Bay near Great Neck Area in VB. East of Lynnhaven River. CBP segment LYNPH BIBI segment LYNPHa. DSS condemnation # 071-095 E (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2006	L	0.075
VAT-C08E_DEY02A18 / Dey Cove/Mill Dam Creek- Mouth / Located attached to west shore of Broad Bay Colony area of VB. East of Lynnhaven River. CBP segment LYNPH BIBI segment LYNPHa. DSS condemnation # 071-095 E (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2006	L	0.020
VAT-C08E_EBL01A06 / Eastern Branch - Upper, Lynnhaven River / From end of London Br. Cr. (Rt 58 crossing) downstream to Smith Point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS ADMIN condemnation # 070-025 A (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.226
VAT-C08E_EBL01B10 / Eastern Branch - Lower Upper, Lynnhaven River / From Smith Point downstream to Sandy point. CBP segment LYNPH. BIBI segment LYNPHa. Portion of DSS condemnation # 070-025 A (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2010	L	0.263
VAT-C08E_EBL02A08 / Eastern Branch - Lower, Lynnhaven River / From Mapps Point to the eastern shore embayment near Forest Hills. CBP segment LYNPH. Portion of DSS condemnation # 070-025 A (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2008	L	0.385
VAT-C08E_LKN01A00 / Linkhorn Bay - Upper / South of Linkhorn Estates area of VB upstream to Laskin Rd (58). East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish	4A	Aquatic Plants (Macrophytes)	2006	L	0.103

ADMIN harvesting condemnation # 071-010 A (effective 20160211).					
VAT-C08E_LKN01B14 / Linkhorn Bay - Upper / Located adjacent to Alexander Estates area of VB. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa OPEN. DSS shellfish direct harvesting condemnation # 071-010 (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2006	L	0.040
VAT-C08E_LKN02A10 / Linkhorn Bay - Lower / Located adjacent to Linkhorn Estates area of VB upstream to Alanton at The Narrows. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS OPEN shellfish direct harvesting area # 071-010 (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2010	L	0.581
VAT-C08E_LKN02B10 / Linkhorn Bay - Coves [Admin Condem] / Embayments adjacent to LKN02A10. East of Lynnhaven River. CBP segment LYNPH. BIBI segment LYNPHa. DSS [Admin Cond] shellfish direct harvesting condemnation # 071-010 C,D,E,F,G,H, I,J,K,L, M (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2010	L	0.223
VAT-C08E_LNC01A00 / Little Neck Creek - Upper / Eastern shore tributary of Linkhorn Bay, near Laskin Road and south of Linkhorn Park. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting ADMIN condemnation # 071-227 A (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2006	L	0.078
VAT-C08E_LNC01B16 / Little Neck Creek-Lower / Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 071-227 A (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2014	L	0.035
VAT-C08E_LNC02A12 / Little Neck Creek-Lower / Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting Seasonal & OPEN condemnation # 071-227 M1 (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2014	L	0.155
VAT-C08E_LNC02B12 / Little Neck Creek-Lower (DSS ADMIN) / Embayments adjacent to Little Neck Creek. Eastern shore tributary of Linkhorn Bay, near Bay Colony. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting ADMIN condemnation # 071-227 B,C,D,E,F,G,H (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2014	L	0.072
VAT-C08E_LOB01A00 / London Bridge Creek / Entirety of creek, from headwaters near Shipps Corner downstream to Rt. 58 crossing. CBP segment LYNPH. BIBI segment LYNPHa. ADMIN DSS # 070-025 A (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.059
VAT-C08E_LON01A00 / Long Creek / Northern shore tributary of Broad Bay, near Bay Island area. Portion of CBP segment LYNPH. BIBI segment LYNPHa. DSS (ADMIN) shellfish direct harvesting condemnation # 071-095 A,B,C, I (effective 20160211).	4A	Aquatic Plants (Macrophytes)	2006	L	0.316
VAT-C08E_LYN01A06 / Lynnhaven River & Bay - Mainstem / Tributary to south shore of Chesapeake Bay. Mainstem area near mouth. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation # 070-025 C1 Conditionally Condemned (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.982
VAT-C08E_LYN01B10 / Lynnhaven River & Bay Coves [Admin Cond] / Embayments of LYN01A06 [DSS Admin Cond]. Tributary to south shore of Chesapeake Bay. CBP segment LYNPH. BIBI segment LYNPHa. DSS ADMIN shellfish harvesting condemnation # 070-025 (A-M) (effective 20160218) .	4A	Aquatic Plants (Macrophytes)	2010	L	0.557
VAT-C08E_LYN01C12 / Lynnhaven River & Bay - DSS Cond / Tributary to south shore of Chesapeake Bay. Mainstem area. Segments near Mouth of Pleasure House and Brocks Cove. CBP	4A	Aquatic Plants (Macrophytes)	2014	L	0.198

segment LYNPH. DSS shellfish direct harvesting condemn # 070-025 A & M (effective 20160218) .					
VAT-C08E_THA01A02 / Thalia Creek, Thurston Branch & Buchanan Creek / Beginning of Thalia Creek (incl. Thurston Br & Buchanan Cr) from headwaters downstream to Western Br. Lynnhaven R. CBP segment LYNPH. BIBI segment LYNPHa. DSS ADMIN condemnation # 070-025 H (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.286
VAT-C08E_WES01A06 / Western Branch - Upper, Lynnhaven River / From the end of Thurston Branch downstream to Hebden Cove. CBP segment LYNPH. BIBI segment LYNPHa. Portion of ADMIN DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.151
VAT-C08E_WES01B16 / Western Branch - Middle, Lynnhaven River / From Witch Duck Bay to Witchduck Point. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish ADMIN condemnation #070-025 H (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.174
VAT-C08E_WES02A06 / Western Branch - Middle, Lynnhaven River / From Bayville Cr to Thoroughgood Cove. CBP segment LYNPH. BIBI segment LYNPHa. DSS shellfish direct harvesting condemnation #070-025 H (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.156
VAT-C08E_WES03A10 / Western Branch - Lower, Lynnhaven River / From Bayville Creek downstream to confluence with mainstem. CBP segment LYNPH. BIBI segment LYNPHa. DSS Conditionally Condemned shellfish condemnation #070-025 C1 (effective 20160218).	4A	Aquatic Plants (Macrophytes)	2010	L	0.170
VAT-C08E_WNC01A00 / West Neck Creek (Upper) to London Bridge Creek / From Princess Anne Rd. crossing downstream to junction with London Bridge Cr. at Shipps Corner area. Segment determined to drain to C08E (Lynnhaven River). CBP segment LYNPH. BIBI segment LYNPHa.	4A	Aquatic Plants (Macrophytes)	2006	L	0.084
VAT-C08E_XBO01A00 / Canal No. 2 / Man-Made tributary to London Bridge Creek. Entire length of Canal No. 2. Portion of CBP segment LYNPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.040
VAT-C08E_ZZZ01A00 / Unsegmented tidal tributaries in C08E-LYNPH / Tidal tributaries to Eastern and Western Branch Lynnhaven River. Portion of CBP segment LYNPH. BIBI segment LYNPHa. Portions of DSS shellfish ADMIN condemnation # 070-025 A & H(effective 20160218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.959
VAT-C08E_ZZZ01B10 / Unsegmented tidal tributary to Lynnhaven R. & Linkhorn Bay / Unsegmented tidal tributaries to Lynnhaven R. & Linkhorn Bay. CBP segment LYNPH. No DSS category.	4A	Aquatic Plants (Macrophytes)	2010	L	0.210

Lynnhaven River and Broad Bay System CBP segment LYNPH and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**7.976**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* MOBPH-SAV-BAY Chesapeake Bay segment MOBPH (Mobjack Bay)**

Cause Location: This cause encompasses the complete CPB segment MOBPH.

City / County: Gloucester Co. Hampton City Mathews Co. Poquoson City. York Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The acres of submerged aquatic vegetation (SAV) mapped through aerial surveys do not meet the criteria. Submerged Aquatic Vegetation acres goal is 15,908 acres. Aerial analysis of SAV over the three most recent years of data indicate segment has attained 51% of this goal. Only 58% of water clarity goal met according to 2012 Dataflow surveys.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-R01E-MOB / Chesapeake Bay - CBP Segment MOBPH / This assessment unit is the mainstem Chesapeake Bay and Mobjack Bay portions of Chesapeake Bay Program segment MOBPH, located off the mouth of the York River including Mobjack Bay. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	92.951
	4A	Aquatic Plants (Macrophytes)	2006	L	92.951
	4A	Aquatic Plants (Macrophytes)	2006	L	92.951
	4A	Aquatic Plants (Macrophytes)	2006	L	92.951
VAP-C04E_BEV01A08 / Belleville Creek / Described in VDH Shellfish Condemnation 042-157B, 5/27/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.037
MOBPH					
VAP-C04E_BKA01A98 / Back Creek / Described in VDH condemnation notice 042-157C, 5/27/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.071
MOBPH					
VAP-C04E_BKA01B12 / Back Creek / Portion of VDH condemnation notice 157C, 6/3/1997 open on 5/27/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.014
MOBPH					
VAP-C04E_BLW01A98 / Blackwater Creek / Described in the condemnation notice 042-131A, 6/3/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.101
MOBPH					
VAP-C04E_BUR01A00 / Burke Mill Stream / From extent of tide to North River	4A	Aquatic Plants (Macrophytes)	2010	L	0.025
MOBPH					
VAP-C04E_DAV01A98 / Davis Creek / Described in the condemnation notice 042-131C, 6/30/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.012
Size reduced in the 2018 cycle.					
MOBPH					
VAP-C04E_DAV02A14 / Davis Creek, UT / Described in VDH-DSS condemnation 042-131B, 7/12/2012.	4A	Aquatic Plants (Macrophytes)	2006	L	0.024

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

MOBPH					
VAP-C04E_DVS01A98 / Davis Creek / Described in the condemnation notice 040-085B, 9/29/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.006
MOBPH					
VAP-C04E_DVS01B08 / Davis Creek / Described in the condemnation notice 040-085M2, 9/21/2010.	4A	Aquatic Plants (Macrophytes)	2006	L	0.011
MOBPH					
VAP-C04E_DVS02A12 / Davis Creek / Described in the condemnation notice 040-085M1, 9/29/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.011
MOBPH					
VAP-C04E_DVS03A12 / Davis Creek / Described in VDH-DSS condemnation 040-085A, 9/29/2015	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
MOBPH					
VAP-C04E_ELM01A98 / Elmington Creek / Described in the condemnation notice 157B, 6/3/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.023
MOBPH					
VAP-C04E_ELM01B08 / Elmington Creek / Portion of VDH condemnation notice 042-157D, 5/27/2015 not included in 157B, 6/3/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
MOBPH					
VAP-C04E_EST01A98 / East River / Described in the condemnation notice 92, 1/3/1995.	4A	Aquatic Plants (Macrophytes)	2006	L	0.198
MOBPH					
VAP-C04E_EST01B10 / East River / Portion of condemnation notice 041-092A, 9/30/2016 open in 92, 1/3/1995.	4A	Aquatic Plants (Macrophytes)	2006	L	0.101
MOBPH					
VAP-C04E_EST01D10 / East River, UT / Described in the condemnation notice 041-092C, 12/16/2010.	4A	Aquatic Plants (Macrophytes)	2006	L	0.023
MOBPH					
VAP-C04E_EST02A00 / East River / East River from SFC 92 to mouth, not otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2006	L	2.519
MOBPH					
VAP-C04E_EST03A06 / East River, UT / Described in VDH-DSS SFC 041-212M1, 9/30/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.016
MOBPH					
VAP-C04E_EST04A02 / East River, UT / As described in condemnation notice 041-212B, 9/30/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.026
MOBPH					
VAP-C04E_EST05A06 / East River, UT (aka Mill Creek) / Described in VDH-DSS SFC 041-212M2, 9/25/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.010

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

MOBPH

VAP-C04E_EST06A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212G, 10/25/2005.	4A	Aquatic Plants (Macrophytes)	2006	L	0.020

MOBPH

VAP-C04E_EST07A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212C, 9/30/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.014

MOBPH

VAP-C04E_EST08A08 / East River, UT / Described in VDH Shellfish Condemnation 041-212E, 9/30/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.004

MOBPH

VAP-C04E_GRE01A08 / Greenmansion Cove / Described in VDH-DSS condemnation notice 042-131E, 6/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.027

MOBPH

VAP-C04E_GRE01B10 / Greenmansion Cove / Portion of VDH-DSS condemnation notice 042-131M1, 6/30/2016 not included in 042-131E, 6/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.027

MOBPH

VAP-C04E_MIS01A04 / Miles Creek / Described in VDH Condemnation Notice 041-212D, 9/30/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.030

MOBPH

VAP-C04E_NOR01A02 / North River / Described in condemnation notice 042-157A, 5/27/2015, excluding tidal Burke Mill Stream.	4A	Aquatic Plants (Macrophytes)	2006	L	0.250

Split in the 2018 cycle.

MOBPH

VAP-C04E_NOR01B08 / North River / Portion of condemnation notice 042-157A, 6/21/2013 not included on the 6/3/1997 condemnation	4A	Aquatic Plants (Macrophytes)	2006	L	0.135

MOBPH

VAP-C04E_NOR01C18 / North River / Portion of condemnation notice 157A, 6/3/1997 open 5/27/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.067

MOBPH

VAP-C04E_NOR02A02 / North River / North River and tribs from SFC 157A to Mobjack Bay, except as otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2006	L	5.392

MOBPH

VAP-C04E_OAK01A08 / Oakland Creek / Described in the condemnation notice 042-131B, 6/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.030

MOBPH

VAP-C04E_PEP01A06 / Pepper Creek / As described in the condemnation notice 040-085B, 9/26/2006.	4A	Aquatic Plants (Macrophytes)	2006	L	0.031

MOBPH

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C04E_PUT01A98 / Put In Creek / Portion of VDH-DSS condemnation notice 041-005A, 9/29/2015 not included in 5B, 6/5/1996. Expanded slightly in the 2018 cycle. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.095
VAP-C04E_PUT01C10 / Put In Creek / Portion of condemnation notice 5A, 6/5/1996 open on 041-005, 9/29/2015. Shrank in the 2018 cycle. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.032
VAP-C04E_PUT01D16 / Put In Creek / Described in condemnation notice 041-005B, 9/29/2015. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.005
VAP-C04E_PUT02A98 / Put In Creek / Described in the condemnation notice 5B, 6/5/1996. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
VAP-C04E_RAN01A08 / Raines Creek / VDH Shellfish Condemnation 041-212I, 10/25/2005 MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.039
VAP-C04E_RAY01A12 / Raymond Creek / Described in VDH-DSS condemnation 042-131B, 6/30/2016. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.026
VAP-C04E_SLO01A08 / Sloop Creek / Tidal extent of Sloop Creek. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.050
VAP-C04E_TAB01A08 / Tabbs Creek / Described in VDH Shellfish Condemnation 041-212F, 9/30/2016. Size reduced in the 2018 cycle. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
VAP-C04E_THO01A08 / Thomas Creek / Described in VDH Shellfish Condemnation 041-212B, 9/25/2014. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.014
VAP-C04E_WON01A08 / Weston Creek / Described in VDH Shellfish Condemnation 041-212A, 9/30/2016. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
VAP-C04E_WOO01A10 / Woodas Creek / Described in the condemnation notice 041-092B, 9/30/2016. Shrank slightly in the 2018 cycle. MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.029
VAP-C04E_WTS01A08 / Whites Creek / Described in VDH Shellfish Condemnation 041-212E, 10/25/2005.	4A	Aquatic Plants (Macrophytes)	2006	L	0.018

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

MOBPH VAP-C04E_XFA03A14 / XFA - North River, UT / Described in VDH-DSS condemnation 042-131A, 6/30/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.020
MOBPH VAP-C04E_ZZZ03A06 / Unsegmented estuaries in C04 / Unsegmented portion within MOBPH	4A	Aquatic Plants (Macrophytes)	2006	L	0.409
VAP-C05E_FOX01A08 / Fox Mill Run / Described in the condemnation notice 96B, 8/12/1996.	4A	Aquatic Plants (Macrophytes)	2006	L	0.085
MOBPH VAP-C05E_OLD01A12 / Oldhouse Creek / Tidal limit to mouth at Ware River	4A	Aquatic Plants (Macrophytes)	2006	L	0.102
MOBPH VAP-C05E_WAR01A02 / Ware River / Described in the condemnation notice 096A, 8/12/1996.	4A	Aquatic Plants (Macrophytes)	2006	L	0.257
MOBPH VAP-C05E_WAR01B08 / Ware River / Portion of VDH condemnation notice 043-096A, 5/27/2015 not included in condemnation 96A and 96B, 8/12/1996. Shortened in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.262
MOBPH VAP-C05E_WAR02A02 / Ware River / Ware River downstream of SFC 096.	4A	Aquatic Plants (Macrophytes)	2006	L	6.309
MOBPH VAP-C05E_WAR02B18 / Ware River / Described in VDH-DSS condemnation 043-096C, 5/27/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.010
MOBPH VAP-C05E_WIL01A98 / Wilson Creek / Described in the condemnation notice 106, 8/12/1996.	4A	Aquatic Plants (Macrophytes)	2006	L	0.033
MOBPH VAP-C05E_WIL01B08 / Wilson Creek / Portion of VDH condemnation notice 043-096B, 5/27/2015 not included in condemnation notice 106, 8/12/1996. Expanded in the 2018 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.241
MOBPH VAP-C05E_XDJ01A08 / Wilson Creek, UT / Tidal limit to mouth at Wilson Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	0.010
MOBPH VAP-C05E_ZZZ01A00 / Unsegmented estuaries in C05 / Unsegmented portion of the watershed.	4A	Aquatic Plants (Macrophytes)	2006	L	0.154
MOBPH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C06E_BRB01A08 / Browns Bay / Described in VDH Shellfish Condemnation 125B, 12/31/1996.	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
MOBPH					
VAP-C06E_BRB01B12 / Browns Bay / Portion of VDH Shellfish Condemnation 045-125M1, 12/9/2015 not included in 125B, 12/31/1996.	4A	Aquatic Plants (Macrophytes)	2006	L	0.024
MOBPH					
VAP-C06E_FSC01A98 / Free School Creek / Described in VDH Shellfish Condemnation 044-093A, 6/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.039
Shrank in the 2018 cycle.					
MOBPH					
VAP-C06E_FSC01B12 / Free School Creek / Portion of TMDL study area open for harvest on 044-093, 6/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.028
MOBPH					
VAP-C06E_HEY01A98 / Heywood Creek / Described in the condemnation notice 044-054B, 4/2/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.081
MOBPH					
VAP-C06E_HEY01B10 / Heywood Creek / Portion of condemnation notice 101, 4/1/1997 open in condemnation 044-054, 4/2/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.085
MOBPH					
VAP-C06E_MNC01A98 / Monday Creek / Portion of VDH-DSS condemnation notice 25A, 12/31/1996 open 12/9/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.030
Split in the 2018 cycle.					
MOBPH					
VAP-C06E_MNC01B18 / Monday Creek / Described in VDH-DSS condemnation notice 045-125A, 12/9/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.053
MOBPH					
VAP-C06E_ROW01A06 / Rowes Creek / Described in VDH-DSS Shellfish Condemnation 044-054M2, 4/2/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.067
MOBPH					
VAP-C06E_SEN01A02 / Northwest Branch Severn River / Described in condemnation notice 044-093B, 6/9/2016, excluding tributary XEE.	4A	Aquatic Plants (Macrophytes)	2006	L	0.092
MOBPH					
VAP-C06E_SEN01B16 / Northwest Branch Severn River, UT / Described in VDH-DSS condemnation notice 044-093D, 6/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
MOBPH					
VAP-C06E_SEN01C10 / Northwest Branch Severn River / Portion of condemnation notice 93A, 4/1/1997 open on 044-093, 6/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.202
MOBPH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C06E_SEN02A06 / Northwest Branch Severn River / Mainstem and tribs not otherwise segmented	4A	Aquatic Plants (Macrophytes)	2006	L	0.441
MOBPH					
VAP-C06E_SES01A00 / Southwest Branch Severn River / Mainstem	4A	Aquatic Plants (Macrophytes)	2006	L	0.635
MOBPH					
VAP-C06E_SEV02A00 / Severn River / End of NW Branch to mouth, unless otherwise segmented.	4A	Aquatic Plants (Macrophytes)	2006	L	3.258
MOBPH					
VAP-C06E_STR01A08 / Sterling Creek / Described in VDH Shellfish Condemnation 044-093E, 4/2/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
MOBPH					
VAP-C06E_THC01A98 / Thorntons Creek / Described in the condemnation notice 044-054A, 4/2/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.052
MOBPH					
VAP-C06E_THC01B10 / Thorntons Creek / Portion of condemnation notice 054, 4/1/1997 open in condemnation 044-054, 4/2/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.027
MOBPH					
VAP-C06E_VGH01A98 / Vaughans Creek / Described in the condemnation notice 044-093C, 6/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.061
Shrank in the 2018 cycle.					
MOBPH					
VAP-C06E_VGH01B10 / Vaughans Creek / Portion of condemnation notice 093B, 4/1/1997 open on 6/9/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.060
MOBPH					
VAP-C06E_WET01A06 / Willetts Creek / Described in VDH Shellfish Condemnation 044-054M1, 4/2/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.033
MOBPH					
VAP-C06E_WET01B08 / Willetts Creek / Described in VDH Condemnation 044-054C, 2/15/2006.	4A	Aquatic Plants (Macrophytes)	2006	L	0.128
MOBPH					
VAP-C06E_WTT01A08 / Whitaker Creek / Tidal extent of Whitaker Creek.	4A	Aquatic Plants (Macrophytes)	2006	L	0.066
MOBPH					
VAP-C06E_XEE01A10 / Northwest Branch Severn River, UT / Tidal limit to mouth at NW Branch Severn River	4A	Aquatic Plants (Macrophytes)	2012	L	0.003
MOBPH					
VAP-C06E_ZZZ01A00 / Unsegmented estuaries in C06 / Unsegmented portion of the watershed.	4A	Aquatic Plants (Macrophytes)	2006	L	1.352
MOBPH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C07E_BAK01A00 / Mainstem Back River / From junction of Northwest and Southwest Branches downstream to mouth of Back River. Portion of CBP Segment MOBPH. DSS Condemnation 054-215 OPEN (20161031) and 054-021 (20151102) shellfish condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	3.340
VAT-C07E_BAK01B08 / Mainstem Back River-South Shore at Mouth Wallace Cr. / Portion of mainstem along south shore between Windmill Pt. and Grunland Pt. CBP Segment MOBPH. DSS shellfish condemnation # 054-215 M1 (Seasonal)(effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.091
VAT-C07E_BAK02A14 / Back Creek - Inlet near Dandy Point [TMDL] / Tributary to south shore Back River (incl area in Back R), east of Harris R & adjacent to Inlet #2. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-215 B, 20161031.	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
VAT-C07E_BCK01A00 / Back Creek - Upper / Back Creek (S of York R mouth) tributary to the Thorofare and Chesapeake Bay. From end of tidal waters downstream to point upstream of Dandy (RM 1.6). CBP Segment MOBPH. DSS shellfish condemnation # 053-151 A &M1 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.222
VAT-C07E_BCK02A06 / Back Creek - Middle (DSS-marina area) / Back Creek (S of York R mouth) is a tributary to The Thorofare and Chesapeake Bay. CBP Segment MOBPH. Area within DSS shellfish condemnation # 053-151 M1, around marina area (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.138
VAT-C07E_BCK03A06 / Back Creek - Lower / Back Creek (S of York R mouth) is a tributary to The Thorofare and Chesapeake Bay. CBP Segment MOBPH. From upstream of Dandy (RM 1.6) downstream to mouth (RM 0.0). DSS (OPEN) shellfish condemnation # 053-151 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.405
VAT-C07E_BEN01A06 / Bennett Creek - Upper (DSS_06-IR) / Bennett Creek upstream portion (S of Poquoson R mouth) tributary to Poquoson River. From end of tidal waters downstream 0.1 mi. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 053-222 E (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.039
VAT-C07E_BEN02A08 / Bennet Creek - Lower Middle / South shore tributary to Poquoson R, in area of Griffins Beach. East of Roberts Cr. and north of White House Cove. CBP Segment MOBPH. DSS (OPEN) Shellfish condemnation # 053-222 and M1 seasonal (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.209
VAT-C07E_BEN03A16 / Bennett Creek-Mouth / Mouth of Bennett Creek. CBP Segment MOBPH. No DSS direct shellfish harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	0.366
VAT-C07E_BRK01A06 / Brick Kiln Creek / From 0.3 mi. downstream of Big Bethel Res. dam (approx. RM 5.0, end of tidal waters north of Ebenezer Church) downstream to confluence with Northwest Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 A (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.086
VAT-C07E_BTC01A08 / Bay Tree Creek / Trib to Bay, S of The Thorofare & N of mouth of Poquoson R. @ Bay Tree Point. CBP Segment MOBPH. DSS Shellfish condemnation # 053-221 C(effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.076
VAT-C07E_BTC02A18 / Bay Tree Creek- Mouth / Trib to Bay, S of The Thorofare & N of mouth of Poquoson R. @ Bay Tree Point. CBP Segment MOBPH. DSS (OPEN) Shellfish condemnation # 053-221 (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.050

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C07E_BTH01A08 / Boathouse Creek / Boathouse Creek (N of Poquoson R mouth) tributary to Chisman Creek. CBP Segment MOBPH. DSS condemnation # 053-221 (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.078
VAT-C07E_CAB01A08 / Cabin Creek / Cabin Creek (N of Poquoson R mouth) tributary to Chisman Creek. CBP Segment MOBPH. DSS shellfish condemnation # 053-221 (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.082
VAT-C07E_CCR01A06 / Cedar & Topping Creeks / Located near City of Poquoson. Cedar & Topping Creeks are tribs to the north shore of the Northwest Branch of Back River. Portion of DSS condemnation # 054-021 A (less NW Br Back R./Brick Kiln Cr. portion) effective 20151102. CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.109
VAT-C07E_CHS01A06 / Chisman Creek-Upper / From end of tidal waters (upper 1/3 of creek), downstream to area of Evergreen Shores (approx. RM 0.9). CBP Segment MOBPH. DSS condemnation # 053-221A & seasonal M2 (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.306
VAT-C07E_CHS02A06 / Chisman Creek - Lower / Lower 2/3 of creek, downstream from area of Evergreen Shores (RM 0.9) to mouth. CBP Segment MOBPH. DSS (OPEN) condemnation # 053-221 & M1(effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.631
VAT-C07E_EAS01A06 / Easton Cove / Located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. DSS (OPEN) shellfish condemnation # 053-222 (effective 20160511). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.057
VAT-C07E_FLY01A06 / Floyds Bay- Upper / Upper Portion of Floyds Bay. Located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. Portion of DSS shellfish condemnation # 053-222 D (effective 20160511). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
VAT-C07E_FLY02A16 / Floyds Bay- mouth / Located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. Portion of DSS shellfish condemnation # 053-222 (effective 20160511). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.010
VAT-C07E_FRT01A06 / Front Cove - Upper / North shore trib. to mainstem Back R. Adjacent to Messick Point. DSS shellfish condemnation # 054-021 D (effective 20151102). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
VAT-C07E_FRT02A08 / Front Cove - Lower / North shore trib. to mainstem Back R. Adjacent to Messick Point. DSS shellfish Seasonal condemnation # 054-021 M1 (effective 20151102). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.036
VAT-C07E_GLD01A10 / Grunland Creek - Mouth / South shore trib. to mainstem Back R. Adjacent to Grandview area. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 (effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.038
VAT-C07E_GLD02A18 / Grunland Creek - Back River / South shore trib. to mainstem Back R. Adjacent to Grunland Point. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 C (effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.064
VAT-C07E_GOO01A14 / Goose Creek- Upper / From end of tidal waters to approx. River mile 0.27. DSS Shellfish condemnation # 053-221 B (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.065
VAT-C07E_GOO02A14 / Goose Creek- Lower / From Rivermile 0.27 to mouth. CBP Segment MOBPH. DSS OPEN condemnation #	4A	Aquatic Plants (Macrophytes)	2006	L	0.036

053-221 (effective 20160511).					
VAT-C07E_HAR01A06 / Harris River - Upper / South shore trib. to mainstem Back R. Adjacent to Fox Hill area. DSS shellfish condemnation # 054-215 A (effective 20161031). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.198
VAT-C07E_HAR02A10 / Harris River - Mouth / South shore trib. to mainstem Back R. East shore area at mouth. Adjacent to Fox Hill area. CBP Segment MOBPH. DSS (OPEN) shellfish area # 054-215 (effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.160
VAT-C07E_HAR02B10 / Harris River - Lower Marina Area / South shore trib. to mainstem Back R. Adjacent to Fox Hill area. CBP Segment MOBPH. DSS (Seasonal) shellfish condemnation # 054-215 M2 (effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.053
VAT-C07E_HOD01A08 / Hodges Creek - Upper / North shore trib to Poquoson R. @ Fish Neck. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 053-137 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.057
VAT-C07E_IN101A08 / DSS Inlet #1 - Unnamed Inlet at Mouth of SW Branch / South shore trib. to mainstem Back R. Located east of mouth of SW Branch. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-021 C (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
VAT-C07E_INB01A04 / DSS Inlet #2 - Unnamed Inlet S. Shore of SW Br. Back River / South shore trib. to Southwest Branch Back R. Located near mouth of SW Branch, west of unnamed DSS Inlet #1. DSS OPEN condemnation # 054-021 (effective 201511021). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.008
VAT-C07E_LMC01A04 / Lambs Creek - Poquoson River / South shore tributary to Poquoson R, west of Poquoson Shores. On border of Poquoson/York boundary. Between Moores Cr. and Roberts Cr to east. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 C (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.135
VAT-C07E_LMC02A16 / Lambs Creek - Mouth / Mouth of Lambs Creek located on South shore tributary to Poquoson R, west of Poquoson Shores. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.028
VAT-C07E_LON01A06 / Long Creek - Back River / South shore trib. to mainstem Back R. Adjacent to Grandview natural Preserve area. CBP Segment MOBPH. DSS shellfish harvesting condemnation # 054-215 C (effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.043
VAT-C07E_LON01B12 / Long & Grunland Creeks - Back River / South shore trib. to mainstem Back R. Adjacent to Grandview area. CBP Segment MOBPH. DSS shellfish ADMIN harvesting condemnation # 054-215 C (effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.055
VAT-C07E_LON02A10 / Long & Grunland Creeks - DSS Admin Area / South shore trib. to mainstem Back R. Portion adjacent to Grandview area. CBP Segment CB8PH. DSS shellfish harvesting condemnation # 055-216 A ADMIN. Cond. (effective 20080530).	4A	Aquatic Plants (Macrophytes)	2006	L	0.085
VAT-C07E_LYO01A06 / Lyons Creek - Upper & Middle / South shore tributary to Poquoson R, in area of York Haven Anchorage. East of Roberts Cr. and north of White House Cove. CBP Segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 B (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.070
VAT-C07E_LYO02A06 / Lyons Creek - Lower / South shore tributary to Poquoson R, in area of York Haven Anchorage. East of	4A	Aquatic Plants (Macrophytes)	2006	L	0.050

Roberts Cr. and north of White House Cove. Lower portion of Lyons Cr. CBP Segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 (effective 20160218).					
VAT-C07E_NEW01A02 / Newmarket Creek - Upper / South of Blue Bird Gap Farm area. From end of tidal waters at Terrant ES (approx. RM 5.1) downstream to I-64 crossing (RM 3.68). CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.073
VAT-C07E_NEW02A02 / Newmarket Creek - Lower / South of Blue Bird Gap Farm area. From the I-64 crossing (RM 3.68) downstream to confluence with SW Br. Back R. CBP Segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.079
VAT-C07E_NWB01A06 / Northwest Br. Back River - Upper [TMDL-CD] / CBP Segment MOBPH. Headwaters to confluence of Cedar Creek between Cedar Point and Marsh Point. Portion of DSS shellfish condemnation # 054-021 A (less Cedar/Topping & Brick Kiln Creeks, effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.220
VAT-C07E_NWB01B08 / Northwest Br. Back River - Upper [TMDL not CD] / Northwest Br. Back River upper portion from confluence of Cedar Creek downstream to confluence Tabbs Cr. Portion DSS shellfish condemnation # 054-021 A (less Cedar/Topping & Brick Kiln Creeks, effective 20151102). CBP Segment MOBPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.248
VAT-C07E_NWB02A06 / Northwest Br. Back River - Lower [DSS OPEN] / From area of confluence of Topping Creek (approx. RM 1.5) downstream to confluence with mainstem Back R. CBP Segment MOBPH. Portion of DSS (OPEN) shellfish condemnation # 054-021 (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.961
VAT-C07E_POQ01A06 / Poquoson River - Upper [TMDL-CD] / From Rt 17 crossing @ reservoir dam (RM 5.7) downstream to past confluence of Quarter March Cr (RM 2.7) @ Calthrop Neck. Including Moores & Quarter March Creeks. CBP Segment MOBPH. DSS shellfish condemn # 053-137 A (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.518
VAT-C07E_POQ02A06 / Poquoson River - Lower [DSS-OPEN] / From Calthrop Neck downstream to mouth of Hodges Cove. CBP Segment MOBPH. DSS (OPEN) shellfish harvesting condemnation # 053-137 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.824
VAT-C07E_POQ03A08 / Poquoson River - Mouth / From Hunts Point a wedge NW across Poquoson River mouth to northern shore. CBP Segment MOBPH. DSS (OPEN) shellfish harvesting condemnation # 053-137 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	1.492
VAT-C07E_PTC01A04 / Patricks Creek - Poquoson River / North shore trib to Poquoson River south of Dare area. CBP Segment MOBPH. DSS Shellfish condemnation # 053-137 B (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.119
VAT-C07E_ROB01A04 / Roberts Creek - Upper / South of mouth of Poquoson River between Hunts Pt. and Griffins Beach areas. CBP Segment MOBPH. DSS ADMIN Shellfish condemnation # 053-222 A (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.104
VAT-C07E_ROB02A08 / Roberts Creek - Lower [DSS-OPEN] / South of mouth of Poquoson River between Hunts Pt. and Griffins Beach areas. CBP Segment MOBPH. DSS OPEN Shellfish condemnation # 053-222 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.009
VAT-C07E_SWB01A08 / SW Br Back River - Incl Tides Mill Cr [TMDL area] / Headwaters of Southwest Branch (incl tidal Tides Mill	4A	Aquatic Plants (Macrophytes)	2006	L	1.119

Cr) downstream to Langley View. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-021 B (effective 20151102).					
VAT-C07E_SWB02A08 / Southwest Br. Back River - Mouth / Lower portion to confluence with mainstem Back R. CBP Segment MOBPH. Portion of DSS shellfish (OPEN) condemnation # 054-021 (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.568
VAT-C07E_TBC01A04 / Tabbs Creek - NW Br Back River / Tributary to Northwest Branch Back River, entirety of creek. CBP segment MOBPH. Portion of DSS shellfish condemnation # 054-021 E (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.069
VAT-C07E_TBC02A10 / Tabbs Creek Mouth - NW Br Back River / Tributary to Northwest Branch Back River, mouth of creek. CBP segment MOBPH. Portion of DSS OPEN shellfish condemnation # 054-021 (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.038
VAT-C07E_THR01A10 / Sandbox Area NW Thorofare / Sandbox Area NW Thorofare Inlet near Goodwin Neck. CBP Segment MOBPH. DSS OPEN condemnation 053-051 (effective 20150218).	4A	Aquatic Plants (Macrophytes)	2006	L	0.012
VAT-C07E_WAL01A06 / Wallace Creek - Upper (Back River) / Tributary to south shore Back River, east of Harris R & adjacent to Inlet #2. Most upstream tip of creek. CBP segment MOBPH. DSS (PROHIBITED - ADMIN COND) shellfish condemnation # 054-215 B& D (effective 20161031).	4A	Aquatic Plants (Macrophytes)	2006	L	0.036
VAT-C07E_WAT01A06 / Watts Creek - (NW Br. Back River) / Located southwest of Poquoson. Watts Cr. trib to Northwest Br. of Back R. CBP segment MOBPH. Portion of DSS condemnation # 054-021 (effective 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.058
VAT-C07E_WHH01A06 / White House Cove - Bennet Cr. Area / Located in York Haven Anchorage area, south of mouth of Poquoson R, CBP segment MOBPH. Portion of DSS Shellfish condemnation # 053-222 C and seasonal M1 (effective 20160511).	4A	Aquatic Plants (Macrophytes)	2006	L	0.145
VAT-C07E_ZZZ01A00 / Unsegmented estuaries in Back River / Non segmented areas of C07E. CBP Segment MOBPH. No DSS direct shellfish harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	1.040
VAT-C07E_ZZZ01B12 / Unsegmented estuaries in Back River - DSS / Non segmented areas of C07E. CBP Segment MOBPH. DSS Condemnation # 054-021 B (effective date 20151102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.097

Chesapeake Bay segment MOBPH (Mobjack Bay)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**411.684**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* PIAMH-SAV-BAY Piankatank Mesohaline Estuary**

Cause Location: The Piankatank Mesohaline estuary.

City / County: Gloucester Co. Mathews Co. Middlesex Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

During the 2006 cycle, the Chesapeake Bay Water Quality Standards were adopted. The Piankatank Mesohaline segment (PIAMH) fails the Submerged Aquatic Vegetation acreage requirements. There is insufficient data to assess the Water Clarity Acreage criteria.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010; therefore, the segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-C02E_DRN01A02 / Dragon Swamp / The tidal portion of Dragon Swamp to its mouth at the Piankatank River.	4A	Aquatic Plants (Macrophytes)	2006	L	0.823
PIAMH					
VAP-C03E_COB02C10 / Cobbs Creek / Described in VDH-DSS condemnation 034-126B, 11/12/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.086
PIAMH					
VAP-C03E_COR01A08 / Cores Creek / Described in VDH-DSS condemnation 034-208D, 11/21/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.018
PIAMH					
VAP-C03E_DAN01A08 / Dancing Creek / Described in VDH condemnation 025-076C, 11/21/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
PIAMH					
VAP-C03E_FER01A98 / Ferry Creek / Described in the condemnation notice 035-076B, 11/21/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.125
Expanded in the 2018 cycle.					
PIAMH					
VAP-C03E_FRE01A02 / Frenchs Creek / As described in the condemnation notice 035-076D, 11/12/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.010
PIAMH					
VAP-C03E_HEA01A02 / Healy Creek / Described in the VDH-DSS Shellfish Condemnation Notice 034-208C, 11/21/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.071
PIAMH					
VAP-C03E_HRP01A98 / Harper Creek / Described in the condemnation notice 076B, 6/10/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.062
PIAMH					
VAP-C03E_JCK01A98 / Jackson Creek / Described in the condemnation notice 84A, 11/1/1996	4A	Aquatic Plants (Macrophytes)	2006	L	0.019

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

PIAMH

VAP-C03E_JCK01B08 / Jackson Creek / Described in the condemnation notice 033-084B, 11/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.013

PIAMH

VAP-C03E_JCK01B14 / Jackson Creek / Portion of condemnation notice 84B, 11/1/1996 within 033-084M1, 11/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.003

PIAMH

VAP-C03E_JCK01C08 / Jackson Creek / Portion of condemnation notice 033-084A, 11/12/2014 not included in 84A, 11/1/1996	4A	Aquatic Plants (Macrophytes)	2006	L	0.002

PIAMH

VAP-C03E_JCK01C14 / Jackson Creek, UT / Described in VDH-DSS condemnation notice 033-084C, 11/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.033

PIAMH

VAP-C03E_JCK02B16 / Jackson Creek / Described in VDH-DSS condemnation notice 033-084E, 11/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.011

PIAMH

VAP-C03E_JCK02C10 / Jackson Creek / Portion of VDH-DSS condemnation notice 033-084M1, 11/12/2014 not included in 084B, 11/1/1996.	4A	Aquatic Plants (Macrophytes)	2006	L	0.212

PIAMH

VAP-C03E_JCK03C10 / Jackson Creek / Described in condemnation notice 033-084D, 11/12/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.013

PIAMH

VAP-C03E_MRE01A02 / Moore Creek / As described in the condemnation notice 034-208A, 11/21/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.040

Size reduced in the 2018 cycle.

PIAMH

VAP-C03E_PNK01A02 / Piankatank River / Portions of VDH-DSS condemnation 035-076A, 11/21/2016 open on 6/10/1997. Segment ends at Deep Point Boat Landing.	4A	Aquatic Plants (Macrophytes)	2006	L	0.558

Expanded in the 2018 cycle.

PIAMH

VAP-C03E_PNK01A98 / Piankatank River / Watershed limit (start of Piankatank River) downstream to limit of SFC 035-076A, 6/10/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	1.280

PIAMH

VAP-C03E_PNK02A00 / Piankatank River / Mainstem Piankatank from Deep Point Boat Landing downstream to PNK03A00, excluding the Berkley Island area.	4A	Aquatic Plants (Macrophytes)	2006	L	4.007

PIAMH

VAP-C03E_PNK02B08 / Piankatank River / Bend around Berkley	4A	Aquatic Plants (Macrophytes)	2006	L	0.785

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Island

PIAMH

VAP-C03E_PNK03A00 / Piankatank River / One-half mile radius around monitoring station 7-PNK005.36 on the Piankatank River between Pond Point and Iron Point.	4A	Aquatic Plants (Macrophytes)	2006	L	1.167

PIAMH

VAP-C03E_PNK04A00 / Piankatank River / Mainstem Piankatank River from PNK03A00 downstream to the point at Fishing Bay.	4A	Aquatic Plants (Macrophytes)	2006	L	3.528

PIAMH

VAP-C03E_PNK04B06 / Piankatank River / As described in VDH-DSS SFC 034-208M1, 11/21/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.040

PIAMH

VAP-C03E_PNK04C06 / Piankatank River, Fishing Bay / As described in VDH-DSS SFC 034-208 M2, 11/21/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.085

PIAMH

VAP-C03E_PNK04D08 / Porpoise Cove / As described in VDH-DSS SFC 034-208B, 11/21/2016	4A	Aquatic Plants (Macrophytes)	2006	L	0.011

PIAMH

VAP-C03E_PNK05A02 / Piankatank River / Piankatank River downstream of Fishing Bay at Stove Point to mouth at Chesapeake Bay	4A	Aquatic Plants (Macrophytes)	2006	L	4.942

PIAMH

VAP-C03E_PNK07B08 / Piankatank River, UT / Described in VDH-DSS SFC 034-126C, 11/12/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.007

PIAMH

VAP-C03E_PNK08B08 / Piankatank River, UT / Described in VDH-DSS SFC 034-126D, 11/12/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.003

PIAMH

VAP-C03E_WLT01A98 / Wilton Creek / Described in the condemnation notice 034-126A, 11/12/2014	4A	Aquatic Plants (Macrophytes)	2006	L	0.134

PIAMH

VAP-C03E_ZZZ01B14 / Unsegmented estuaries in C03 / Unsegmented portion of watershed CB11.	4A	Aquatic Plants (Macrophytes)	2006	L	0.175

PIAMH

VAP-C04E_BLL01A16 / Billups Creek / Portion of condemnation notice 204, 4/4/1997 open 1/31/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.017

PIAMH

VAP-C04E_BLL01A98 / Billups Creek / Described in the condemnation notice 037-061B, 1/31/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.029

PIAMH

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAP-C04E_BLL02A16 / Billups Creek / Billups Creek not otherwise segmented.	A	Aquatic Plants (Macrophytes)	2006	L	0.312
PIAMH					
VAP-C04E_BLL02C12 / Billups Creek / Described in condemnation notice 037-061M3, 2/16/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.005
PIAMH					
VAP-C04E_BRN01A04 / Barn Creek / Described in VDH-DSS condemnation notice 036-197C, 2/16/2016.	A	Aquatic Plants (Macrophytes)	2006	L	0.020
PIAMH					
VAP-C04E_EDW01A98 / Edwards Creek / Portion of VDH condemnation notice 197A, 1/21/1997 open in 036-197, 2/16/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.006
Segment split in the 2018 cycle.					
PIAMH					
VAP-C04E_EDW01B18 / Edwards Creek / Described in VDH condemnation notice 036-197D, 2/16/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
PIAMH					
VAP-C04E_EDW02A98 / Edwards Creek / Described in the condemnation notice 036-197B, 1/21/1997.	4A	Aquatic Plants (Macrophytes)	2006	L	0.047
PIAMH					
VAP-C04E_HKC01A08 / Hickorynut Cove / Tidal limit to mouth at Milford Haven	4A	Aquatic Plants (Macrophytes)	2006	L	0.023
PIAMH					
VAP-C04E_HUD01A08 / Hudgins Creek / Described in VDH-DSS Condemnation 037-061D, 2/7/2012	4A	Aquatic Plants (Macrophytes)	2006	L	0.016
PIAMH					
VAP-C04E_LAN01A02 / Lanes Creek / As described in condemnation notice 037-099E, 1/31/2014.	4A	Aquatic Plants (Macrophytes)	2006	L	0.020
PIAMH					
VAP-C04E_LAN01B08 / Lanes Creek, UT / Described in VDH Shellfish Condemnation 037-099C, 2/16/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.002
PIAMH					
VAP-C04E_MID01A02 / Winder Creek / As described in the condemnation notice 037-099B, 2/16/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
PIAMH					
VAP-C04E_MLF01A98 / Milford Haven / Described in the condemnation notice 036-197A, 2/16/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.029
PIAMH					
VAP-C04E_MLF02A98 / Milford Haven / Described in the condemnation notice 036-197E, 2/16/2016.	4A	Aquatic Plants (Macrophytes)	2006	L	0.030

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

PIAMH

VAP-C04E_MLF03A00 / Milford Haven / Downstream of SFC 036-197, 2/16/2016 except as otherwise segmented. | A | Aquatic Plants (Macrophytes) | 2006 | L | 1.411

PIAMH

VAP-C04E_MLF04A06 / Milford Haven / Hills Bay | A | Aquatic Plants (Macrophytes) | 2006 | L | 2.283

PIAMH

VAP-C04E_MLF05A06 / Milford Haven / Described in VDH-DSS condemnation 036-197M1, 2/16/2016. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.041

PIAMH

VAP-C04E_MRC01A98 / Morris Creek / Described in condemnation notice 61B, 4/4/1997. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.034

PIAMH

VAP-C04E_QUE01A98 / Queens Creek / Described in condemnation notices 037-099A, 2/16/2016. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.063

Size reduced in the 2018 cycle.

PIAMH

VAP-C04E_QUE01B10 / Queens Creek / Described in condemnation notices 037-099M1, 2/16/2016. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.031

PIAMH

VAP-C04E_QUE01C10 / Queens Creek / Below condemnation notices 99A, 4/7/1997 and 037-099, 2/16/2016 | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.061

PIAMH

VAP-C04E_QUE01D12 / Queens Creek / Portion of condemnation notice 99A, 4/9/1997 not included in 037-099A, 2/16/2016. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.100

Expanded in the 2018 cycle.

PIAMH

VAP-C04E_QUE02A12 / Queens Creek, UT / Described in condemnation notice 037-099C, 1/31/2014. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.019

PIAMH

VAP-C04E_STO01A08 / Stoakes Creek / Described in VDH Shellfish Condemnation 037-061M1, 2/16/2016. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.006

PIAMH

VAP-C04E_STO01B14 / Stoakes Creek / Tidal limit to mouth unless otherwise segmented. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.289

PIAMH

VAP-C04E_STT01A14 / Stutts Creek / Portion of condemnation notice 061A, 4/4/1997 open 2/16/2016. | A | Aquatic Plants (Macrophytes) | 2006 | L | 0.028

Expanded in the 2018 cycle.

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

PIAMH

VAP-C04E_STT01A98 / Stutts Creek / Described in condemnation notice 037-061A and -061B, 2/16/2016. 4A Aquatic Plants (Macrophytes) 2006 L 0.062

Size reduced in the 2018 cycle.

PIAMH

VAP-C04E_STT01B06 / Stutts Creek, UT (Hole in the Wall) / Described in VDH-DSS condemnation 037-061M5, 2/16/2016. 4A Aquatic Plants (Macrophytes) 2006 L 0.016

PIAMH

VAP-C04E_STT01B10 / Stutts Creek/Morris Creek / Portion of VDH condemnation notice 037-061C, 2/16/2016 not condemned on 4/4/1997. 4A Aquatic Plants (Macrophytes) 2006 L 0.005

Shrank considerably in the 2018 cycle.

PIAMH

VAP-C04E_STT01C14 / Stutts Creek / Described in VDH condemnation notice 037-061M4, 2/16/2016. 4A Aquatic Plants (Macrophytes) 2006 L 0.013

PIAMH

VAP-C04E_STT02A00 / Stutts Creek / Morris Creek / Downstream limit of condemnation to Fanneys Point, except as otherwise segmented. 4A Aquatic Plants (Macrophytes) 2006 L 0.229

PIAMH

VAP-C04E_STT04A06 / Stutts Creek / Described in VDH-DSS SFC 037-061M2, 2/16/2016. 4A Aquatic Plants (Macrophytes) 2006 L 0.025

PIAMH

VAP-C04E_STT05A10 / Stutts Creek (Hole in the Wall) / From Point Breeze downstream to its mouth at the Chesapeake Bay. 4A Aquatic Plants (Macrophytes) 2006 L 1.037

PIAMH

VAP-C04E_WHA01A06 / Wharf Creek / Described in VDH-DSS SFC 036-197M2, 2/16/2016. 4A Aquatic Plants (Macrophytes) 2006 L 0.018

PIAMH

VAP-C04E_WHI01A08 / Whites Creek / Whites Creek around Festival Beach 4A Aquatic Plants (Macrophytes) 2006 L 0.046

PIAMH

VAP-C04E_WHI01B12 / Whites Creek / Stutts Creek to Festival Beach 4A Aquatic Plants (Macrophytes) 2006 L 0.271

PIAMH

VAP-C04E_XFE01A16 / XFE - Piankatank River, UT (aka Kibble Pond) / Described in VDH-DSS condemnation 036-197B, 2/16/2016. 4A Aquatic Plants (Macrophytes) 2006 L 0.016

PIAMH

VAP-C04E_ZZZ01A00 / Unsegmented estuaries in C04 / Unsegmented portion of the watershed within PIAMH 4A Aquatic Plants (Macrophytes) 2006 L 0.766

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

Piankatank Mesohaline Estuary

Shallow-Water Submerged Aquatic Vegetation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**25.766**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* POCMH-SAV-BAY Chesapeake Bay segment POCMH (Pocomoke Sound)**

Cause Location: This cause encompasses the complete CPB segment POCMH.

City / County: Accomack Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

Submerged aquatic vegetation goal is 4067 acres and only 63% of this goal was attained in the most recent 3 years. The acres of submerged aquatic vegetation (SAV) mapped through aerial surveys do not meet the criteria. Only 70% of water clarity goal met according to 2014 and 2015 Dataflow surveys.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-C10E_POC01A18 / Pocomoke Sound / Pocomoke Sound - VDH DSS #075-033 (Open)	4A	Aquatic Plants (Macrophytes)	2006	L	0.205
VACB-C10E_POC01B18 / Pocomoke Sound / Pocomoke Sound - VDH DSS condemnation #075-033 (Restricted)	4A	Aquatic Plants (Macrophytes)	2006	L	0.111
VACB-C10E-POC / Chesapeake Bay - VA portion of CBP segment POCMH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment POCMH, located in the mesohaline area of Pocomoke sound. HUC: 02080101.	4A	Aquatic Plants (Macrophytes)	2006	L	46.558
VAT-C10E_BAG01A00 / Bagwell Creek / Northwest of Town of Justisville. Entirety of creek. Portion of CBP segment POCMH. DSS shellfish direct harvesting condemnation # 077-138 A (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.102
VAT-C10E_BAG02A10 / Bagwell Creek - Lower / Northwest of Town of Justisville. Lower DSS OPEN portion of Cr. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting area # 077-138 (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.114
VAT-C10E_DIX01A08 / Dix Cove / Northwest of Town of Parksley. Adjacent to Bagwell & Hunting Creeks. Within CBP segment POCMH. Portion of DSS (OPEN) shellfish direct harvesting area # 077-138 (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.041
VAT-C10E_GLF01A06 / Guilford Creek - Upper / Northeast of Town of Guilford. Upper portion of creek, from end of tidal waters downstream to end of DSS condemnation portion. Portion of CBP segment POCMH. DSS shellfish condemnation # 076-176 A (effective 20160711).	4A	Aquatic Plants (Macrophytes)	2006	L	0.152
VAT-C10E_GLF02A06 / Guilford Creek - Lower / Northeast of Town of Guilford. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting condemnation # 076-176 (effective 20160711).	4A	Aquatic Plants (Macrophytes)	2006	L	0.106
VAT-C10E_GLF03A08 / Guilford Creek - Lower [No DSS] / Northeast of Town of Guilford. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation identified.	4A	Aquatic Plants (Macrophytes)	2006	L	0.460
VAT-C10E_GSH01A06 / Guard Shore Beach / In Old Cove (Beasley Bay). Located at Bailey Ridge, west of Bloxom. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	0.026

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

VAT-C10E_HUN01A00 / Hunting Creek - Upper / W of Hopkins. Upper portion, from end of tidal waters downstream to end of DSS condemnation (downstream of Town of Hopkins). CBP segment POCMH. DSS shellfish direct harvesting condemnation # 077-138 B (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.168
VAT-C10E_HUN02A06 / Hunting Creek - Lower / West of Town of Hopkins. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting condemnation # 077-138 (effective 20150708).	4A	Aquatic Plants (Macrophytes)	2006	L	0.674
VAT-C10E_MES01A06 / Messongo Creek - Upper / Located southeast of Marsh Market & start of Rec TMDL (213) . Running parallel with Rt 692 upstream to the end of tidal waters. POCMH. Upstream portion of DSS shellfish condemnation # 076-167 A (effective 20160711).	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
VAT-C10E_MES02A06 / Messongo Creek - Middle [TMDL-732] / South of Town of Belinda. Portion of CBP segment POCMH. TMDL P# 732- SF. DSS Condemnation # 076-167 (effective 20160711).	4A	Aquatic Plants (Macrophytes)	2006	L	0.156
VAT-C10E_MES02B08 / Messongo Creek - Middle [No TMDL] / Located south of Saxis and Belinda Rd intersection. Portion of CBP segment POCMH. DSS OPEN condemnation # 076-167 (effective 20160711).	4A	Aquatic Plants (Macrophytes)	2006	L	0.093
VAT-C10E_MES03A06 / Messongo Creek - Lower / Located south of Saxis and Belinda Rd intersection downstream to the mouth. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	1.106
VAT-C10E_MUD01A04 / Muddy Creek - Upper / Located southeast of Byrds Marsh and northeast of Town of Bloxom. From end of tidal waters downstream to Poulson Pt. Portion of CBP segment POCMH. DSS shellfish condemnation # 076-176 B(effective 20160711).	4A	Aquatic Plants (Macrophytes)	2006	L	0.301
VAT-C10E_MUD02A06 / Muddy Creek - Lower / Located southeast of Byrds Marsh and northeast of Town of Bloxom. Lower portion of creek, Pettigrew Bend to end of DSS Open condemnation. Portion of CBP segment POCMH. DSS shellfish OPEN condemnation # 076-176 (effective 20160711).	4A	Aquatic Plants (Macrophytes)	2006	L	0.048
VAT-C10E_MUD03A08 / Muddy Creek - Lower [No DSS] / Located southeast of Byrds Marsh and northeast of Town of Bloxom. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	0.060
VAT-C10E_STR01A08 / Starling Creek / Located on Saxis Island, southwest of Pocomoke Sound. Embayment at town of Saxis. From end of tidal waters downstream to end of DSS condemnation. Portion of CBP segment POCMH. DSS shellfish direct harvesting condemnation # 075-118 M1 (effective 20111102).	4A	Aquatic Plants (Macrophytes)	2006	L	0.091
VAT-C10E_YOU01A06 / Young Creek / Northeast of Town of Guilford and south of Jobes Island. Portion of CBP segment POCMH. DSS (OPEN) shellfish direct harvesting condemnation # 076-176 (effective 20120810).	4A	Aquatic Plants (Macrophytes)	2006	L	0.243
VAT-C10E_ZZZ02A06 / Unsegmented estuaries in C10E-POCMH [No DSS] / Evaluated non-segmented portions of C10E not contained within VACB-R01E-CB7S. Portion of CBP segment POCMH. No DSS shellfish direct harvesting condemnation area identified.	4A	Aquatic Plants (Macrophytes)	2006	L	2.975
VAT-C10E_ZZZ02B10 / Unsegmented Bay Waters in C10E-	4A	Aquatic Plants (Macrophytes)	2006	L	0.365

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

POCMH - Doe Cr / Non-segmented portions of Bay Waters in C10E-POCMH. DSS (OPEN) shellfish direct harvesting condemnation area # 077-138 (201520708).

Chesapeake Bay segment POCMH (Pocomoke Sound)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**54.196**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* POCOH-DO-BAY** **Pocomoke River System CBP segment POCOH (Pocomoke River)**

Cause Location: This cause encompasses the entirety of the Pocomoke River System CBP segment POCOH. Virginia portion of CBP segment POCOH.

City / County: Accomack Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

The Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer.

The Open Water - Summer Dissolved Oxygen impairment for all the Pocomoke oligohaline segments (POCOH) (to include all tribs/creeks) will be assessed as Category 4C based on the conclusions from the Natural Conditions Assessment for the Pocomoke Sound completed in October 2010 (EPA approval email 11/3/2010). This Assessment Report concluded that the Pocomoke oligohaline segment's low dissolved oxygen conditions during the summer months are strongly influenced by natural conditions and the downstream estuarine condition.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-C09E_BLB01A06 / Bullbegger Creek / Located southeast of Pitts Neck area. From estuarine/riverine transition (end of tidal waters) downstream to mouth (confluence with Pocomoke Sound). Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4C	Oxygen, Dissolved			0.134
VAT-C09E_POC01A06 / Pocomoke River / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line downstream to mouth (confluence with Pocomoke Sound) within VA. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4C	Oxygen, Dissolved			0.240
VAT-C09E_POC02A08 / Pocomoke Sound [C09 portion] / Pocomoke Sound downstream of the Pocomoke River (VA portion). Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 A (effective 20160711).	4C	Oxygen, Dissolved			0.726
VAT-C09E_PTT01A06 / Pitts Creek / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line downstream to mouth (confluence with Pocomoke River) within VA. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4C	Oxygen, Dissolved			0.127
VAT-C09E_PTT01B10 / Pitts Creek - Upper [Admin Cond] / Located northeast of Pitts Neck area, along VA/MD border. From VA/MD state line upstream to headwaters within VA at Dunns Swamp Road. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4C	Oxygen, Dissolved			0.069
VAT-C09E_ZZZ01A06 / Unsegmented tidal tributaries in C09E-POCOH / Evaluated non segmented portions of C09E. Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 (effective 20160711).	4C	Oxygen, Dissolved			0.006
VAT-C10E_HLD01A06 / Holdens Creek - Upper / Located southeast of Joeys Neck area. From confluence Sandy Bottom Br downstream to 0.5 mi of station @ 7-HLD002.67. Portion of CBP segment POCOH. Portion of DSS condemnation # 075-033 A (effective 20160711).	4C	Oxygen, Dissolved			0.034
VAT-C10E_HLD02A06 / Holdens Creek - Lower / Located southeast of Joeys Neck area. From 0.5 mi downstream of station @ 7-	4C	Oxygen, Dissolved			0.050

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

HLD002.67 downstream to mouth. Portion of CBP segment POCOH. Portion of DSS shellfish condemnation # 075-033 A (effective 20160711).			
VAT-C10E_POC01A08 / Pocomoke Sound - Lower [C10 portion] / Pocomoke Sound downstream of the Pocomoke River (VA portion). Area adjacent to Holdens Creek. Portion of CBP segment POCOH. Portion of DSS shellfish direct harvesting condemnation # 075-033 A (effective 20131023).	4C	Oxygen, Dissolved	1.452

Pocomoke River System CBP segment POCOH (Pocomoke River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**2.839**		

Sources:

Internal Nutrient Recycling Loss of Riparian Habitat Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* TANMH-DO-BAY** **Chesapeake Bay segment TANMH (Tangier Sound)**

Cause Location: This cause encompasses the complete CPB segment TANMH.

City / County: Accomack Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The 30-day dissolved oxygen criteria for open water use failed for the 2018 assessment. There are insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-C10E_TNN01A06 / Tangier North Channel and Adjacent Waters, DSS Area A and B. / Waters surrounding Tangier Island. Portion of CBP segment TANMH. DSS (ADMINISTRATIVE) shellfish condemnation # 078-086, section A effective 11/6/2013	4A	Oxygen, Dissolved	2006	L	1.366
VACB-C10E_TNN01B06 / Tangier North Channel and Adjacent Waters, DSS Area C. / Waters surrounding Tangier Island. Portion of CBP segment TANMH. DSS (ADMINISTRATIVE) shellfish condemnation # 078-086, section B effective 11/6/2013	4A	Oxygen, Dissolved	2006	L	0.039
VACB-C10E_TNN01C16 / Tangier North Channel and Adjacent Waters, Open waters / Waters surrounding Tangier Island. Portion of CBP segment TANMH. Open waters of the DSS cond # 078-86 eff 11/06/2013. Split from VAC-C10E_TNN01A06 (2016).	4A	Oxygen, Dissolved	2006	L	0.196
VACB-C10E_TNN01D18 / Tyler Creek, Shanks Creek, Tangier Sound / Tyler Creek, Shanks Creek, Tangier Sound - Portion of CBP segment TANMH. Restricted waters of the DSS cond # 074-226 eff 2/26/2015. Split from VACB-C10E-TAN.	4A	Oxygen, Dissolved	2006	L	2.169
VACB-C10E-TAN / Chesapeake Bay - VA portion of CBP Segment TANMH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment TANMH, located in the northern part of the Virginia mainstem Bay around Tangier Sound. HUC: 02080101	4A	Oxygen, Dissolved	2006	L	118.980

Chesapeake Bay segment TANMH (Tangier Sound)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**122.751**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Source Unknown	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

Chesapeake Bay/Atlantic/Small Coastal Basins

***Cause Group Code:* TANMH-SAV-BAY Chesapeake Bay segment TANMH (Tangier Sound)**

Cause Location: This cause encompasses the complete CBP segment TANMH.

City / County: Accomack Co.

Use(s): Aquatic Life — Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The acres of submerged aquatic vegetation (SAV) mapped through aerial surveys do not meet the criteria. Submerged Aquatic Vegetation acres goal is 13,585 acres but only 57% of this goal was achieved in the most recent 3 years. There is insufficient data to assess the water clarity criteria.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VACB-C10E_TNN01A06 / Tangier North Channel and Adjacent Waters, DSS Area A and B. / Waters surrounding Tangier Island. Portion of CBP segment TANMH. DSS (ADMINISTRATIVE) shellfish condemnation # 078-086, section A effective 11/6/2013	4A	Aquatic Plants (Macrophytes)	2006	L	1.366
VACB-C10E_TNN01B06 / Tangier North Channel and Adjacent Waters, DSS Area C. / Waters surrounding Tangier Island. Portion of CBP segment TANMH. DSS (ADMINISTRATIVE) shellfish condemnation # 078-086, section B effective 11/6/2013	4A	Aquatic Plants (Macrophytes)	2006	L	0.039
VACB-C10E_TNN01C16 / Tangier North Channel and Adjacent Waters, Open waters / Waters surrounding Tangier Island. Portion of CBP segment TANMH. Open waters of the DSS cond # 078-86 eff 11/06/2013. Split from VAC-C10E_TNN01A06 (2016).	4A	Aquatic Plants (Macrophytes)	2006	L	0.196
VACB-C10E_TNN01D18 / Tyler Creek, Shanks Creek, Tangier Sound / Tyler Creek, Shanks Creek, Tangier Sound - Portion of CBP segment TANMH. Restricted waters of the DSS cond # 074-226 eff 2/26/2015. Split from VACB-C10E-TAN.	4A	Aquatic Plants (Macrophytes)	2006	L	2.169
VACB-C10E-TAN / Chesapeake Bay - VA portion of CBP Segment TANMH / This assessment unit is the mainstem Chesapeake Bay portion of Chesapeake Bay Program segment TANMH, located in the northern part of the Virginia mainstem Bay around Tangier Sound. HUC: 02080101	4A	Aquatic Plants (Macrophytes)	2006	L	118.980

Chesapeake Bay segment TANMH (Tangier Sound)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**122.751**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Non-Point Source
Sediment Resuspension (Clean Sediment)	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F01L-01-HG** **Lake Gordonsville**

Cause Location: Includes the entirety of Lake Gordonsville, also known as Bowlers Mill Lake.

City / County: Louisa Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 09/30/04, limits largemouth bass consumption to no more than two meals per month.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F01L_DOV01A06 / Lake Gordonsville / Segment includes all of Lake Gordonsville.	5A	Mercury in Fish Tissue	2006	L	77.31

Lake Gordonsville **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**77.31**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F01R-01-BAC** **South Anna River**

Cause Location: Begins at the headwaters of the South Anna River and continues downstream until the confluence with Rock Creek.

City / County: Louisa Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 7 samples - 71.4%) at station 8-SAR101.03 at Route 231. E. coli bacteria criterion excursions (2 of 7 samples - 28.6%) at DEQ ambient station 8-SAR097.82 at Route 603. E. coli bacteria criterion excursions (17 of 35 samples - 48.6%) at station 8-SAR089.35 at Route 613. The Pamunkey River Basin bacteria TMDL for the South Anna River watershed (POL0337) was approved by the EPA on 08/02/2006 (Fed ID 24423). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F01R_SAR02A02 / South Anna River / Segment begins at the confluence with an unnamed tributary, located approximately 1 mile downstream of the Route 860 bridge, to the South Anna River and continues downstream until the confluence with Dove Fork.	4A	Escherichia coli	2002	L	1.90
VAN-F01R_SAR02B10 / South Anna River / Segment begins at the headwaters of the South Anna River and continues downstream until the confluence with an unnamed tributary, approximately 1.0 mile downstream of the Rt. 860 bridge.	4A	Escherichia coli	2002	L	5.20
VAN-F02R_SAR02A00 / South Anna River / Segment begins at the start of waterbody F02R, where Wheeler Creek intersects the South Anna River, and continues downstream until the confluence with Rock Creek.	4A	Escherichia coli	2006	L	3.98

South Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.08**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F01R-02-BAC** **Wheeler Creek**

Cause Location: Begins at the headwaters of Wheeler Creek and continues downstream until the confluence with Hudson Creek.

City / County: Albemarle Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 11 samples - 72.7%) at station 8-WLR000.31 upstream of the confluence with Camp Creek. 2014 Assessment: E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) at station 8-WLR000.26 at Route 640. A new TMDL is not required for this impaired segment of Wheeler Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24424, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (Eq. ID POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F01R_WLR01A04 / Wheeler Creek / Segment begins at the confluence with Camp Creek and continues downstream until the confluence with Hudson Creek.	4A	Escherichia coli	2010	L	0.24
VAN-F01R_WLR01B10 / Wheeler Creek / Segment begins at the headwaters of Wheeler Creek and continues downstream until the confluence with Camp Creek.	4A	Escherichia coli	2012	L	6.00

Wheeler Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.24**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F01R-02-BEN** **Wheeler Creek**

Cause Location: Begins at the headwaters of Wheeler Creek and continues downstream until the confluence with Camp Creek.

City / County: Albemarle Co. Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: Three biological monitoring events in 2009 and 2010 at station 8-WLR000.31 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F01R_WLR01B10 / Wheeler Creek / Segment begins at the headwaters of Wheeler Creek and continues downstream until the confluence with Camp Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	6.00

Wheeler Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.00**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F01R-03-BAC** **Hudson Creek**

Cause Location: Begins at the confluence of Bunch Creek and Fielding Creek and continues downstream until the confluence with Wheeler Creek.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at DEQ ambient station 8-HUD001.80 at Route 695. A new TMDL is not required for this impaired segment of Hudson Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24423, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (Eq. ID POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F01R_HUD01A04 / Hudson Creek / Segment begins at the confluence of Bunch Creek and Fielding Creek and continues downstream until the confluence with Wheeler Creek.	4A	Escherichia coli	2012	L	3.61

Hudson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.61**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F01R-03-BEN** **Camp Creek**

Cause Location: Begins at the confluence with Central Branch and continues downstream to the confluence with Wheeler Creek.

City / County: Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: A total of three biological monitoring events in 2009 and 2010 at station 8-CMP000.28 at Route 717 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F01R_CMP01A12 / Camp Creek / Segment begins at the confluence with Central Branch and continues downstream to the confluence with Wheeler Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.01

Camp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.01**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F01R-04-BAC** **Camp Creek**

Cause Location: Begins at the confluence with Central Branch and continues downstream to the confluence with Wheeler Creek.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 11 samples - 54.5%) at DEQ's ambient station 8-CMP000.28 at Route 717. A new TMDL is not required for this impaired segment of Camp Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24424, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (Eq. ID POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F01R_CMP01A12 / Camp Creek / Segment begins at the confluence with Central Branch and continues downstream to the confluence with Wheeler Creek.	4A	Escherichia coli	2012	L	2.01

Camp Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.01**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F02R-01-BAC** **South Anna River**

Cause Location: Begins at the confluence with Rock Creek and continues downstream until the confluence with Beaver Creek.

City / County: Fluvanna Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 7 samples - 57.1%) at station 8-SAR083.25 at Route 649. 2014 Assessment: E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) at station 8-SAR070.96 at Route 646. The Pamunkey River Basin bacteria TMDL for the South Anna River watershed (POL0335) was approved by EPA on 08/02/2006 (Fed ID 24424). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F02R_SAR01A00 / South Anna River / Segment begins at the confluence with Roundabout Creek and continues downstream until the confluence with Beaver Creek.	4A	Escherichia coli	2004	L	5.98
VAN-F02R_SAR01B18 / South Anna River / Segment begins at the confluence with Rock Creek and continues downstream to the confluence with Roundabout Creek.	4A	Escherichia coli	2018	L	8.19

South Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.17**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F02R-01-BEN** **Fosters Creek**

Cause Location: Begins at the headwaters of Fosters Creek and continues downstream until the confluence with the South Anna River.

City / County: Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Four biological monitoring events in 2015 and 2016 at station 8-FOS000.84 resulted in a VSCI score which indicates an impaired macroinvertebrate community

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F02R_FOS01A06 / Fosters Creek / Segment begins at the headwaters of Fosters Creek and continues downstream until the confluence with the South Anna River.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	4.91

Fosters Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.91**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F02R-02-BAC** **Unnamed tributary to South Anna River**

Cause Location: Begins at the headwaters of an unnamed tributary to the South Anna River and continues downstream until the confluence with the South Anna River.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (1 of 2 samples - 50.0%) at station 8-XIE000.27 upstream of Route 697 and E. coli bacteria criterion excursions (1 of 2 samples - 50.0%) at station 8-XIE000.40 upstream of the Twin Oaks STP. A new TMDL is not required for this impaired segment of an unnamed tributary to the South Anna River because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24424, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F02R_XIE01A08 / Unnamed tributary to South Anna River / Segment begins at the headwaters of an unnamed tributary to the South Anna River and continues downstream until the confluence with the South Anna River.	4A	Escherichia coli	2008	L	1.34

Unnamed tributary to South Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.34**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F02R-03-BAC** **Fosters Creek**

Cause Location: Begins at the headwaters of Fosters Creek and continues downstream until the confluence with the South Anna River.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at station 8-FOS000.84 at Route 640. A new TMDL is not required for this impaired segment of Camp Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24424, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (Eq. ID POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F02R_FOS01A06 / Fosters Creek / Segment begins at the headwaters of Fosters Creek and continues downstream until the confluence with the South Anna River.	4A	Escherichia coli	2014	L	4.91

Fosters Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.91**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F02R-04-BAC** **Roundabout Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Roundabout Creek, approximately 0.9 rivermile downstream from the Route 64 crossing, and continues downstream until the confluence with the South Anna River.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria excursions (6 of 11 samples - 54.5%) at station 8-RDB001.72 at Route 640. A new TMDL is not required for this impaired segment of Roundabout Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24424, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (Eq. ID POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F02R_RDB01A04 / Roundabout Creek / Segment begins at the confluence with an unnamed tributary to Roundabout Creek, approximately 0.9 rivermile downstream from the Route 64 crossing, and continues downstream until the confluence with the South Anna River.	4A	Escherichia coli	2014	L	3.84

Roundabout Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.84**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F02R-05-BAC** **Harris Creek**

Cause Location: Begins at the confluence with an unnamed tributary at rivermile 6.97 and continues downstream to the confluence with the South Anna River.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria excursions (2 of 12 samples - 16.7%) at station 8-HRS001.35 at Route 604. A new TMDL is not required for this impaired segment of Harris Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24424, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (Eq. ID POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F02R_HRS01A16 / Harris Creek / Segment begins at confluence with an unnamed tributary at rivermile 6.97 and continues downstream to the confluence with the South Anna River.	4A	Escherichia coli	2016	L	6.97

Harris Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.97**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F02R-06-BAC** **Rock Creek**

Cause Location: Begins at the confluence with Little Rock Creek and continues downstream to the confluence with South Anna River.

City / County: Fluvanna Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria excursions (2 of 12 samples - 16.7%) at station 8-RKC001.35 at Route 640. A new TMDL is not required for this segment of Rock Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24424, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (Eq. ID POL0335). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F02R_RKC01A16 / Rock Creek / Segment begins at the confluence with Little Rock Creek and continues downstream to the confluence with South Anna River.	4A	Escherichia coli	2016	L	2.72

Rock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.72**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Urban Runoff/Storm Sewers	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-01-BEN** **Cub Creek**

Cause Location: Begins at the confluence with Turners Creek and continues downstream until the confluence with the South Anna River.

City / County: Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2012 at station 8-CUB002.73 at Route 648 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_CUB01A08 / Cub Creek / Segment begins at the confluence with Turners Creek and continues downstream until the confluence with the South Anna River.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.10

Cub Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-02-BAC** **Taylors Creek**

Cause Location: Begins at the headwaters of Taylors Creek and continues downstream until the confluence with the South Anna River.

City / County: Hanover Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria excursions (2 of 12 samples - 16.7%) at station 8-TLR005.50 at Route 610. E. coli bacteria excursions (2 of 12 samples - 16.7%) at station 8-TLR009.82 at Route 664. The Pamunkey River Basin fecal coliform TMDL for the Taylors Creek watershed (POL0336) was developed and approved by EPA on 08/02/2006 (Fed ID 24425). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_TLR01A00 / Taylors Creek / Segment begins at the headwaters of Taylors Creek and continues downstream until the confluence with the South Anna River.	4A	Escherichia coli	2008	L	16.54

Taylors Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.54**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-02-BEN** **Taylors Creek**

Cause Location: Begins at the headwaters of Taylors Creek and continues downstream until the confluence with the South Anna River.

City / County: Hanover Co. Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2013 at station 8-TLR005.30 and four biological monitoring events in 2014 and 2015 at station 8-TLR014.44 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_TLR01A00 / Taylors Creek / Segment begins at the headwaters of Taylors Creek and continues downstream until the confluence with the South Anna River.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	16.54

Taylors Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**16.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-03-BEN** **Fork Creek**

Cause Location: Begins at the confluence with an unnamed tributary at rivermile 7.63 and continues downstream to the confluence with South Branch Fork Creek.

City / County: Goochland Co. Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Four biological monitoring events in 2015 and 2016 at station 8-FRK001.78 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_FRK02A16 / Fork Creek / Segment begins at the confluence with an unnamed tributary at rivermile 7.63 and continues downstream to the confluence with South Branch Fork Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	5.83

Fork Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-03-DO** **Cub Creek**

Cause Location: Begins at the confluence with Turners Creek and continues downstream until the confluence with the South Anna River.

City / County: Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Excursions less than the minimum dissolved oxygen criterion (4 of 12 samples - 33.3%) at station 3-CUB001.73 at Route 601.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_CUB01A08 / Cub Creek / Segment begins at the confluence with Turners Creek and continues downstream until the confluence with the South Anna River.	5A	Oxygen, Dissolved	2008	L	3.10

Cub Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.10**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-04-BAC** **Fork Creek**

Cause Location: Begins at the confluence with an unnamed tributary at rivermile 7.63 and continues downstream until the confluence with the South Anna River.

City / County: Goochland Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-FRK006.02 at Route 683. 2012 Assessment: E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) at station 8-FRK001.66 at Route 640. A new TMDL is not required for this impaired segment of Fork Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24444, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (POL0341). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_FRK01A08 / Fork Creek / Segment begins at the confluence with South Branch Fork Creek and continues downstream until the confluence with the South Anna River.	4A	Escherichia coli	2008	L	1.79
VAN-F03R_FRK02A16 / Fork Creek / Segment begins at the confluence with an unnamed tributary at rivermile 7.63 and continues downstream to the confluence with South Branch Fork Creek.	4A	Escherichia coli	2016	L	5.83

Fork Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.62**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-04-BEN** **South Branch Fork Creek**

Cause Location: Begins at Windsor Lake Drive and continues downstream to the confluence with Fork Creek.

City / County: Goochland Co. Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Four biological monitoring events in 2015 and 2016 at station 8-SBK000.03 above the confluence with Fork Creek resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_SBK01A18 / South Branch Fork Creek / Segment begins at Windsor Lake Drive and continues downstream to the confluence with Fork Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	3.05

South Branch Fork Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.05**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-05-BEN** **Unnamed tributary to Taylors Creek**

Cause Location: Begins at the headwaters of the unnamed tributary to Taylors Creek and continues downstream to the confluence with Taylors Creek.

City / County: Hanover Co. Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2015 at station 8-XKA000.91 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_XKA01A18 / Unnamed tributary to Taylors Creek / Segment begins at the headwaters of the unnamed tributary to Taylors Creek and continues downstream to the confluence with Taylors Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	1.43

Unnamed tributary to Taylors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.43**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-07-BAC** **South Anna River**

Cause Location: Begins at the confluence with Northeast Creek and continues downstream until the confluence with an unnamed tributary to the South Anna River, approximately rivermile 66.97.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 33 samples - 15.2%) at station 8-SAR068.57 at Route 605. A new TMDL is not required for this impaired segment of the South Anna River because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24444, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (POL0341). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_SAR03A06 / South Anna River / Segment begins at the confluence with Northeast Creek and continues downstream until the confluence with an unnamed tributary to the South Anna River, approximately rivermile 66.97.	4A	Escherichia coli	2006	L	1.76

South Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.76**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-08-BAC** **Deep Creek**

Cause Location: Begins at the headwaters of Deep Creek and continues downstream to the confluence with the South Anna River.

City / County: Goochland Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 8-DEP000.37 at Route 640. A new TMDL is not required for this impaired segment of Deep Creek because the downstream Pamunkey River Basin bacteria TMDL (Fed ID 24444, 08/02/2006) included modeling, source identification, and reductions that covered the entire South Anna River watershed (POL0341). The SWCB approved the TMDL on 06/27/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_DEP01A12 / Deep Creek / Segment begins at the headwaters of Deep Creek and continues downstream to the confluence with the South Anna River.	4A	Escherichia coli	2012	L	5.79

Deep Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.79**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F03R-09-BAC** **South Anna River**

Cause Location: Begins at the confluence with Jones Creek and continues downstream until the confluence with an unnamed tributary at rivermile 31.5.

City / County: Hanover Co. Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 33 samples - 12.1%) at station 8-SAR035.05 at Route 617. E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 8-SAR038.45 at Route 635.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F03R_SAR01C06 / South Anna River / Segment begins at the confluence with Jones Creek and continues downstream until the confluence with an unnamed tributary at rivermile 31.5.	4A	Escherichia coli	2012	L	4.63

South Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.63**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F04R-01-BAC** **South Anna River**

Cause Location: The South Anna River from the confluence with Taylors Creek downstream to the Ashland Municipal STP discharge near the confluence with Falling Creek.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The South Anna River from Route 33 to the Ashland Municipal STP was assessed as fully supporting but threatened during the 1998 cycle. In 2002, the segment was extended upstream to Taylors Creek and downgraded to impaired.

During the 2006 cycle, E. coli monitoring was conducted at the Route 33 bridge (8-SAR021.22), as well as at new stations 8-SAR014.47 and 8-SAR012.42. Exceedance rates were acceptable at the upstream stations (1/12 at 8-SAR021.22 and 0/9 at 8-SAR014.47), however there were 3 exceedances out of 12 samples at 8-SAR012.42. Because of the fully supporting status of the upstream portion, the impaired segment was shortened from the UT above Horseshoe Bridge Road downstream to the Ashland Municipal STP.

The Pamunkey River Basin Bacteria TMDL was completed during the 2008 cycle and was approved by the EPA on 8/2/2006; the TMDL included the entire previously listed length.

Additional monitoring occurred during the 2014 cycle. Due to E. coli exceedances at 8-SAR021.22 (6/12), the segment was returned to its original length (Taylors Creek to the Ashland Municipal STP).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F04R_SAR01A98 / South Anna River / From Taylors Creek to 5 mi upstream of the Ashland PWS intake.	4A	Escherichia coli	2014	L	2.77
VAP-F04R_SAR02A98 / South Anna River / From 5 mi upstream of the Ashland PWS intake to the PWS intake.	4A	Escherichia coli	2014	L	5.04
VAP-F04R_SAR03A02 / South Anna River / From the Ashland PWS intake to the UT above Horseshoe Bridge Road.	4A	Escherichia coli	2014	L	0.54
VAP-F04R_SAR03B06 / South Anna River / From the UT above Horseshoe Bridge Road to the Ashland Municipal STP discharge.	4A	Escherichia coli	2008	L	8.90

South Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.25**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F04R-02-BAC** **South Anna River**

Cause Location: The South Anna River from the Ashland Municipal STP discharge near the confluence with Falling Creek downstream to its mouth.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The segment VAP-F04R-02 (00249) was initially listed as impaired of the Recreation Use during the 1998 cycle. During the 2006 cycle, E. coli monitoring at the Route 738 bridge (8-SAR001.11) was fully supporting (1/21); therefore, the segment was delisted.

However, during the 2008 cycle, the Pamunkey River Basin Bacteria TMDL was completed and was approved by the EPA on 8/2/2006. The TMDL addressed the original TMDL listing and assigned WLAs and LAs. The E. coli violation rate at station 8-SAR001.11 remained acceptable during the 2008 and 2010 cycles; therefore, the water was considered a Category 2C water.

During the 2012 cycle, the segment became impaired for E. coli again. It is considered Category 4A.

The exceedance rate was 11/36 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F04R_SAR03A98 / South Anna River / From the Ashland Municipal STP discharge to its mouth at the Pamunkey River.	4A	Escherichia coli	2012	L	4.76

South Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.76**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F04R-03-BAC** **Stagg Creek**

Cause Location: Headwaters to mouth at South Anna River

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2006 cycle, Stagg Creek was assessed as not supporting the Recreation Use due to E. coli exceedances at 8-STG005.46 (Route 657) and at 8-STG001.00 (Route 686).

No additional data has been collected at 8-STG005.46.

The segment was determined to be nested within the completed TMDL for the South Anna River bacterial impairment F04R-01-BAC; therefore, it will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F04R_STG01A06 / Stagg Creek / Headwaters to mouth at the South Anna River	4A	Escherichia coli	2006	L	6.56

Stagg Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.56**

Sources:

Agriculture	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F04R-03-DO** **Stagg Creek**

Cause Location: Headwaters to mouth at South Anna River

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Stagg Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 8-STG005.46 (Route 686).

Additional monitoring was conducted in the 2016 cycle, however the data was insufficient for assessment (1/9). In addition, 2009 sampling at freshwater probabilistic monitoring station 8-STG000.73 was acceptable; therefore, further monitoring is warranted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F04R_STG01A06 / Stagg Creek / Headwaters to mouth at the South Anna River	5C	Oxygen, Dissolved	2008	L	6.56

Stagg Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.56**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F04R-03-PH** **Stagg Creek**

Cause Location: Headwaters to mouth at South Anna River

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2016 cycle, Stagg Creek was impaired of the Aquatic Life Use due to a pH exceedance rate of 3/9 at 8-STG005.46 (Route 686) as well as 1/2 at 8-STG000.73.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F04R_STG01A06 / Stagg Creek / Headwaters to mouth at the South Anna River	5C	pH	2016	L	6.56

Stagg Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**6.56**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F05R-01-BAC** **Newfound River**

Cause Location: Newfound River from the confluence of Needstan Creek to its mouth.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2004 cycle, the segment was assessed not supporting of the Recreation Use based on fecal coliform exceedances at the Route 667 bridge (8-NFD002.26). The impairment converted to E. coli during the 2008 cycle.

The Pamunkey River Basin Bacteria TMDL was approved by the EPA on 8/2/2006. The TMDL addressed this segment and the Newfound River is classified as a Category 4A water.

Additional monitoring was conducted during the 2018 cycle. The exceedance rate was 12/24; therefore, the segment remains impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F05R_NFD01A00 / Newfound River / Mainstem downstream of Needstan Creek.	4A	Escherichia coli	2008	L	10.95

Newfound River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.95**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F05R-01-BEN** **Newfound River**

Cause Location: Newfound River from the confluence of Needstan Creek to its mouth.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2018 cycle, the lower Newfound River was impaired of the Aquatic Life Use due to benthic community alteration at 2016 freshwater probabilistic monitoring station 8-NFD004.19.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F05R_NFD01A00 / Newfound River / Mainstem downstream of Needstan Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	10.95

Newfound River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.95**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-01-BAC** **Mountain Run**

Cause Location: Begins at the confluence of Madison Run and continues downstream until the confluence with the North Anna River.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (9 of 29 samples - 31.0%) at station 8-MTN000.96 at Route 643. The York Basin Watersheds around Lake Anna bacteria TMDL for the Mountain Run watershed (POL0239) was approved by the EPA on 11/04/2005 (Fed ID 24427). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Beaver Creek watershed (ID 152) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_MTN01A00 / Mountain Run / Segment begins at the confluence of Madison Run and continues downstream until the confluence with the North Anna River.	4A	Escherichia coli	1998	L	2.64

Mountain Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.64**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-01-BEN** **North Anna River**

Cause Location: Begins at the confluence with Mountain Run and continues downstream until the confluence with White Oak Creek.

City / County: Louisa Co. Orange Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2015 at station 8-NAR065.95 (at ~0.6 rivermile downstream from Route 639) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_NAR02A04 / North Anna River / Segment begins at the confluence with Mountain Run and continues downstream until the confluence with White Oak Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	2.79

North Anna River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.79**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-02-BAC** **Beaver Creek**

Cause Location: Begins at the confluence with Cooks Creek, approximately 0.68 rivermile upstream from the Route 638 bridge, and continues downstream until the confluence with the North Anna River.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (5 of 13 samples - 38.5%) from station 8-BRC001.88, at Route 638. The York Basin Watersheds around Lake Anna bacteria TMDL for the Beaver Creek watershed (POL0238) was approved by the EPA on 11/04/2005 (Fed ID 24426). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Beaver Creek watershed (ID 250) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_BRC01A02 / Beaver Creek / Segment begins at the confluence with Cooks Creek, approximately 0.68 rivermile upstream from the Route 638 bridge, and continues downstream until the confluence with the North Anna River.	4A	Escherichia coli	1998	L	2.83

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.83**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-03-BAC** **Gold Mine Creek**

Cause Location: Begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 8-GMC002.19 at Route 613. The York Basin Watersheds around Lake Anna bacteria TMDL for the Goldmine Creek watershed (POL0240) was approved by the EPA on 11/04/2005 (Fed ID 24428). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Goldmine Creek watershed (ID 247) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_GMC01A00 / Gold Mine Creek / Segment begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.	4A	Escherichia coli	2002	L	7.53

Gold Mine Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.53**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-04-BAC** **North Anna River**

Cause Location: Begins at the confluence with Mountain Run and continues downstream until the confluence with White Oak Creek and begins again at the confluence with Beaver Creek and continues downstream until the confluence with Hickory Creek.

City / County: Louisa Co. Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (13 of 33 samples - 39.4%) at station 8-NAR061.09 at Route 651. E. coli bacteria criterion excursions at citizen monitoring stations 8NAR-EX4-LACA (4 of 14 samples - 28.6%) and 8HIK-EX5-LACA (2 of 7 samples - 28.6%). E. coli bacteria criterion excursions (8 of 12 samples - 66.7%) at station 8-NAR066.42 at Route 639.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_NAR01A02 / North Anna River / Segment begins at the confluence with Beaver Creek and continues downstream until the confluence with Hickory Creek.	5A	Escherichia coli	2006	H, 2yr	3.78
VAN-F06R_NAR02A04 / North Anna River / Segment begins at the confluence with Mountain Run and continues downstream until the confluence with White Oak Creek.	5A	Escherichia coli	2010	H, 2yr	2.79

North Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.57**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-05-BAC** **Christopher Creek**

Cause Location: Begins at an unnamed tributary to Christopher Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

2014 Assessment: E. coli bacteria criterion excursions (8 of 11 samples - 72.7%) at station 8-CRC001.82 at Route 613.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_CRC01A10 / Christopher Creek / Segment begins at an unnamed tributary to Christopher Creek and continues downstream until the confluence with Lake Anna.	5A	Escherichia coli	2010	H, 2yr	1.98

Christopher Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.98**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-06-BAC** **Hickory Creek**

Cause Location: Begins at the confluence with Fox Branch and continues downstream to the confluence with the North Anna River.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions at citizen monitoring station 8HIK-EX2-LACA (11 of 19 samples - 57.9%).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_HIK01A12 / Hickory Creek / Segment begins at the confluence with Fox Branch and continues downstream to the confluence with the North Anna River.	5A	Escherichia coli	2012	H, 2yr	1.72

Hickory Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-07-BAC** **White Creek**

Cause Location: Begins at the headwaters of White Creek and continues downstream until the confluence with Gold Mine Creek.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 12 samples - 66.7%) at station 8-WHT001.33 at Route 669. A new TMDL is not required for this impaired segment of White Creek because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24428, 11/04/2005) included modeling, source identification, and reductions that covered the entire Goldmine Creek watershed (POL0240). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Goldmine Creek watershed (ID 247) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_WHT01A14 / White Creek / Segment begins at the headwaters of White Creek and continues downstream until the confluence with Gold Mine Creek.	4A	Escherichia coli	2014	L	6.05

White Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.05**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-08-BAC** **Duckinghoe Creek**

Cause Location: Begins at the headwaters of Duckinghoe Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 12 samples - 66.7%) at station 8-DKH001.44 at Route 613.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_DKH01A04 / Duckinghoe Creek / Segment begins at the headwaters of Duckinghoe Creek and continues downstream until the confluence with Lake Anna.	5A	Escherichia coli	2016	L	6.98

Duckinghoe Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.98**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-09-BAC** **South Fork Hickory Creek**

Cause Location: Begins at the headwaters of South Fork Hickory Creek and continues downstream until the confluence with the North Fork Hickory Creek

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-HCS000.20 at Route 692.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_HCS01A00 / South Fork Hickory Creek / Segment begins at the headwaters of South Fork Hickory Creek and continues downstream until the confluence with the North Fork Hickory Creek.	5A	Escherichia coli	2016	L	4.63

South Fork Hickory Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.63**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F06R-10-BAC** **Hickory Creek**

Cause Location: Begins at the confluence of North Fork Hickory Creek and South Fork Hickory Creek, creating Hickory Creek, and continues downstream to the upstream portion of Lake Louisa, at Lakeshore Drive.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Excursions from the maximum E. coli bacteria criterion (2 of 15 samples - 13.3%) at citizen monitoring station 8HIK-EX9-LACA.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_HIK03A16 / Hickory Creek / Segment begins at the confluence of North Fork Hickory Creek and South Fork Hickory Creek, creating Hickory Creek, and continues downstream to the upstream portion of Lake Louisa, at Lakeshore Drive.	5A	Escherichia coli	2018	L	0.68

Hickory Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.68**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07L-01-BZOKFL Gold Mine Creek**

Cause Location: Segment begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Benzo[k]fluoranthene / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 5.5 parts per billion (ppb) for benzo(k)fluoranthene in fish tissue were recorded in two species (largemouth bass and carp) of fish sampled (2 total excursions) in 2003 at station 8-GMC001.43.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_GMC01A00 / Gold Mine Creek / Segment begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.	5A	Benzo[k]fluoranthene	2010	L	7.53
VAN-F07L_GMC01A02 / Lake Anna/Gold Mine Creek / Segment includes the Gold Mine Creek arm of Lake Anna.	5A	Benzo[k]fluoranthene	2010	L	91.62

Gold Mine Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo[k]fluoranthene - Total Impaired Size by Water Type:		**91.62**	**7.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07L-01-HG** **Lake Anna**

Cause Location: Segment includes the lower portion of Lake Anna, beginning near the northern end of the Route 690 bridge, and continues downstream until the dam.

City / County: Louisa Co. Spotsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2010 Assessment: Excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in tissue from one species of fish (carp) sampled in 2003 and in tissue from one species of fish (channel catfish) sampled in 2006 at monitoring station 8-NAR034.92.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07L_NAR01A02 / Lake Anna / Segment includes the lower portion of Lake Anna (lacustrine), beginning near the northern end of the Route 690 bridge (Dike 2), and continues downstream until the dam.	5A	Mercury in Fish Tissue	2010	L	######

Lake Anna **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,563.36**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

Cause Group Code: F07L-01-PAHHMW **Gold Mine Creek**

Cause Location: Begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna (impairment includes the Gold Mine Creek arm).

City / County: Louisa Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Benzo(a)pyrene (PAHs) / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 5.5 parts per billion (ppb) for benzo(a)pyrene in fish tissue were recorded in two species (largemouth bass and carp) of fish sampled (2 total excursions) in 2003 at station 8-GMC001.43.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_GMC01A00 / Gold Mine Creek / Segment begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.	5A	Benzo(a)pyrene (PAHs)	2010	L	7.53
VAN-F07L_GMC01A02 / Lake Anna/Gold Mine Creek / Segment includes the Gold Mine Creek arm of Lake Anna.	5A	Benzo(a)pyrene (PAHs)	2010	L	91.62

Gold Mine Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo(a)pyrene (PAHs) - Total Impaired Size by Water Type:		**91.62**	**7.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07L-01-PCB** **Lake Anna and Contrary Creek, Goldmine Creek, and Terrys Run tributaries**

Cause Location: Includes the entirety of Lake Anna, including its tributaries Terrys Run, Goldmine Creek, and Contrary Creek.

City / County: Louisa Co. Orange Co. Spotsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A PCB in Water Column / 5A

Exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in five species of fish (largemouth bass, carp, channel catfish, and white catfish) in samples collected in 2008 at monitoring station 8-GMC001.43.

Exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in five species of fish (largemouth bass, carp, channel catfish, and white catfish) in samples collected in 2008 at monitoring station 8-GMC001.43.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_GMC01A00 / Gold Mine Creek / Segment begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.	5A	PCB in Fish Tissue	2006	L	7.53
VAN-F07L_CON01A02 / Lake Anna/Contrary Creek / Segment includes most of the Contrary Creek arm of Lake Anna, beginning around rivermile 3.53 and continuing downstream until the confluence with the main portion of Lake Anna.	5A	PCB in Fish Tissue	2002	L	445.19
VAN-F07L_CON02A08 / Lake Anna/Contrary Creek / Segment includes the remainder of the Contrary Creek arm of Lake Anna, beginning at the start of the inundated waters and continuing downstream until around rivermile 3.53.	5A	PCB in Fish Tissue	2002	L	27.87
VAN-F07L_FRC01A04 / Lake Anna/Freshwater Creek / Segment includes the Freshwater Creek arm of Lake Anna.	5A	PCB in Fish Tissue	2006	L	50.67
VAN-F07L_GMC01A02 / Lake Anna/Gold Mine Creek / Segment includes the Gold Mine Creek arm of Lake Anna.	5A	PCB in Fish Tissue	2002	L	91.62
VAN-F07L_NAR01A02 / Lake Anna / Segment includes the lower portion of Lake Anna (lacustrine), beginning near the northern end of the Route 690 bridge (Dike 2), and continues downstream until the dam.	5A	PCB in Fish Tissue	2002	L	######
VAN-F07L_NAR02A02 / Lake Anna / Segment begins at the start of the lacustrine waters of Lake Anna (0.7 miles upstream from 8-NAR044.68), and continues downstream until the northern end of the Route 690 bridge.	5A	PCB in Fish Tissue	2006	L	######
VAN-F07L_NAR03A02 / Lake Anna / Segment includes the upper portion North Anna River portion of Lake Anna, beginning at the boundary of F07, and continues downstream until the start of the lacustrine waters of Lake Anna (0.7 miles upstream from 8-NAR044.68).	5A	PCB in Fish Tissue	2006	L	######
VAN-F07L_NAR04A06 / Lake Anna / Segment includes the upper portion North Anna River of Lake Anna beginning at the start of the inundated waters of the North Anna River downstream until the boundary of the F06 watershed.	5A	PCB in Fish Tissue	2006	L	######
VAN-F07L_PLT01A04 / Lake Anna/Plentiful Creek / Segment	5A	PCB in Fish Tissue	2006	L	109.04

includes the Plentiful Creek arm of Lake Anna.					
VAN-F07L_PMC01A04 / Lake Anna/Pamunkey Creek / Segment includes the Pamunkey Creek arm of Lake Anna beginning at the confluence with the Terrys Run arm of the lake and continuing downstream until the confluence with the North Anna River at The Splits.	5A	PCB in Fish Tissue	2006	L	802.74
VAN-F07L_PMC02A02 / Lake Anna/Pamunkey Creek / Segment includes the Pamunkey Creek Arm of Lake Anna from the beginning of the inundated waters of Pamunkey Creek downstream to the confluence with the Terry's Run arm of the lake.	5A	PCB in Fish Tissue	2006	L	471.89
VAN-F07L_TRY01A04 / Terrys Run/Lake Anna / Segment includes the Terrys Run arm of Lake Anna.	5A	PCB in Fish Tissue	2006	L	431.09
VAN-F07R_TRY01A00 / Terrys Run / Segment begins at the confluence with Riga Run and continues downstream until the confluence with Lake Anna.	5A	PCB in Fish Tissue	2006	L	1.98
VAN-F07R_TRY02A02 / Terrys Run / Segment begins at the confluence with Horsepen Branch and continues downstream until the confluence with Riga Run.	5A	PCB in Fish Tissue	2006	L	3.67
VAN-F07R_TRY03A08 / Terrys Run / Segment begins at the headwaters of Terrys Run and continues downstream until the confluence with Horsepen Branch.	5A	PCB in Fish Tissue	2006	L	4.36
VAN-F08R_CON01A00 / Contrary Creek / Segment begins at the headwaters of Contrary Creek and continues downstream until the confluence with Lake Anna.	5A	PCB in Fish Tissue	2006	L	5.52

Lake Anna and Contrary Creek, Goldmine Creek, and Terrys Run tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**9,596.81**	**23.06**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07L_PMC01A04 / Lake Anna/Pamunkey Creek / Segment includes the Pamunkey Creek arm of Lake Anna beginning at the confluence with the Terrys Run arm of the lake and continuing downstream until the confluence with the North Anna River at The Splits.	5A	PCB in Water Column	2010	L	802.74
VAN-F07L_TRY01A04 / Terrys Run/Lake Anna / Segment includes the Terrys Run arm of Lake Anna.	5A	PCB in Water Column	2010	L	431.09

Lake Anna and Contrary Creek, Goldmine Creek, and Terrys Run tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:		**1,233.83**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07L-02-HG** **Terrys Run/Lake Anna**

Cause Location: Segment includes the Terrys Run arm of Lake Anna.

City / County: Orange Co. Spotsylvania Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2010 Assessment: Excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in tissue from one species of fish (carp) sampled in 2003 and in tissue from one species of fish (largemouth bass - 2 excursions) sampled in 2006 at monitoring station 8-TRY001.33.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07L_TRY01A04 / Terrys Run/Lake Anna / Segment includes the Terrys Run arm of Lake Anna.	5A	Mercury in Fish Tissue	2010	L	431.09

Terrys Run/Lake Anna **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**431.09**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07L-02-PAHHMW Gold Mine Creek**

Cause Location: Begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna (impairment includes the Gold Mine Creek arm)..

City / County: Louisa Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Benzo[b]fluoranthene / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 5.5 parts per billion (ppb) for benzo(b)fluoranthene in fish tissue were each recorded in two species (largemouth bass and carp) of fish sampled (2 total excursions) in 2003 at station 8-GMC001.43.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F06R_GMC01A00 / Gold Mine Creek / Segment begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.	5A	Benzo[b]fluoranthene	2010	L	7.53
VAN-F07L_GMC01A02 / Lake Anna/Gold Mine Creek / Segment includes the Gold Mine Creek arm of Lake Anna.	5A	Benzo[b]fluoranthene	2010	L	91.62

Gold Mine Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo[b]fluoranthene - Total Impaired Size by Water Type:		**91.62**	**7.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-01-BAC** **Pamunkey Creek**

Cause Location: Begins at the confluence of Tomahawk Creek and Church Creek, forming Pamunkey Creek, and continues downstream until the impounded waters of Lake Anna.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (16 of 33 samples - 48.5%) at station 8-PMC009.85 at Route 651. E. coli bacteria criterion excursions (3 of 4 samples - 75.0%) at citizen monitoring station 8PMC-P3-LACA. E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) at citizen monitoring station 8PMC-P6-LACA. The York Basin Watersheds around Lake Anna bacteria TMDL for the Pamunkey Creek watershed (POL0237) was developed and approved by the EPA on 11/04/2005 (Fed ID 24430). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Pamunkey Creek watershed (ID 249) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_PMC01A00 / Pamunkey Creek / Segment begins at the confluence with Clear Creek and continues downstream until the confluence with Lake Anna.	4A	Escherichia coli	1998	L	5.49
VAN-F07R_PMC02A02 / Pamunkey Creek / Segment begins at the confluence with Tomahawk Creek and Church Creek, where Pamunkey Creek begins, and continues downstream until the confluence with Clear Creek.	4A	Escherichia coli	1998	L	7.21

Pamunkey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.70**

Sources:

- Grazing in Riparian or Shoreline Zones
- Impacts from Land Application of Wastes
- Livestock (Grazing or Feeding Operations)
- Runoff from Forest/Grassland/Parkland
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-01-BEN** **Pamunkey Creek**

Cause Location: Begins at the confluence of Tomahawk Creek and Church Creek, forming Pamunkey Creek, and continues downstream until the confluence with Clear Creek.

City / County: Orange Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2016 Assessment: Two biological monitoring events in 2010 at station 8-PMC014.75 at Route 630 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_PMC02A02 / Pamunkey Creek / Segment begins at the confluence with Tomahawk Creek and Church Creek, where Pamunkey Creek begins, and continues downstream until the confluence with Clear Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	7.21

Pamunkey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-02-BAC** **Terrys Run**

Cause Location: Begins at the confluence with Horsepen Branch and continues downstream until the confluence with Lake Anna.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria excursions (11 of 29 samples - 37.9%) at station 8-TRY004.98 at Route 629. E. coli bacteria criterion excursions at citizen monitoring stations 8TRY-T3-LACA (4 of 4 samples - 100.0%), 8TRY-37-LACA (4 of 24 samples - 16.7%), and 8TRY-T1-LACA (2 of 4 samples - 50.0%). The York Basin Watersheds around Lake Anna bacteria TMDL for the Terrys Run watershed (POL0235) was developed and approved by the EPA on 11/04/200 (Fed ID 24432). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Terrys Run watershed (ID 248) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_TRY01A00 / Terrys Run / Segment begins at the confluence with Riga Run and continues downstream until the confluence with Lake Anna.	4A	Escherichia coli	1998	L	1.98
VAN-F07R_TRY02A02 / Terrys Run / Segment begins at the confluence with Horsepen Branch and continues downstream until the confluence with Riga Run.	4A	Escherichia coli	2006	L	3.67

Terrys Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.65**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-03-BAC** **Plentiful Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Plentiful Creek, upstream from the Route 601 bridge, and continues downstream until the confluence with Lake Anna.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria excursions (3 of 12 samples - 25.0%) at station 8-PLT002.82 at Route 653.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_PLT01A00 / Plentiful Creek / Segment begins at the confluence with an unnamed tributary to Plentiful Creek, upstream from the Route 601 bridge, and continues downstream until the confluence with Lake Anna.	4A	Escherichia coli	1998	L	3.30

Plentiful Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.30**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-04-BAC** **Tomahawk Creek**

Cause Location: Begins at the headwaters of Tomahawk Creek and continues downstream until the confluence with Church Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 4 samples - 100.0%) at citizen monitoring station 8THK-P10-LACA. A new TMDL is not required for this impaired segment of Tomahawk Creek because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24430, 11/04/2005) included modeling, source identification, and reductions that covered the entire Pamunkey Creek watershed (POL0237). The Upper York River bacteria TMDL Implementation Plan for the Pamunkey Creek watershed (ID 249) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_THK01A02 / Tomahawk Creek / Segment begins at the headwaters of Tomahawk Creek and continues downstream until the confluence with Church Run.	4A	Escherichia coli	2014	L	3.84

Tomahawk Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.84**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-05-BAC** **Berry Run**

Cause Location: Begins at the headwaters of Berry Run and continues downstream until the confluence with Clear Creek.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 4 samples - 75.0%) at citizen monitoring station 8BRY-P4-LACA. E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) at citizen monitoring station 8BRY-P8-LACA. A new TMDL is not required for this impaired segment of Berry Run because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24430, 11/04/2005) included modeling, source identification, and reductions that covered the entire Pamunkey Creek watershed (POL0237). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Pamunkey Creek watershed (ID 249) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_BRY01A06 / Berry Run / Segment begins at the confluence with Little Creek and continues downstream until the confluence with Clear Creek.	4A	Escherichia coli	2006	L	2.34
VAN-F07R_BRY02A14 / Berry Run / Segment begins at the headwaters of Berry Run and continues downstream until the confluence with Little Creek.	4A	Escherichia coli	2014	L	2.96

Berry Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.30**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-06-BAC** **Terrys Run**

Cause Location: Begins at the headwaters of Terrys Run and continues downstream until the confluence with Horsepen Branch.

City / County: Orange Co. Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at station 8-TRY010.80 at Route 692. A new TMDL is not required for this impaired segment of Terrys Run because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24432, 11/04/2005) included modeling, source identification, and reductions that covered the entire Terrys Run watershed (POL0235). The Upper York River bacteria TMDL Implementation Plan for the Terrys Run watershed (ID 248) was approved by the EPA on 01/09/2013

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_TRY03A08 / Terrys Run / Segment begins at the headwaters of Terrys Run and continues downstream until the confluence with Horsepen Branch.	4A	Escherichia coli	2010	L	4.36

Terrys Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.36**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-07-BAC** **Clear Creek**

Cause Location: Begins at the outlet of Lake Orange and continues downstream to the confluence with Berry Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 4 samples - 75.0%) at citizen monitoring station 8CLC-P5-LACA. A new TMDL is not required for this impaired segment of Church Run because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24430, 11/04/2005) included modeling, source identification, and reductions that covered the entire Pamunkey Creek watershed (POL0237). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Pamunkey Creek watershed (ID 249) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_CLC01A12 / Clear Creek / Segment begins at the outlet of Lake Orange and continues downstream to the confluence with Berry Run.	4A	Escherichia coli	2014	L	2.44

Clear Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.44**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-08-BAC** **Riga Run**

Cause Location: Begins at the headwaters of Riga Run and continues downstream until the confluence with Terrys Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) at citizen monitoring station 8RIG-T10A-LACA and (2 of 4 samples - 50.0%) at citizen monitoring station 8RIG-T12-LACA. A new TMDL is not required for this impaired segment of Riga Run because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24432, 11/04/2005) included modeling, source identification, and reductions that covered the entire Terrys Run watershed (POL0235). The Upper York River bacteria TMDL Implementation Plan for the Terrys Run watershed (ID 248) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_RIG01A02 / Riga Run / Segment begins at the headwaters of Riga Run and continues downstream until the confluence with Terrys Run.	4A	Escherichia coli	2014	L	7.36

Riga Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.36**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-09-BAC** **Rocky Run**

Cause Location: Begins at the headwaters of Rocky Run and continues downstream until the confluence with Terrys Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 4 samples - 100.0%) at citizen monitoring station 8ROC-T5-LACA and (3 of 4 samples - 75.0%) at citizen monitoring station 8ROC-T8-LACA. A new TMDL is not required for this impaired segment of Rocky Run because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24432, 11/04/2005) included modeling, source identification, and reductions that covered the entire Terrys Run watershed (POL0235). The Upper York River bacteria TMDL Implementation Plan for the Terrys Run watershed (ID 248) was approved by the EPA on 01/09/2013

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_ROC01A10 / Rocky Run / Segment begins at the headwaters of Rocky Run and continues downstream until the confluence with Terrys Run.	4A	Escherichia coli	2014	L	2.40

Rocky Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.40**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-10-BAC** **Church Run**

Cause Location: Begins at Taylors Pond and continues downstream until the confluence with Tomahawk Creek.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 4 samples - 100.0%) at citizen monitoring station 8CHR-P9-LACA. A new TMDL is not required for this impaired segment of Church Run because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24430, 11/04/2005) included modeling, source identification, and reductions that covered the entire Pamunkey Creek watershed (POL0237). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Pamunkey Creek watershed (ID 249) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_CHR01A14 / Church Run / Segment begins at Taylors Pond and continues downstream until the confluence with Tomahawk Creek.	4A	Escherichia coli	2014	L	0.71

Church Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.71**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-11-BAC** **Little Creek**

Cause Location: Begins at the headwaters of Little Creek and continues downstream until the confluence of Berry Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions at citizen monitoring stations 8LIT-P7-LACA (10 of 19 samples - 52.6%) and 8LIT-P13-LACA (2 of 14 samples - 14.3%). A new TMDL is not required for this impaired segment of Little Creek because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24430, 11/04/2005) included modeling, source identification, and reductions that covered the entire Pamunkey Creek watershed (POL0237). The SWCB approved the TMDL on 09/27/2006. The Upper York River bacteria TMDL Implementation Plan for the Pamunkey Creek watershed (ID 249) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_LIT01A14 / Little Creek / Segment begins at the headwaters of Little Creek and continues downstream until the confluence of Berry Run.	4A	Escherichia coli	2014	L	2.14

Little Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.14**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F07R-12-BAC** **Poor House Run**

Cause Location: Begins at the headwaters of Poor House Run and continues downstream until the confluence with Tomahawk Creek.

City / County: Orange Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 4 samples - 100.0%) at citizen monitoring station 8PHC-P12-LACA. A new TMDL is not required for this impaired segment of Poor House Run because the downstream York Basin Watersheds around Lake Anna bacteria TMDL (Fed ID 24430, 11/04/2005) included modeling, source identification, and reductions that covered the entire Pamunkey Creek watershed (POL0237). The Upper York River bacteria TMDL Implementation Plan for the Pamunkey Creek watershed (ID 249) was approved by the EPA on 01/09/2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07R_PHC01A14 / Poor House Run / Segment begins at the headwaters of Poor House Run and continues downstream until the confluence with Tomahawk Creek.	4A	Escherichia coli	2014	L	3.51

Poor House Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.51**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F08R-01-CD** **Contrary Creek**

Cause Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Cadmium / 5A

2012 Assessment: Sufficient excursions above the freshwater, acute criterion for cadmium (2 excursions in 2006) were recorded at station (8-CON005.38) at Route 522.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07L_CON02A08 / Lake Anna/Contrary Creek / Segment includes the remainder of the Contrary Creek arm of Lake Anna, beginning at the start of the inundated waters and continuing downstream until around rivermile 3.53.	5A	Cadmium	2008	M	27.87
	5A	Cadmium	2008	M	27.87
VAN-F08R_CON01A00 / Contrary Creek / Segment begins at the headwaters of Contrary Creek and continues downstream until the confluence with Lake Anna.	5A	Cadmium	2008	M	5.52
	5A	Cadmium	2008	M	5.52

Contrary Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Cadmium - Total Impaired Size by Water Type:		**55.74**	**11.04**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F08R-01-CU** **Contrary Creek**

Cause Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Copper / 5A

2012 Assessment: Sufficient excursions above the freshwater, acute criterion for copper (3 excursions in 2006) were recorded at station (8-CON005.38) at Route 522.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07L_CON02A08 / Lake Anna/Contrary Creek / Segment includes the remainder of the Contrary Creek arm of Lake Anna, beginning at the start of the inundated waters and continuing downstream until around rivermile 3.53.	5A	Copper	2008	M	27.87
	5A	Copper	2008	M	27.87
VAN-F08R_CON01A00 / Contrary Creek / Segment begins at the headwaters of Contrary Creek and continues downstream until the confluence with Lake Anna.	5A	Copper	2008	M	5.52
	5A	Copper	2008	M	5.52

Contrary Creek **Wildlife**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:		**55.74**	**11.04**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F08R-01-PH** **Contrary Creek**

Cause Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Excursions less than the lower limit of the pH criterion range (33 of 33 samples - 100.0%) at station 8-CON005.38.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07L_CON02A08 / Lake Anna/Contrary Creek / Segment includes the remainder of the Contrary Creek arm of Lake Anna, beginning at the start of the inundated waters and continuing downstream until around rivermile 3.53.	5A	pH	2008	M	27.87
VAN-F08R_CON01A00 / Contrary Creek / Segment begins at the headwaters of Contrary Creek and continues downstream until the confluence with Lake Anna.	5A	pH	2002	M	5.52

Contrary Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**27.87**	**5.52**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F08R-01-ZN** **Contrary Creek**

Cause Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co.

Use(s): Aquatic Life Wildlife

Cause(s) / VA Category: Zinc / 5A

2012 Assessment: Sufficient excursions above the freshwater, acute criterion for zinc (3 excursions in 2006) were recorded at station (8-CON005.38) at Route 522.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F07L_CON02A08 / Lake Anna/Contrary Creek / Segment includes the remainder of the Contrary Creek arm of Lake Anna, beginning at the start of the inundated waters and continuing downstream until around rivermile 3.53.	5A	Zinc	2008	M	27.87
	5A	Zinc	2008	M	27.87
VAN-F08R_CON01A00 / Contrary Creek / Segment begins at the headwaters of Contrary Creek and continues downstream until the confluence with Lake Anna.	5A	Zinc	2008	M	5.52
	5A	Zinc	2008	M	5.52

Contrary Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Zinc - Total Impaired Size by Water Type:		**55.74**	**11.04**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-01-BAC** **Northeast Creek**

Cause Location: Begins at the headwaters of Northeast Creek and continues downstream until the confluence with another unnamed tributary to Northeast Creek, approximately 0.67 rivermiles upstream from Route 622.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-NST007.84 at Route 614. 2016 Assessment: E. coli bacteria criterion excursions (4 of 23 samples - 17.4%) at station 8-NST011.67. A new TMDL is not required for this impaired segment of Northeast Creek because the downstream Pamunkey River and Tributaries bacteria TMDL (Fed ID 24448, 08/02/2006, modification approved 06/22/2009) included modeling, source identification, and reductions that covered the entire Northeast Creek watershed (1159)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F09R_NST03A08 / Northeast Creek / Segment begins at the confluence with an unnamed tributary to Northeast Creek, at rivermile 9.39, and continues downstream until the confluence with another unnamed tributary to Northeast Creek, approximately 0.67 rivermiles upstream from Route 622.	4A	Escherichia coli	2006	L	6.36
VAN-F09R_NST04A08 / Northeast Creek / Segment begins at the confluence of Knights Branch with Music Branch, forming Northeast Creek, and continues downstream until the confluence with an unnamed tributary to Northeast Creek, approximately 2.28 rivermiles downstream from Route 208.	4A	Escherichia coli	2012	L	3.52

Northeast Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.88**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-02-BAC** **Music Branch**

Cause Location: Begins at the headwaters of Music Branch and continues downstream until the confluence with Northeast Creek.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 3-MUS000.57 at Route 677. A new TMDL is not required for this impaired segment of Music Branch because the downstream Pamunkey River and Tributaries bacteria TMDL (Fed ID 24448, 08/02/2006, modification approved 06/22/2009) included modeling, source identification, and reductions that covered the entire Northeast Creek watershed (1159).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F09R_MUS01A06 / Music Branch / Segment begins at the headwaters of Music Branch and continues downstream until the confluence with Northeast Creek.	4A	Escherichia coli	2008	L	3.56

Music Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.56**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-02-BEN** **North Anna River, UT (XHS)**

Cause Location: Unnamed Tributary XHS from its headwaters to its mouth at the North Anna River

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The unnamed tributary was assessed as not supporting of the Aquatic Life Use in the 2008 cycle due to impairment of the benthic community at station 8-XHS000.72.

It was confirmed by benthic monitoring at 8-XHS000.72 in 2011. Additional 2011 and 2012 benthic monitoring at 8-XHS000.49 also showed benthic community impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F09R_XHS01A08 / North Anna River, UT (XHS) / Unnamed Tributary XHS from its headwaters to its mouth at the North Anna River	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.09

North Anna River, UT (XHS)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.09**

Sources:

Industrial Point Source Discharge	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-03-PH** **XIM - North Anna River, UT**

Cause Location: Unnamed Tributary XIM from its mouth at the North Anna River to the first tributary (near Chandler Crossing)

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2010 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2/2 at freshwater probabilistic monitoring station 8-XIM000.53.

Additional monitoring was conducted during the 2016 cycle; the exceedance rate was 2/12.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F09R_XIM01A10 / North Anna, UT / Mouth upstream to first tributary (near Chandler Crossing)	5C	pH	2010	L	0.70

XIM - North Anna River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.70**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-04-BAC** **Mill Creek**

Cause Location: Mill Creek in its entirety.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Mill Creek was impaired of the Recreation Use due to an E. coli violation rate of 7/13 at the Route 652 bridge (8-MLL001.19).

The Pamunkey River and Tributaries Bacterial TMDL was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015. The impairment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F09R_MLL01A12 / Mill Creek / Headwaters to mouth at the North Anna River	4A	Escherichia coli	2012	L	4.37

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.37**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-04-PH** **Mill Creek**

Cause Location: Mill Creek in its entirety.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Mill Creek was impaired of the Aquatic Life Use due to a pH violation rate of 5/13 at the Route 652 bridge (8-MLL001.19).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F09R_MLL01A12 / Mill Creek / Headwaters to mouth at the North Anna River	5C	pH	2012	L	4.37

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.37**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-05-PH** **XJP - North Anna River, UT**

Cause Location: Headwaters to mouth

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2016 cycle, tributary XJP was impaired of the Aquatic Life Use due to a pH exceedance rate of 6/7 at station 8-XJP000.01, which is located 15 meters above the mouth.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F09R_XJP01A14 / North Anna River, UT - XJP / Headwaters to mouth at XBU	5C	pH	2016	L	1.01

XJP - North Anna River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-06-BAC** **North Anna River**

Cause Location: The North Anna River from Bull Run downstream to the Little River.

City / County: Caroline Co. Hanover Co. Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the North Anna River from Bull Run to the mouth was impaired of the Recreation Use due to an E. coli exceedance rate of 8/59 at station 8-NAR005.42, which is located at the Route 30 bridge (Morris Bridge).

The Pamunkey River and Tributaries Bacterial TMDL was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015; therefore, the segment is considered Category 4A.

The exceedance rate was 7/61 in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F09R_NAR01A00 / North Anna River / From Bull Run to the Doswell PWS intake approximately 0.5 mi upstream of the Rte. 30 bridge.	4A	Escherichia coli	2016	L	1.73
VAP-F09R_NAR02A00 / North Anna River / From the Doswell PWS intake approximately 0.5 mi. upstream of the Route 30 bridge to the confluence with the Little River.	4A	Escherichia coli	2016	L	2.42

North Anna River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.15**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F09R-07-BAC** **Unnamed tributary to Northeast Creek**

Cause Location: Begins at the headwaters of an unnamed tributary to Northeast Creek and continues downstream until the confluence with Northeast Creek, approximately 0.46 rivermiles upstream from the Route 208 crossing.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion (3 of 12 samples - 25.0%) at station 8-XIA000.89 at Route 659. A new TMDL is not required for this impaired segment of Northeast Creek because the downstream Pamunkey River and Tributaries bacteria TMDL (Fed ID 24448, 08/02/2006, modification approved 06/22/2009) included modeling, source identification, and reductions that covered the entire Northeast Creek watershed (1159).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F09R_XIA01A06 / Unnamed tributary to Northeast Creek / Segment begins at the headwaters of an unnamed tributary to Northeast Creek and continues downstream until the confluence with Northeast Creek, approximately 0.46 rivermiles upstream from the Route 208 crossing.	4A	Escherichia coli	2016	L	3.00

Unnamed tributary to Northeast Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.00**

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F10R-01-BAC** **Little River**

Cause Location: Begins at the confluence with Hawkins Creek and continues downstream until the confluence with Locust Creek.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 33 samples - 21.2%) at station 8-LTL030.55 at Route 654 (Signboard Road). A new TMDL is not required for this impaired segment of Long Creek because the downstream Pamunkey River and Tributaries bacteria TMDL (Fed ID 65140, 04/27/2015) included modeling, source identification, and reductions that covered the entire Upper Little River watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F10R_LTL01A02 / Little River / Segment begins at the confluence with Hawkins Creek and continues downstream until the confluence with Locust Creek.	4A	Escherichia coli	2006	L	4.17

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.17**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F10R-02-BAC** **Little River**

Cause Location: Begins at the outlet from Swift Millpond and continues downstream until the confluence with Long Creek.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) at station 8-LTL035.32 at Route 609. A new TMDL is not required for this impaired segment of Long Creek because the downstream Pamunkey River and Tributaries bacteria TMDL (Fed ID 65140, 04/27/2015) included modeling, source identification, and reductions that covered the entire Upper Little River watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F10R_LTL02A04 / Little River / Segment begins at the outlet from Swift Millpond and continues downstream until the confluence with Long Creek.	4A	Escherichia coli	2014	L	1.29

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.29**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F10R-02-DO** **Long Creek**

Cause Location: Begins at the headwaters of Long Creek and continues downstream until the confluence with Little River.

City / County: Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Excursions less than the minimum dissolved oxygen criterion (2 of 10 samples - 20.0%) at station 8-LNG000.94 at Route 655.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F10R_LNG01A14 / Long Creek / Segment begins at the headwaters of Long Creek and continues downstream until the confluence with Little River.	5A	Oxygen, Dissolved	2014	L	5.15

Long Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.15**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F10R-03-BAC** **Long Creek**

Cause Location: Begins at the headwaters of Long Creek and continues downstream until the confluence with Little River.

City / County: Louisa Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) at station 8-LNG000.94 at Route 655. A new TMDL is not required for this impaired segment of Long Creek because the downstream Pamunkey River and Tributaries bacteria TMDL (Fed ID 65140, 04/27/2015) included modeling, source identification, and reductions that covered the entire Upper Little River watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F10R_LNG01A14 / Long Creek / Segment begins at the headwaters of Long Creek and continues downstream until the confluence with Little River.	4A	Escherichia coli	2014	L	5.15

Long Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.15**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F11R-01-BAC** **Little River**

Cause Location: The Little River from its confluence with Locust Creek downstream to the confluence with Beaverdam Creek.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, the segment was assessed as not supporting of the Recreation Use due to E. coli violations at the Route 715 bridge (8-LTL024.86). Additional monitoring at station 8-LTL018.80 in the 2012 cycle confirmed the impairment with a violation rate of 3/12. The violation rate at 8-LTL024.86 was 3/15 during the 2014 cycle.

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F11R_LTL01B08 / Little River / From Locust Creek downstream to Fulcher Millpond dam.	4A	Escherichia coli	2008	L	6.29
VAP-F11R_LTL02B14 / Little River / Locust Creek from Fulcher Millpond dam downstream to Beaverdam Creek.	4A	Escherichia coli	2008	L	4.21

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**10.50**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F11R-01-BEN** **Locust Creek**

Cause Location: Begins at the headwaters to of Locust Creek and continues downstream until the confluence with Little River.

City / County: Hanover Co. Louisa Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Two biological monitoring events in 2007 at station 8-LOC002.00 (0.9 miles upstream from Route 608) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F11R_LOC01A06 / Locust Creek / Segment begins at the headwaters to of Locust Creek and continues downstream until the confluence with Little River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	6.59

Locust Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.59**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F11R-01-DO** **Little River**

Cause Location: The Little River from its confluence with Locust Creek downstream to the Fulcher Millpond dam.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, the Little River from Locust Creek downstream to Beaverdam Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen violation rate of 2/9 at the Route 715 bridge (8-LTL024.86).

During the 2012 cycle, additional monitoring within the segment at station 8-LTL018.80 was acceptable; therefore, further monitoring was recommended.

The original listing station 8-LTL024.86 was subsequently monitored during the 2014 cycle. A dissolved oxygen impairment was confirmed with an exceedance rate of 10/16. The segment was shortened to end at the Fulcher Millpond dam because of the acceptable downstream dissolved oxygen levels and because of the probable impact caused by backwatering from the dam. The downstream segment was partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F11R_LTL01B08 / Little River / From Locust Creek downstream to Fulcher Millpond dam.	5A	Oxygen, Dissolved	2008	L	6.29

Little River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.29**

Sources:

Dam or Impoundment Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F11R-02-BAC** **Beaverdam Creek**

Cause Location: Beaverdam Creek mainstem in its entirety.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Beaverdam Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 4/9 at the Route 601 bridge (8-BDC000.05).

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F11R_BDC01A12 / Beaverdam Creek / Headwaters to mouth at the Little River	4A	Escherichia coli	2012	L	8.47

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.47**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F11R-02-PH** **Beaverdam Creek**

Cause Location: Beaverdam Creek mainstem in its entirety.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2012 cycle, Beaverdam Creek was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 3/10 at the Route 601 bridge (8-BDC000.05).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F11R_BDC01A12 / Beaverdam Creek / Headwaters to mouth at the Little River	5A	pH	2012	L	8.47

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**8.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F11R-03-BAC** **Little River**

Cause Location: The Little River from its confluence with Beaverdam Creek downstream to its mouth.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little River from Beaverdam Creek to its mouth at the North Anna River was impaired during the 2014 cycle due to E. coli exceedances.

The violation rates are as follows in the 2018 cycle:
7/65 at 8-LTL009.54 (Rt. 685)
5/11 at 8-LTL002.69 (Rt. 689)

The Little River is within the study area for the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015. The impairment will be considered nested.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F11R_LTL01A98 / Little River / From Beaverdam Creek to its mouth at the North Anna River.	4A	Escherichia coli	2014	L	18.28

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.28**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-02-BAC** **Mechumps Creek**

Cause Location: Mechumps Creek from its confluence with Slayden Creek to the Pamunkey River.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Mechumps Creek was initially assessed as not supporting of the Recreation Use due to fecal coliform exceedances at 8-MCP002.42.

During the 2006 cycle, the Bacteria TMDL for Mechumps Creek was developed and approved by the EPA on 10/21/2004. The segment remained impaired for fecal coliform and E. coli and was classified as Cat. 4A.

During the 2008 cycle, the impairment converted to E. coli. The exceedance rate at 8-MCP002.42 was 4/19 during the 2010 cycle. No additional data has been collected by the DEQ. However, Level 2 Coliscan data from 8-MCP-8-RMC, which is co-located with 8-MCP002.42, was acceptable during the 2014 cycle (0/16); therefore, additional monitoring by the DEQ is recommended.

The TMDL was superseded by the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_MCP01A94 / Mechumps Creek / Slayden Creek to the Pamunkey River	4A	Escherichia coli	2006	L	5.78

Mechumps Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.78**

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-05-BAC** **Mechumps Creek**

Cause Location: Headwaters to the confluence with unnamed tributary to XEG

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, Mechumps Creek from its headwaters to the confluence with tributary XEG was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 3/11 at 8-MCP009.56, which is located at Arbor Oak Drive. The bacterial TMDL for a downstream segment of Mechumps Creek was already completed and was approved by the EPA on 10/21/2004 and by the SWCB on 12/20/2005. As this downstream impairment required a 94.04% in nonpoint sources in the watershed, this segment was considered nested (Category 4A.)

Subsequently, the segment was specifically addressed in the Pamunkey River and Tributaries Bacterial TMDL, which superseded the previous TMDL. The TMDL was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015. No additional data has been collected by the DEQ; however, coliscan monitoring at a citizen station shows evidence of continued impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_MCP03A06 / Mechumps Creek / Mechumps Creek from its headwaters downstream to the confluence with XEG.	4A	Escherichia coli	2010	L	1.05

Mechumps Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.05**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-05-DO** **Mechumps Creek**

Cause Location: Headwaters to the confluence with unnamed tributary to XEG

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2010 cycle, Mechumps Creek from its headwaters to the confluence with tributary XEG was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/23 at 8-MCP009.56, which is located at Arbor Oak Drive.

During the 2016 cycle, the exceedance rate was 3/10.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_MCP03A06 / Mechumps Creek / Mechumps Creek from its headwaters downstream to the confluence with XEG.	5A	Oxygen, Dissolved	2010	L	1.05

Mechumps Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.05**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-05-PH** **Mechumps Creek**

Cause Location: Headwaters to the confluence with unnamed tributary to XEG

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2006 cycle, Mechumps Creek from its headwaters to the confluence with tributary XEG was assessed as impaired of the Aquatic Life Use due to pH exceedances at 8-MCP009.56, which is located at Arbor Oak Drive.

During the 2016 cycle, the exceedance rate was 4/10.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_MCP03A06 / Mechumps Creek / Mechumps Creek from its headwaters downstream to the confluence with XEG.	5A	pH	2006	L	1.05

Mechumps Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.05**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-07-BAC** **Crump Creek**

Cause Location: The mainstem of Crump Creek.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, Crump Creek was assessed as not supporting of the Recreation Use based on E.coli exceedances at the Route 605 bridge (8-CRU000.92).

During the 2016 cycle, the violation rates in the segment were as follows:
0/12 at 8-CRU000.92
3/12 at 8-CRU005.61
2/12 at 8-CRU008.30

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_CRU01A02 / Crump Creek / Crump Creek from its headwaters downstream to its mouth at the Pamunkey River.	4A	Escherichia coli	2008	L	10.00

Crump Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.00**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-07-PH** **Crump Creek**

Cause Location: The mainstem of Crump Creek.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2010 cycle, Crump Creek was assessed as not supporting of the Aquatic Life Use based on pH violations at the Route 605 bridge (8-CRU000.92). During the 2016 cycle, the violation rates in the segment were as follows:

5/24 at 8-CRU000.92
5/12 at 8-CRU005.61
10/12 at 8-CRU008.30

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_CRU01A02 / Crump Creek / Crump Creek from its headwaters downstream to its mouth at the Pamunkey River.	5C	pH	2010	L	10.00

Crump Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.00**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-08-BAC** **Pamunkey River**

Cause Location: The Pamunkey River from its start at the confluence of the South Anna and North Anna Rivers downstream to the confluence with Mechumps Creek.

City / County: Caroline Co. Hanover Co. King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2016 cycle, the Pamunkey River from its headwaters to the confluence with Mechumps Creek was assessed as not supporting of the Recreation Use based on an E. coli violation rate of 12/58 at the Route 614 bridge (8-PMK082.34). Violation rates at 8-PMK088.11 were acceptable.

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Additional sampling was conducted during the 2018 cycle. Exceedance rates were 12/61 at 8-PMK082.34 and 5/24 at 8-PML088.11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_PMK01B08 / Pamunkey River / The nontidal Pamunkey River from the North and South Anna Rivers to Mechumps Creek.	4A	Escherichia coli	2016	L	12.27

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.27**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-09-BAC** **XEG - Mechumps Creek, UT**

Cause Location: Headwaters to its mouth at Mechumps Creek

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, tributary XEG was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 4/12 at 8-XEG000.06, which is located at Cottage Green Drive. The bacterial TMDL for a downstream segment of Mechumps Creek was already completed and was approved by the EPA on 10/21/2004 and by the SWCB on 12/20/2005. As this downstream impairment required a 94.04% in nonpoint sources in the watershed, this segment was considered nested (Category 4A.)

The TMDL was superseded in the 2016 by the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015; XEG was specifically addressed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_XEG01A06 / UT to Mechumps Creek (aka Middle Branch) / Headwaters to mouth at Mechumps Creek	4A	Escherichia coli	2010	L	0.48

XEG - Mechumps Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.48**

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-10-PH** **Millpond Creek**

Cause Location: The mainstem of Millpond Creek downstream of Gravatts Millpond.

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Millpond Creek was assessed as not supporting of the Aquatic Life Use based on pH exceedances at the Route 614 bridge (8-MLP002.74). The violation rate was 5/23 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_MLP01A00 / Millpond Creek / Mainstem downstream of Gravatts Millpond.	5C	pH	2012	L	3.02

Millpond Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.02**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-11-BAC** **Kersey Creek**

Cause Location: Kersey Creek mainstem in its entirety.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Kersey Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/12 at the Route 301 bridge (8-KER001.31).

Kersey Creek was included in the Pamunkey River and Tributaries Bacterial TMDL which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_KER01A12 / Kersey Creek / Headwaters to mouth at Crump Creek	4A	Escherichia coli	2012	L	3.32

Kersey Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.32**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-11-PH** **Kersey Creek**

Cause Location: Kersey Creek mainstem in its entirety.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Kersey Creek was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 4/12 at the Route 301 bridge (8-KER001.31).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_KER01A12 / Kersey Creek / Headwaters to mouth at Crump Creek	5C	pH	2012	L	3.32

Kersey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.32**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-12-BAC** **XJC - Crump Creek, UT**

Cause Location: XJC mainstem in its entirety.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, XJC was assessed as impaired of the Recreation Use due to an E. coli violation rate of 5/12 at the Route 301 bridge (8-XJC001.12).

The tributary was included in the Pamunkey River and Tributaries Bacterial TMDL which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_XJC01A12 / XJC - Crump Creek, UT / Headwaters to mouth at Crump Creek	4A	Escherichia coli	2012	L	1.96

XJC - Crump Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.96**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-12-PH** **XJC - Crump Creek, UT**

Cause Location: XJC mainstem in its entirety.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, XJC was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 5/12 at the Route 301 bridge (8-XJC001.12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_XJC01A12 / XJC - Crump Creek, UT / Headwaters to mouth at Crump Creek	5C	pH	2012	L	1.96

XJC - Crump Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-13-BAC** **Pollard Creek**

Cause Location: Pollard Creek mainstem in its entirety.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, Pollard Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 2/12 at the Route 647 bridge (8-PLD001.73).

Pollard Creek was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_PLD01A12 / Pollard Creek / Headwaters to its mouth at Crump Creek	4A	Escherichia coli	2012	L	4.20

Pollard Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.20**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F12R-13-PH** **Pollard Creek**

Cause Location: Pollard Creek mainstem in its entirety.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Pollard Creek was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 8/12 at the Route 647 bridge (8-PLD001.73).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F12R_PLD01A12 / Pollard Creek / Headwaters to its mouth at Crump Creek	5C	pH	2012	L	4.20

Pollard Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**4.20**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13E-01-BAC** **Pamunkey River**

Cause Location: From the tidal limit at Totopotomoy Creek to Pampatike Landing

City / County: Hanover Co. King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, the Pamunkey River from the tidal limit to Pampatike Landing was impaired of the Recreation Use due to E. coli exceedances at 8-PMK056.87 (Rt. 360 bridge). The violation rate was 7/41 during the 2018 cycle.

The Pamunkey River and Tributaries Bacterial TMDL was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13E_PMK01A98 / Pamunkey River / Extent of tide near Totopotomoy Creek to Pampatike Landing.	4A	Escherichia coli	2008	L	0.307

PMKTF

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.307**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13E-02-BAC** **Pamunkey River**

Cause Location: From Route 654 (Pampatike Landing to Macon Creek (the downstream boundary of watershed F13).

City / County: Hanover Co. King William Co. New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Pamunkey River from Pampatike Landing to Macon Creek was initially listed on the 1998 303(d) list as impaired of the Recreation Use goal because of fecal coliform exceedances at Pampatike Landing (Route 654). EPA also identified the station on their list of "Waters Identified to Virginia for Consideration During Development of the Next Listing Cycle." This inclusion was probably in error as the segment was already 303(d) listed.

During the 2006 cycle, the bacteria standard changed to E. coli and the segment had acceptable exceedance rates and the segment was delisted. However, it was included in the Pamunkey Basin TMDL which was approved by the EPA on 8/2/2006.

During the 2008 cycle, the Pamunkey River again failed the Recreation Use based on E. coli exceedances at 8-PMK048.80. The original impairment is considered a Category 4A water.

The Pamunkey remained impaired in the 2018 cycle (5/32 at 8-PMK048.80 and 2/12 at 8-PMK039.74). Monitoring at 8-PMK044.64 was acceptable.

The segment is considered a Category 4A water. The TMDL was superseded by the Pamunkey River and Tributaries Bacterial TMDL which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13E_PMK02A98 / Pamunkey River / Pampatike Landing downstream to Jacks Creek.	4A	Escherichia coli	2008	L	0.783
PMKTF					
VAP-F13E_PMK03A06 / Pamunkey River / Jacks Creek downstream to Macon Creek.	4A	Escherichia coli	2008	L	0.115
PMKTF					

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.898**		

Sources:

Industrial Point Source Discharge

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-01-BAC** **Matadequin Creek**

Cause Location: Matadequin from the confluence with Parsleys Creek to the mouth.

City / County: Hanover Co. New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Matadequin Creek from Parsleys Creek to its mouth was assessed in 1998 as fully supporting but threatened of the Recreation Use goal. However, it was mistakenly included on the 1998 Consent Decree as an Attachment A Part 1 Water ("Waters listed on Part 1 of Virginia's October 14, 1998 303(d) Report"); therefore the TMDL was due by 2010.

In 2002, the segment was downgraded to impaired. The impairment converted to E. coli during the 2008 cycle. The bacterial TMDL for Matadequin Creek was approved by the EPA on 10/21/2004 and the segment is a Cat. 4A water. The segment continues to be impaired of the Recreation Use goal based on an E. coli violation rate of 4/12 at 8-MDQ001.37 in the 2012 cycle.

The TMDL was superseded by the Pamunkey River and Tributaries TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_MDQ01A98 / Matadequin Creek / Downstream of Parsleys Creek.	4A	Escherichia coli	2006	L	4.91

Matadequin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.91**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-02-BAC** **Totopotomoy Creek**

Cause Location: Strawhorn Creek to the Pamunkey River.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Totopotomoy Creek was initially listed in 2002 as not supporting of the Recreation Use goal based on fecal coliform exceedances at the Route 606 bridge (8-TPT004.37). During the 2006 cycle, the impairment switched to E. coli.

The bacteria TMDL was completed during the 2008 cycle as part of the Pamunkey River Basin TMDL, which was approved by the EPA on 8/2/2006. The segment is now considered a Category 4A water.

The exceedance rates were 3/9 at 8-TPT004.37 and 2/10 at 8-TPT000.79 during the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_TPT01A98 / Totopotomoy Creek / From Strawhorn Creek to the Pamunkey River.	4A	Escherichia coli	2006	L	10.26

Totopotomoy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.26**

Sources:

Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-03-BAC** **Jacks Creek and major tributaries**

Cause Location: Jacks Creek, Acquinton Creek, and Mallory Creek in their entireties.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2008 cycle, the streams were assessed as not supporting of the Recreation Use based on E. coli violations at the Route 621 bridge (8-JKC004.15).

Additional E. coli data was collected in the 2014 cycle. The Jacks Creek impairment was confirmed with violation rates of 3/12, 2/11, and 4/12 at stations 8-JKC004.15, 8-JKC005.80, and 8-MLY001.58, respectively (8- JKC007.95 was acceptable (0/12).) E. coli levels on Acquinton Creek was determined to meet the WQS and therefore Acquinton Creek was partially delisted. However, the assessment was in error and Acquinton Creek should remain listed.

The entire impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL which was approved by the SWCB on 12/11/2014 and by the SWCB on 4/27/2015. The creeks are considered Category 4A.

Monitoring was continued at 8-JKC004.15 in the 2016 cycle (3/12.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_ACQ01A14 / Acquinton Creek / Headwaters to mouth at Jacks Creek	4A	Escherichia coli	2008	L	9.65
VAP-F13R_JKC01A98 / Jacks Creek / Jacks Creek in its entirety	4A	Escherichia coli	2008	L	7.51
VAP-F13R_MLY01A12 / Mallory Creek / Mallory Creek in its entirety	4A	Escherichia coli	2008	L	4.02

Jacks Creek and major tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**21.18**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-04-BAC** **Moncuin Creek, Webb Creek**

Cause Location: From the headwaters of Webb Creek downstream to the swampy area around river mile 2.0.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

In 1998, Moncuin Creek was assessed as fully supporting but threatened of the Recreation use because of fecal coliform exceedances at the Route 618 bridge.

In the 2002 cycle, the segment was extended to incorporate the station on Webb Creek and was assessed not supporting of the Recreation Use because of fecal coliform exceedances. The TMDL was due in 2014. The impairment converted to E. coli during the 2006 cycle.

During the 2008 cycle, the bacteria TMDL was addressed as part of the Pamunkey River Basin Bacteria TMDL, which was approved by the EPA on 8/2/2006. This should be considered a Category 4A water.

The exceedance rate was 5/23 at 8-MNQ004.19 during the 2010 cycle.

The TMDL was superseded by the Pamunkey River and Tributaries Bacterial TMDL which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

During the 2018 cycle, the E. coli exceedance rate was 4/11 at 8-WEB002.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_MNQ01A98 / Monquin Creek / Webb Creek / From the headwaters of Webb Creek downstream to the swampy area on Monquin Creek around river mile 2.	4A	Escherichia coli	2006	L	12.12

Moncuin Creek, Webb Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**12.12**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-04-PCB** **Moncuin Creek, Webb Creek**

Cause Location: From the headwaters of Webb Creek downstream to the swampy area around river mile 2.0.

City / County: King William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

During the 2010 cycle, Moncuin and Webb Creeks were assessed as impaired of the Fish Consumption Use due to exceedances of the PCB tissue value at 8-MNQ004.19. PCBs exceeded in yellow bullhead catfish in 2003 and American eel in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_MNQ01A98 / Monquin Creek / Webb Creek / From the headwaters of Webb Creek downstream to the swampy area on Monquin Creek around river mile 2.	5A	PCB in Fish Tissue	2010	L	12.12

Moncuin Creek, Webb Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**12.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-07-PH** **Jacks Creek**

Cause Location: Headwaters to limit of tide

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

During the 2018 cycle, the Jacks Creek watershed was reclassified as Class VII swampwaters. It was assessed against the Class VII pH criteria of 3.7-8.0 SU. Jacks Creek was impaired due to elevated pH levels (2/12) at 8-JKC007.95. The remaining stations 8-JKC004.15 and 8-JKC005.80 had acceptable exceedance rates (0/24 and 0/13, respectively).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_JKC01A98 / Jacks Creek / Jacks Creek in its entirety	5A	pH	2018	L	7.51

Jacks Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.51**

Sources:

Dam or Impoundment Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-08-BAC** **Black Creek**

Cause Location: Black Creek from Southern Branch downstream to tidal limit

City / County: New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2018 cycle, Black Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 8-BLC001.77 (Category 4A.).

The bacteria TMDL was previously completed for this segment as part of the Pamunkey River Basin Bacteria TMDL, which was approved by the EPA on 8/2/2006. The TMDL has been superseded by the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015. The segment is considered a Category 4A water.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_BLC01A00 / Black Creek / Southern Branch downstream to tidal limit	4A	Escherichia coli	2018	L	1.95

Black Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.95**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-09-BAC** **XDX - UT to XDW (Pamunkey River, UT)**

Cause Location: The mainstem of unnamed tributary XDX.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The tributary was initially considered as not supporting of the Recreation Use goal during the 2004 cycle based on fecal coliform violations at the Route 604 bridge (8-XDX000.38). The impairment converted to E.coli during the 2012 cycle due to an exceedance rate of 3/12 at 8-XDX000.38.

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_XDX01A04 / UT(XDX) to UT (XDW) to Pamunkey River / Headwaters to mouth at XDW	4A	Escherichia coli	2012	L	3.85

XDX - UT to XDW (Pamunkey River, UT)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.85**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-09-PH** **XDX - UT to XDW (Pamunkey River, UT)**

Cause Location: The mainstem of unnamed tributary XDX.

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The tributary was considered as not supporting of the Aquatic Life Use goal during the 2012 cycle based on a pH violation rate of 2/11 at the Route 604 bridge (8-XDX000.38).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_XDX01A04 / UT(XDX) to UT (XDW) to Pamunkey River / Headwaters to mouth at XDW	5C	pH	2012	L	3.85

XDX - UT to XDW (Pamunkey River, UT)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.85**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-11-BAC** **XDW - UT to Pamunkey River**

Cause Location: The mainstem of unnamed tributary XDW.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The tributary was assessed as not supporting of the Recreation Use goal during the 2012 cycle based on E. coli exceedances at the Route 604 bridge (8-XDW000.67). During the 2016 cycle, the violation rate was 2/12.

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_XDW01A08 / UT to Pamunkey River / Headwaters to mouth at the Pamunkey River	4A	Escherichia coli	2012	L	5.51

XDW - UT to Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.51**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-11-PH** **XDW - UT to Pamunkey River**

Cause Location: The mainstem of unnamed tributary XDW.

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

The tributary was assessed as not supporting of the Aquatic Life Use goal during the 2012 cycle based on pH exceedances at the Route 604 bridge (8-XDW000.67). The violation rate was 4/23 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_XDW01A08 / UT to Pamunkey River / Headwaters to mouth at the Pamunkey River	5C	pH	2012	L	5.51

XDW - UT to Pamunkey River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**5.51**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-12-PH** **Judy Swamp**

Cause Location: Judy Swamp from its headwaters to its mouth at the Pamunkey River.

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Judy Swamp was impaired of the Aquatic Life Use due to pH exceedances at 8-JDY000.19 and at 8-JDY001.27, the Rt. 604 and Rt. 639 bridges.

The 2016 cycle's exceedance rates were 4/10 and 9/23, respectively.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_JDY01A02 / Judy Swamp / The mainstem of Judy Swamp.	5C	pH	2012	L	3.33

Judy Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.33**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-13-HG** **Pamunkey River**

Cause Location: The Pamunkey River from Nelson Bridge Road (Route 15) downstream approximately 72 miles to the mouth at the York River.

City / County: Hanover Co. King William Co. New Kent Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

On 9/30/2004, VDH issued a fish consumption advisory from Nelson Bridge Road to Jacks Creek near Liberty Hall. The advisory recommends that no one eat more than 2 meals per month of blue catfish because of mercury contamination in the fish tissue.

This condemnation was expanded on 10/7/2009 and now extends downstream to the mouth at the York River.

The advisory is based on mercury fish tissue exceedances at DEQ monitoring stations 8-PMK056.87, 8-PMK032.00, and 8-PMK006.36.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13E_PMK01A98 / Pamunkey River / Extent of tide near Totopotomoy Creek to Pampatike Landing.	5A	Mercury in Fish Tissue	2006	L	0.307
PMKTF					
VAP-F13E_PMK02A98 / Pamunkey River / Pampatike Landing downstream to Jacks Creek.	5A	Mercury in Fish Tissue	2006	L	0.783
PMKTF					
VAP-F13E_PMK03A06 / Pamunkey River / Jacks Creek downstream to Macon Creek.	5A	Mercury in Fish Tissue	2010	L	0.115
PMKTF					
VAP-F13R_PMK01A98 / Pamunkey River / From Nelson Bridge Road (Rt. 615) in F12 to limit of tide near Totopotomoy Creek	5A	Mercury in Fish Tissue	2006	L	11.55
VAP-F14E_PMK02A00 / Pamunkey River / Macon Creek to downstream extent of tidal freshwater segment at approximately river mile 23.6	5A	Mercury in Fish Tissue	2010	L	3.638
PMKTF					
VAP-F14E_PMK05A18 / Pamunkey River / 0.5 miles above station 8-PMK017.90 downstream to Sweet Hall Landing.	5A	Mercury in Fish Tissue	2010	L	0.113
PMKOH					
VAP-F14E_PMK05B00 / Pamunkey River / Tidal freshwater/oligohaline boundary at approximately river mile 23.6 downstream to 0.5 mile above station 8-PMK017.90	5A	Mercury in Fish Tissue	2010	L	1.193
PMKOH					
VAP-F14E_PMK06A00 / Pamunkey River / Sweet Hall Landing to upstream boundary of VDH-DSS SFC 049-004A, 8/3/2015	5A	Mercury in Fish Tissue	2010	L	3.382
PMKOH					
VAP-F14E_PMK06B06 / Pamunkey River / VDH-DSS SFC 004A,	5A	Mercury in Fish Tissue	2010	L	0.584

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

8/3/2015 to mesohaline boundary

PMKOH

VAP-F14E_PMK07A04 / Pamunkey River / Mesohaline boundary to mouth	5A	Mercury in Fish Tissue	2010	L	0.398

YRKMH

Pamunkey River **Fish Consumption**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Mercury in Fish Tissue - Total Impaired Size by Water Type:	**10.513**		**11.55**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-13-PCB** **Pamunkey River**

Cause Location: The Pamunkey River from Nelson Bridge Road (Route 15) downstream approximately 72 miles to the mouth at the York River.

City / County: Hanover Co. King William Co. New Kent Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

On 10/7/2009, VDH issued a fish consumption advisory from Nelson Bridge Road to the mouth at West Point. The advisory recommends that no one eat more than 2 meals per month of gizzard shad because of PCB contamination in the fish tissue.

The advisory is based on PCB fish tissue exceedances at DEQ monitoring stations 8-PMK056.87, 8-PMK032.00, and 8-PMK006.36.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13E_PMK01A98 / Pamunkey River / Extent of tide near Totopotomoy Creek to Pampatike Landing.	5A	PCB in Fish Tissue	2010	L	0.307
PMKTF					
VAP-F13E_PMK02A98 / Pamunkey River / Pampatike Landing downstream to Jacks Creek.	5A	PCB in Fish Tissue	2010	L	0.783
PMKTF					
VAP-F13E_PMK03A06 / Pamunkey River / Jacks Creek downstream to Macon Creek.	5A	PCB in Fish Tissue	2010	L	0.115
PMKTF					
VAP-F13R_PMK01A98 / Pamunkey River / From Nelson Bridge Road (Rt. 615) in F12 to limit of tide near Totopotomoy Creek	5A	PCB in Fish Tissue	2010	L	11.55
VAP-F14E_PMK02A00 / Pamunkey River / Macon Creek to downstream extent of tidal freshwater segment at approximately river mile 23.6	5A	PCB in Fish Tissue	2010	L	3.638
PMKTF					
VAP-F14E_PMK05A18 / Pamunkey River / 0.5 miles above station 8-PMK017.90 downstream to Sweet Hall Landing.	5A	PCB in Fish Tissue	2010	L	0.113
PMKOH					
VAP-F14E_PMK05B00 / Pamunkey River / Tidal freshwater/oligohaline boundary at approximately river mile 23.6 downstream to 0.5 mile above station 8-PMK017.90	5A	PCB in Fish Tissue	2010	L	1.193
PMKOH					
VAP-F14E_PMK06A00 / Pamunkey River / Sweet Hall Landing to upstream boundary of VDH-DSS SFC 049-004A, 8/3/2015	5A	PCB in Fish Tissue	2010	L	3.382
PMKOH					
VAP-F14E_PMK06B06 / Pamunkey River / VDH-DSS SFC 004A, 8/3/2015 to mesohaline boundary	5A	PCB in Fish Tissue	2010	L	0.584
PMKOH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAP-F14E_PMK07A04 / Pamunkey River / Mesohaline boundary to mouth	A	PCB in Fish Tissue	2010	L	0.398

YRKMH

Pamunkey River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**10.513**		**11.55**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-14-PH** **XIV - Mehixen Creek, UT**

Cause Location: Headwaters to mouth at the Pamunkey River

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, Mehixen Creek and its tributary XIV were impaired of the Aquatic Life Use due to pH violation rates of 4/11 at stations 8-MHX001.50 and 8-XIV000.88, which are both located at Rt. 652.

A Natural Conditions Assessment was completed during the 2014 cycle. The exceedances were attributed to natural swampwater conditions and the report recommends that the watershed be reclassified as Class VII swampwater. However, the slopes and nutrients were slightly above the current protocol, so the watershed remained Category 5C.

Additional monitoring was conducted in the 2018 cycle at 8-MHX001.50. The exceedance rate was acceptable (1/11); therefore, the Mehixen Creek mainstem will be partially delisted. XIV will remain impaired until monitoring at 8-XIV000.88 can be conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_XIV01A18 / XIV - Mehixen Creek, UT / Headwaters to mouth at Mehixen Creek	5C	pH	2012	L	2.05

XIV - Mehixen Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.05**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F13R-15-BAC** **XIW - Jacks Creek, UT**

Cause Location: The tributary XIW from its headwaters to its mouth at Jacks Creek.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The tributary was monitored during the 2014 cycle to help characterize the downstream bacterial impairment on Jacks Creek. The station was located at the Route 663 bridge (8-XIW000.42).

The E. coli exceedance rate was 3/11; therefore, the stream is considered impaired.

The E. coli data results were included in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the SWCB on 4/27/2015.

Note: although the data from XIW was included in the TMDL, the impairment itself was not specifically mentioned and will be moved to nested in the 2018 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13R_XIW01A12 / Jacks Creek, UT / Headwaters to mouth at Jacks Creek	4A	Escherichia coli	2014	L	2.28

XIW - Jacks Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.28**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14E-01-BAC** **Pamunkey River**

Cause Location: The Pamunkey River from Macon Creek to the tidal freshwater/oligohaline boundary.

City / County: King William Co. New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, the Pamunkey River from Macon Creek to the transition zone boundary was assessed as not supporting of the Recreation Use due to E. coli violations at 8-PMK034.17, which is located at the railroad trestle at White House.

The violation rate is acceptable in the 2018 cycle (3/68). However, the exceedance rate was 2/12 at 8-PMK025.87 (Smith Ferry Road) in the 2014 cycle and no additional monitoring has been conducted; therefore, the segment will remain listed for this cycle.

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_PMK02A00 / Pamunkey River / Macon Creek to downstream extent of tidal freshwater segment at approximately river mile 23.6	4A	Escherichia coli	2010	L	3.638

PMKTF

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**3.638**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14E-03-BAC** **Pamunkey River**

Cause Location: The Pamunkey River from Sweet Hall Landing to the mouth.

City / County: King William Co. New Kent Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Pamunkey River from Sweet Hall Landing to the mouth was assessed as not supporting of the Recreation Use during the 2006 cycle based on enterococci exceedances at 8-PMK006.36, located at the southern end of Lee Marsh.

The TMDL was approved by the EPA on 7/28/2010 and by the SWCB on 12/13/2010.

The exceedance rate in the 2018 cycle was 12/55.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_PMK06A00 / Pamunkey River / Sweet Hall Landing to upstream boundary of VDH-DSS SFC 049-004A, 8/3/2015	4A	Enterococcus	2006	L	3.382
PMKOH					
VAP-F14E_PMK06B06 / Pamunkey River / VDH-DSS SFC 004A, 8/3/2015 to mesohaline boundary	4A	Enterococcus	2006	L	0.584
PMKOH					
VAP-F14E_PMK07A04 / Pamunkey River / Mesohaline boundary to mouth	4A	Enterococcus	2006	L	0.398
YRKMH					

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**4.364**		

Sources:

Industrial Point Source Discharge

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14E-04-EBEN** **York-, Pamunkey-, and Mattaponi Rivers**

Cause Location: The York mesohaline mainstem, including the applicable mainstem portions of the Pamunkey and Mattaponi Rivers.

City / County: James City Co. King And Queen Co. King William Co. New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

During the 2018 cycle, the mainstem York mesohaline segment, which includes the mouths of the Pamunkey- and Mattaponi Rivers, was impaired of the Aquatic Life Use due to failure of the Chesapeake Bay B-IBI.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_PMK07A04 / Pamunkey River / Mesohaline boundary to mouth YRKMH	5A	Estuarine Bioassessments	2018	L	0.398
VAP-F25E_MPN06A04 / Mattaponi River / The Mattaponi mainstem within VDH advisory 049-004D, 8/3/2015. YRKMH	5A	Estuarine Bioassessments	2018	L	0.209
VAP-F25E_MPN06B06 / Mattaponi River / DS of VDH-DSS condemnation 049-004D to mouth at York River. YRKMH	5A	Estuarine Bioassessments	2006	L	0.641
VAT-F26E_YRK01A04 / York River / York River at Goalders Creek downstream to the boundary of DSS OPEN condemnation # 049-004 (effective 20150803). CBP segment YRKMH.	5A	Estuarine Bioassessments	2018	L	4.796
VAT-F26E_YRK01B10 / York River / Start of York River at West Point (RM 32.0) downstream to the boundary of ADMIN COND # 049-004 A (effective 8/03/2015), approx. Goff Point . CBP segment YRKMH.	5A	Estuarine Bioassessments	2018	L	1.086
VAT-F26E_YRK01C12 / York River-at Hockley Cr / York River segment at mouth of Hockley Cr within VDH DSS Condemnation 049-004 C, 8/3/2015. CB Seg - YRKMH.	5A	Estuarine Bioassessments	2018	L	0.029
VAT-F26E_YRK01D12 / York River / Portion of York River within VDH Seasonal Condem 0049-004 effective date 20150803 YRKMH	5A	Estuarine Bioassessments	2018	L	0.042
VAT-F26E_YRK01E14 / York River / York River from Goff Point (end of Admin Condem) to Goalders Creek. VDH new Restricted Condemnation 049-004 A 8/3/2015 . CBP segment YRKMH.	5A	Estuarine Bioassessments	2018	L	1.753
VAT-F26E_YRK02A14 / York River (Lower Middle MSN) / Segment starts south of New Kent and James City Boundary and extends downstream to the MSN boundary near Mt. Folly/Poropotank Bay. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	5A	Estuarine Bioassessments	2018	L	2.680
VAT-F26E_YRK03A00 / York River (Lower Middle) / Segment starts at end of MSN boundary near Mt. Folly/Poropotank Bay and extends downstream to the mesohaline/polyhaline boundary. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	5A	Estuarine Bioassessments	2018	L	20.372

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAT-F26E_YRK03B12 / York River (Lower Middle) / Portion of York River at Carter Creek north of Camp Peary. Within VDH-DSS condemnation 050-087 B, 20150724. CB segment YRKMH.	5A	Estuarine Bioassessments	2018	L	0.023

York-, Pamunkey-, and Mattaponi Rivers	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	**32.029**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14E-05-EBEN** **Pamunkey River**

Cause Location: The mainstem Pamunkey River from 0.5 mile upstream of station 8-PMK017.90 downstream to Sweet Hall Landing.

City / County: King William Co. New Kent Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The oligohaline Pamunkey River mainstem initially failed the Chesapeake Bay Index of Biologic Integrity during the 2010 cycle. The impairment continued during the 2014 cycle.

In addition, a 2012 weight-of-evidence analysis at estuarine probabilistic monitoring station 8-PMK017.90 showed benthic alteration probably caused by metals in sediment (Category 5A).

The mainstem met the B-IBI criteria in the 2018 cycle. However, due to the 2012 WOE sample the portion of the mainstem around the station will remain listed. Continued monitoring is recommended. The remaining Pamunkey mainstem will be partially delisted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_PMK05A18 / Pamunkey River / 0.5 miles above station 8-PMK017.90 downstream to Sweet Hall Landing.	5A	Estuarine Bioassessments	2010	L	0.113

PMKOH

Pamunkey River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.113**		

Sources:

Contaminated Sediments Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14E-06-BAC** **Harrison Creek**

Cause Location: The tidal portion of Harrison Creek.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, tidal Harrison Creek was impaired of the Recreation Use due to E.coli exceedances at 8-HSN000.92, which is located at Elsing Green Road. The violation rate was 3/12 during the 2014 cycle.

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL which was approved by the EPA on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_HSN01A12 / Harrison Creek / Tidal portion of Harrison Creek	4A	Escherichia coli	2012	L	0.044

PMKTF

Harrison Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.044**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14R-01-DO** **Cohoke Mill Creek**

Cause Location: Cohoke Mill Stream mainstem from its headwaters downstream to Cohoke Millpond

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Cohoke Mill Stream was assessed as not supporting of the Aquatic Life Use based on dissolved oxygen violations at 8-CMC005.16, which is located at the Route 626 bridge. The exceedance rate was 9/25 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14R_CMC01A00 / Cohoke Mill Creek / Mainstem upstream of Cohoke Millpond.	5C	Oxygen, Dissolved	2010	L	7.38

Headwaters adjusted.

Cohoke Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.38**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14R-02-BAC** **Harrison Creek**

Cause Location: Harrison Creek and tributary upstream of pond at Elsing Green upstream to nearest tributaries.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Harrison Creek was assessed as not supporting of the Recreation Use in 2008 based on an E. coli violations at the Route 632 bridge (8-HSN002.12). During the 2014 cycle, the exceedance rates were as follows:

2/12 at 8-HSN002.12
3/12 at 8-HSN002.43
4/15 at 8-HSN003.93

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14R_HSN01A00 / Harrison Creek and Tributary / Upstream of pond at Elsing Green to nearest tributaries.	4A	Escherichia coli	2008	L	2.80

Harrison Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.80**

Sources:

Municipal Point Source Discharges	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14R-02-DO** **Harrison Creek**

Cause Location: Harrison Creek and tributary upstream of pond at Elsing Green upstream to nearest tributaries.

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2014 cycle, Harrison Creek was assessed as not supporting of the Aquatic Life Use based on a dissolved oxygen exceedance rate of 2/11 at the Route 632 bridge (8-HSN002.12). Monitoring at stations 8-HSN002.43 and 8-HSN003.93 was acceptable (1/11).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14R_HSN01A00 / Harrison Creek and Tributary / Upstream of pond at Elsing Green to nearest tributaries.	5C	Oxygen, Dissolved	2014	L	2.80

Harrison Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.80**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14R-04-BAC** **XJD - Harrison Creek, UT**

Cause Location: Harrison Creek, UT from its headwaters to its mouth at Harrison Creek

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The UT was impaired of the Recreation Use during the 2012 cycle based on E. coli exceedances at 8-XJD000.02. The violation rate was 4/12 during the 2014 cycle.

The impairment was addressed in the Pamunkey River and Tributaries Bacterial TMDL, which was approved by the SWCB on 12/11/2014 and by the EPA on 4/27/2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14R_XJD01A12 / XJD - Harrison Creek, UT / Headwaters to mouth at Harrison Creek	4A	Escherichia coli	2012	L	0.16

XJD - Harrison Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.16**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F14R-04-PH** **XJD - Harrison Creek, UT**

Cause Location: Harrison Creek, UT from its headwaters to its mouth at Harrison Creek

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

During the 2012 cycle, XJD was impaired of the Aquatic Life Use due to pH exceedances at 8-XJD000.02. The violation rate was 5/11 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14R_XJD01A12 / XJD - Harrison Creek, UT / Headwaters to mouth at Harrison Creek	5C	pH	2012	L	0.16

XJD - Harrison Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.16**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F15R-01-BEN** **Ni River**

Cause Location: Begins at the confluence of an unnamed tributary to the Ni River, approximately 0.95 rivermiles downstream from the Route 608 bridge, and continues downstream until the confluence with the Po River, forming the Poni River.

City / County: Caroline Co. Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2014 Assessment: Three biological monitoring events in 2007 and 2008 at station 8-NIR003.96 at Route 1 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F15R_NIR01A00 / Ni River / Segment begins at the confluence of an unnamed tributary to the Ni River, approximately 0.95 rivermiles downstream from the Route 608 bridge, and continues downstream until the confluence with the Po River, forming the Poni River.	5A	Benthic-Macroinvertebrate Bioassessments	2010	L	5.68

Ni River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.68**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F15R-01-DO** **Brock Run**

Cause Location: Begins at the confluence with Aunt Sarah Spring Creek and continues downstream until the confluence with the Ni River.

City / County: Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Excursions less than the minimum dissolved oxygen criterion (2 of 9 samples - 22.2%) at station 8-BRK000.06 at Jackson Train off Route 613. Excursions less than the minimum dissolved oxygen criterion (5 of 44 samples - 11.4%) at NPS's station 8BRK-04-NPS near Jackson Trail.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F15R_BRK01A06 / Brock Run / Segment begins at the confluence with Aunt Sarah Spring Creek and continues downstream until the confluence with the Ni River.	5A	Oxygen, Dissolved	2012	L	2.56

Brock Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.56**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F15R-01-PH** **Brock Run**

Cause Location: Begins at the headwaters of Brock Run, and continues downstream to the confluence with Aunt Sarah Spring Creek.

City / County: Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

2016 Assessment: Excursions less than the lower limit of the pH criterion range (2 of 16 samples - 12.5%) recorded at NPS's station 8BRK-17-NPS in Wilderness Battlefield.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F15R_BRK01B12 / Brock Run / Segment begins at the headwaters of Brock Run, and continues downstream to the confluence with Aunt Sarah Spring Creek.	5A	pH	2014	L	3.21

Brock Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.21**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F15R-02-BAC** **Brock Run**

Cause Location: Begins at the confluence with Aunt Sarah Spring Creek and continues downstream until the confluence with the Ni River.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) at station 8-BRK000.06 at Jackson Trail off Route 613. The Mattaponi River Watershed bacteria TMDL for the Brock Run watershed was developed and approved by the EPA on 07/19/2016 (Fed ID 66045). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F15R_BRK01A06 / Brock Run / Segment begins at the confluence with Aunt Sarah Spring Creek and continues downstream until the confluence with the Ni River.	4A	Escherichia coli	2008	L	2.56

Brock Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.56**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F15R-02-PH** **Unnamed tributary to Cool Spring Lake**

Cause Location: Begins at the headwaters of the unnamed tributary, and continues downstream to the inlet of Cool Spring Lake.

City / County: Caroline Co. Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

Sufficient excursions below the lower limit of the pH criterion range (5 of 44 samples - 11.4%) were recorded NPS's station 8XJM-02-NPS downstream of Stuart Drive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F15R_XJM01A12 / Unnamed tributary to Cool Spring Lake / Segment begins at the headwaters of the unnamed tributary, and continues downstream to the inlet of Cool Spring Lake.	5A	pH	2016	L	1.29

Unnamed tributary to Cool Spring Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**1.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F15R-03-DO** **Unnamed tributary to Cool Spring Lake**

Cause Location: Begins at the headwaters of the unnamed tributary, and continues downstream to the inlet of Cool Spring Lake.

City / County: Caroline Co. Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

Sufficient excursions less than the minimum dissolved oxygen criterion (6 of 43 samples - 14.0%) were recorded at NPS's station 8XJM-02-NPS downstream of Stuart Drive.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F15R_XJM01A12 / Unnamed tributary to Cool Spring Lake / Segment begins at the headwaters of the unnamed tributary, and continues downstream to the inlet of Cool Spring Lake.	5A	Oxygen, Dissolved	2012	L	1.29

Unnamed tributary to Cool Spring Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F16R-01-BAC** **Po River**

Cause Location: Begins at the confluence with Piltzer Creek and continues downstream until the confluence with the Ni River, forming the Poni River.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 8-POR016.04 at Route 608. E. coli bacteria criterion excursions (10 of 66 samples - 15.2%) at station 8-POR008.97 at Route 208 (Courthouse Rd). 2014 Assessment: E. coli bacteria criterion excursions (3 of 23 samples - 13.0%) at station 8-POR004.13 at Route 1. The Mattaponi River Watershed bacteria TMDL for the Po River watershed was developed and approved by the EPA on 07/19/2016 (Fed ID 66035). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F16R_POR01A10 / Po River / Segment begins at an unnamed tributary to the Po River and continues downstream until the confluence with the Ni River, forming the Poni River.	4A	Escherichia coli	2010	L	7.21
VAN-F16R_POR01B02 / Po River / Segment begins at the confluence with Glady Run and continues downstream until the confluence with an unnamed tributary to the Po River at rivermile 6.69, near the upstream boundary of the Old Trap development.	4A	Escherichia coli	2018	L	7.70
VAN-F16R_POR01C06 / Po River / Segment begins at the confluence with Piltzer Creek and continues downstream until the confluence with Glady Run.	4A	Escherichia coli	2018	L	5.18

Po River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**20.09**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F16R-02-BAC** **Glady Run**

Cause Location: Begins at the headwaters of Glady Run and continues downstream until the confluence with the Po River.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at station 8-GDY003.00 at Route 649. The Mattaponi River Watershed bacteria TMDL for the Glady Run watershed was developed and approved by the EPA on 07/19/2016 (Fed ID 66042). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F16R_GDY01A10 / Glady Run / Segments begins at the headwaters of Glady Run and continues downstream until the confluence with the Po River.	4A	Escherichia coli	2010	L	9.30

Glady Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.30**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F17L-01-HG** **Bowies Pond**

Cause Location: Includes all of Bowies Pond.

City / County: Caroline Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2012 Assessment: Excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in tissue from three species (bowfin, chain pickerel, largemouth bass) of fish sampled (six total excursions) in 2005 at monitoring station 8-CAM001.00.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F17L_CAM01A06 / Bowies Pond / Segment includes all of Bowies Pond.	5A	Mercury in Fish Tissue	2008	L	25.71

Bowies Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**25.71**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F17R-02-BAC** **Mattaponi River**

Cause Location: Begins at the confluence with Campbell Creek and continues downstream until the confluence with the South River. Also, begins at the confluence with an unnamed tributary, draining from Goose Pond, and continues downstream until the confluence with Polecat Creek at the outlet of waterbody F17R.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 65 samples - 10.8%) at station 8-MPN094.94 at the old bridge upstream of Route 605. 2014 Assessment: E. coli bacteria criterion excursions (3 of 22 samples - 13.6%) at station 8-MPN083.62 at Route 301.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F17R_MPN01A02 / Mattaponi River / Segment begins at the confluence with an unnamed tributary, draining from Goose Pond, and continues downstream until the confluence with Polecat Creek at the outlet of waterbody F17R.	4A	Escherichia coli	2008	L	3.20
VAN-F17R_MPN02A02 / Mattaponi River / Segment begins at the confluence with Campbell Creek and continues downstream until the confluence with the South River.	4A	Escherichia coli	2006	L	6.07

Mattaponi River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.27**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Runoff from Forest/Grassland/Parkland
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F17R-02-PH** **Unnamed Tributary to Poni River**

Cause Location: Begins at the confluence of an unnamed tributary at rivermile 3.66 and continues downstream to the confluence with an unnamed tributary at rivermile 0.05.

City / County: Caroline Co. Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (2 of 6 samples - 33.3%) at DEQ station 8-XJV001.81 at Route 660. Excursions less than the lower limit of the pH criterion range (5 of 12 samples - 41.7%) at DEQ station 8-XJV000.80 at Route 607.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F17R_XJV01A18 / Unnamed Tributary to Poni River / Segment begins at the confluence with an unnamed tributary at rivermile 0.72 and continues downstream to the confluence with an unnamed tributary at rivermile 0.05.	5C	pH	2018	L	0.67
VAN-F17R_XJV02A16 / Unnamed Tributary to Poni River / Segment begins at the confluence of an unnamed tributary at rivermile 3.66 and continues downstream to the confluence with an unnamed tributary at rivermile 0.72.	5C	pH	2018	L	2.93

Unnamed Tributary to Poni River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.60**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F17R-03-BAC** **Poni River**

Cause Location: Begins at the confluence with an unnamed tributary and continues downstream until the confluence with the Matta River, forming the Mattaponi River

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at station 8-PNI002.43 at Route 606. The Mattaponi River Watershed bacteria TMDL for the Poni River watershed (1577) was developed and approved by the EPA on 07/19/2016 (Fed ID 66031). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F17R_PNI01A10 / Poni River / Segment begins at the confluence with an unnamed tributary and continues downstream until the confluence with the Matta River, forming the Mattaponi River	4A	Escherichia coli	2010	L	3.21

Poni River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**3.21**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F17R-04-BAC** **Unnamed Tributary to Poni River**

Cause Location: Begins at the confluence with an unnamed tributary at rivermile 0.72 and continues downstream to the confluence with an unnamed tributary at rivermile 0.05.

City / County: Caroline Co. Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 8-XJV000.80 at Route 607. A new TMDL is not required for this impaired segment of an unnamed tributary to Poni River because the downstream Mattaponi River Watershed bacteria TMDL (Fed ID 66031, 07/19/2016) included modeling, source identification, and reductions that covered the entire Poni River watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F17R_XJV01A18 / Unnamed Tributary to Poni River / Segment begins at the confluence with an unnamed tributary at rivermile 0.72 and continues downstream to the confluence with an unnamed tributary at rivermile 0.05.	4A	Escherichia coli	2018	L	0.67

Unnamed Tributary to Poni River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.67**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F18R-03-BAC** **Mat River**

Cause Location: Begins at the confluence with an unnamed tributary at rivermile 2.14 and continues downstream to the confluence with the Ta River to form the Matta River.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-MAT001.87 at Route 647. E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 8-MAT005.35 at Route 738. The Mattaponi River Watershed bacteria TMDL for the Mat River watershed was developed and approved by the EPA on 07/19/2016 (Fed ID 66040). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F18R_MAT01A12 / Mat River / Segment begins at the confluence with an unnamed tributary, at rivermile 2.14, and continues downstream to the confluence with the Ta River to form the Matta River.	4A	Escherichia coli	2014	L	2.30
VAN-F18R_MAT02A18 / Mat River / Segment begins at the perrenial headwaters and continues downstream to the confluence with an unnamed tributary at rivermile 2.14.	4A	Escherichia coli	2018	L	5.20

Mat River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.50**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F18R-03-BEN** **Matta River**

Cause Location: Begins at the confluence of the Mat River and the Ta River and continues downstream until the confluence with an unnamed tributary to the Matta River, approximately 0.5 rivermile upstream from Route 646.

City / County: Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2010 Assessment: One of two biological monitoring events in 2003 at station 8-MTA012.09 (upstream of Route 646) resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these two samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F18R_MTA02A04 / Matta River / Segment begins at the confluence of the Mat River and the Ta River and continues downstream until the confluence with an unnamed tributary to the Matta River, approximately 0.5 rivermile upstream from Route 646.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.24

Matta River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.24**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F18R-04-BAC** **Ta River**

Cause Location: Begins at the confluence with Bluff Run, approximately 0.7 rivermile upstream from Route 738, and continues downstream until the confluence with the Mat River, forming the Matta River.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 8-TAR002.40 at Route 738.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F18R_TAR01A00 / Ta River / Segment begins at the confluence with Bluff Run, approximately 0.7 rivermile upstream from Route 738, and continues downstream until the confluence with the Mat River, forming the Matta River.	4A	Escherichia coli	2018	L	3.76

Ta River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.76**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F19R-02-BAC** **Motto River**

Cause Location: Begins at the confluence with an unnamed tributary, approximately 0.5 rivermile upstream from Route One, and continues downstream until the confluence with another unnamed tributary (streamcode XCF), downstream from I-95.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 8 samples - 25.0%) at station MOT002.62 at Route 1.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F19R_MOT01A04 / Motto River / Segment begins at the confluence with an unnamed tributary, approximately 0.5 rivermile upstream from Route One, and continues downstream until the confluence with another unnamed tributary (streamcode XCF), downstream from I-95.	4A	Escherichia coli	2014	L	1.80

Motto River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.80**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F20R-01-BEN** **Polecat Creek**

Cause Location: Begins at the confluence with Hackett Creek, approximately 0.5 rivermile upstream from Route 207, and continues downstream until the confluence with the Mattaponi River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events at station 8-PCT002.29 at Route 601 in 2011 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F20R_PCT01A00 / Polecat Creek / Segment begins at the confluence with an unnamed tributary at rivermile 5.0 and continues downstream until the confluence with the Mattaponi River.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	5.24

Polecat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.24**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F20R-01-DO** **Polecat Creek**

Cause Location: Begins at the confluence with Stevens Mill Run and continues downstream until the confluence with an unnamed tributary at rivermile 5.0.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Excursions less than the minimum dissolved oxygen criterion (5 of 8 samples - 50.0%) at station 8-PCT005.44 at Polecat Creek below Caroline County POTW; excursions less than the minimum dissolved oxygen criterion (5 of 8 samples - 62.5%) at station 8-PCT006.34 at Route 207.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F20R_PCT01B06 / Polecat Creek / Segment begins at the confluence with Stevens Mill Run and continues downstream until the confluence with an unnamed tributary at rivermile 5.0.	5C	Oxygen, Dissolved	2018	L	4.34

Polecat Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.34**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F20R-02-BAC** **Polecat Creek**

Cause Location: Begins at the headwaters of Polecat Creek and continues downstream until the confluence with Stevens Mill Run.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2016 Assessment: E. coli bacteria criterion excursions (3 of 22 samples - 13.6%) at station 8-PCT010.10 at Route 652.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F20R_PCT02A02 / Polecat Creek / Segment begins at the headwaters of Polecat Creek and continues downstream until the confluence with Stevens Mill Run.	4A	Escherichia coli	2012	L	5.31

Polecat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.31**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F20R-02-PH** **Polecat Creek**

Cause Location: Begins at the headwaters of Polecat Creek and continues downstream until the confluence with Stevens Mill Run.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (2 of 10 samples - 20.0%) at station 8-PCT010.10 at Route 652.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F20R_PCT02A02 / Polecat Creek / Segment begins at the headwaters of Polecat Creek and continues downstream until the confluence with Stevens Mill Run.	5C	pH	2014	L	5.31

Polecat Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.31**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F20R-03-BAC** **Polecat Creek**

Cause Location: Begins at the confluence with an unnamed tributary at rivermile 5.0 and continues downstream until the confluence with the Mattaponi River.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Excursions from the maximum E. coli bacteria criterion (4 of 34 samples - 11.8%) at station 8-PCT002.29 at Route 601.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F20R_PCT01A00 / Polecat Creek / Segment begins at the confluence with an unnamed tributary at rivermile 5.0 and continues downstream until the confluence with the Mattaponi River.	5A	Escherichia coli	2006	L	5.24

Polecat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.24**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-01-BEN** **Herring Creek**

Cause Location: Begins at the headwaters of Herring Creek and continues downstream until the confluence with Millpond Creek.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2002 at station 8-HER012.99 (downstream of Route 601) resulted in a VCPMI assessment that indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_HER02A04 / Herring Creek / Segment begins at the headwaters of Herring Creek and continues downstream until the confluence with Millpond Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.75

Herring Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.75**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-01-HG** **Herring Creek**

Cause Location: Extends from the Route 628 bridge (Dorrell Road) to the confluence with the Mattaponi River.

City / County: King William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 09/30/04, limits bluegill sunfish and yellow bullhead catfish consumption to no more than two meals per month.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_HER01A06 / Herring Creek / Segment begins at the confluence with an unnamed tributary to Herring Creek, at rivermile 2.14, and continues downstream until the confluence with the Mattaponi River.	5A	Mercury in Fish Tissue	2006	L	2.14
VAN-F21R_HER01B02 / Herring Creek / Segment begins at the confluence with Dorrell Creek and continues downstream until the confluence with an unnamed tributary to Herring Creek, at rivermile 2.14.	5A	Mercury in Fish Tissue	2006	L	5.09

Herring Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**7.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-02-BEN** **Reedy Creek**

Cause Location: Begins at the headwaters of Reedy Creek and continues downstream until the start of Reedy Millpond. Class VII waters.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events at station 8-RDY003.43 in 2011 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_RDY02A10 / Reedy Creek / Segment begins at the Route 301 and continues downstream until the start of Reedy Millpond.	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	3.30
VAN-F21R_RDY02B10 / Reedy Creek / Segment begins at the headwaters of Reedy Creek and continues downstream to Route 301 bridge	5A	Benthic-Macroinvertebrate Bioassessments	2014	L	9.39

Reedy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.69**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-02-HG** **Mattaponi River**

Cause Location: Extends from the Route 628 bridge and continues downstream approximately 55 miles, to the confluence with Pamunkey River near West Point.

City / County: King And Queen Co. King William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 09/30/04, limits largemouth bass consumption to no more than two meals per month.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_MPN01A06 / Mattaponi River / Segment begins at the confluence with Gravel Run and continues downstream until the confluence with Herring Creek.	5A	Mercury in Fish Tissue	2006	L	6.07
VAN-F21R_MPN01B02 / Mattaponi River / Segment begins at the Route 628 crossing and continues downstream until the confluence with Gravel Run.	5A	Mercury in Fish Tissue	2006	L	4.91
VAP-F23E_MPN02A98 / Mattaponi River / From the limit of tide above the Route 360 bridge to Aylett Creek.	5A	Mercury in Fish Tissue	2006	L	0.159
MPNTF					
VAP-F23E_MPN03A06 / Mattaponi River / Aylett Creek to Garnetts Creek.	5A	Mercury in Fish Tissue	2006	L	1.756
MPNTF					
VAP-F23R_MPN01A00 / Mattaponi River / From the watershed boundary (Herring Creek) to the limit of tide near the Route 360 bridge.	5A	Mercury in Fish Tissue	2006	L	4.72
VAP-F24E_MPN03A98 / Mattaponi River / Garnetts Creek to tidal freshwater/oligohaline boundary at approximately river mile 18	5A	Mercury in Fish Tissue	2006	L	1.384
MPNTF					
VAP-F24E_MPN03B02 / Mattaponi River / Tidal freshwater/oligohaline boundary to Melrose Landing at Route 602	5A	Mercury in Fish Tissue	2006	L	0.423
MPNOH					
VAP-F24E_MPN03C06 / Mattaponi River / Melrose Landing (Route 602) to Heartquake Creek.	5A	Mercury in Fish Tissue	2010	L	0.717
MPNOH					
VAP-F25E_MPN05A00 / Mattaponi River / From Heartquake Creek to VDH-DSS 049-004B, 8/3/2015	5A	Mercury in Fish Tissue	2010	L	1.292
MPNOH					
VAP-F25E_MPN05B06 / Mattaponi River / From VDH-SFC 049-004B,8/3/2015 to the oligohaline/York mesohaline boundary.	5A	Mercury in Fish Tissue	2010	L	0.384
MPNOH					
VAP-F25E_MPN06A04 / Mattaponi River / The Mattaponi mainstem	5A	Mercury in Fish Tissue	2010	L	0.209

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

within VDH advisory 049-004D, 8/3/2015.

YRKMH

VAP-F25E_MPN06B06 / Mattaponi River / DS of VDH-DSS condemnation 049-004D to mouth at York River.	5A	Mercury in Fish Tissue	2010	L	0.641

YRKMH

Mattaponi River **Fish Consumption**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Mercury in Fish Tissue - Total Impaired Size by Water Type:	**6.965**		**15.70**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-03-BAC** **Reedy Creek**

Cause Location: Begins at the headwaters of Reedy Creek and continues downstream until the start of Reedy Millpond.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

2014 Assessment: E. coli bacteria criterion excursions (3 of 23 samples - 13.0%) at station 8-RDY003.43 at Route 648.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_RDY02A10 / Reedy Creek / Segment begins at the Route 301 and continues downstream until the start of Reedy Millpond.	4A	Escherichia coli	2010	L	3.30
VAN-F21R_RDY02B10 / Reedy Creek / Segment begins at the headwaters of Reedy Creek and continues downstream to Route 301 bridge	4A	Escherichia coli	2010	L	9.39

Reedy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.69**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Runoff from Forest/Grassland/Parkland
- Sewage Discharges in Unsewered Areas
- Wastes from Pets
- Waterfowl
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-03-HG** **Reedy Creek and Reedy Millpond**

Cause Location: Begins at the headwaters of Reedy Creek and continues downstream until the confluence with the Mattaponi River, includes all of Reedy Millpond.

City / County: Caroline Co. King And Queen Co. King William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 10/07/09, limits redbreast sunfish and yellow bullhead catfish consumption to no more than two meals per month. The affected area extends from the Route 301 bridge crossing downstream to the confluence with the Mattaponi River.

Additionally, exceedances of the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded at monitoring station 8-RDY003.43 in one species of fish (creek chubsucker) in samples collected in 2003 and in three species of fish (yellow bullhead catfish, bluegill sunfish, and redbreast sunfish) in samples collected in 2008. Four exceedances of the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in two species of fish (bowfin, largemouth bass) sampled in 2003 at monitoring station 8-RDY000.87

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21L_RDY01A06 / Reedy Millpond / Segment includes all of Reedy Millpond.	5A	Mercury in Fish Tissue	2010	L	41.25
VAN-F21R_RDY01A10 / Reedy Creek / Segments begins at the outlet of Reedy Millpond and continues downstream to the confluence with the Mattaponi River.	5A	Mercury in Fish Tissue	2010	L	0.13
VAN-F21R_RDY02A10 / Reedy Creek / Segment begins at the Route 301 and continues downstream until the start of Reedy Millpond.	5A	Mercury in Fish Tissue	2010	L	3.30
VAN-F21R_RDY02B10 / Reedy Creek / Segment begins at the headwaters of Reedy Creek and continues downstream to Route 301 bridge	5A	Mercury in Fish Tissue	2010	L	9.39

Reedy Creek and Reedy Millpond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**41.25**	**12.82**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-04-BAC** **Chapel Creek**

Cause Location: Begins at the confluence with Beaver Branch and continues downstream until the confluence with the Mattaponi River.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 24 samples - 25.0%) at station 8-CPL004.15 at Route 721.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_CPL01A06 / Chapel Creek / Segment begins at the confluence with Beaver Branch and continues downstream until the confluence with the Mattaponi River.	4A	Escherichia coli	2014	L	4.64

Chapel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.64**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-04-PH** **Chapel Creek**

Cause Location: Begins at the perennial headwaters of Chapel Creek and continues downstream to the upstream boundary of Garnett Millpond. Begins again at the confluence with Beaver Branch and continues downstream until the confluence with the Mattaponi River.

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (4 of 12 samples - 33.3%) at station 8-CPL011.27 at Route 623.
Excursions less than the lower limit of the pH criterion range (6 of 42 samples - 14.3%) at station 8-CPL004.15 at Route 721.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_CPL01A06 / Chapel Creek / Segment begins at the confluence with Beaver Branch and continues downstream until the confluence with the Mattaponi River.	5C	pH	2008	L	4.64
VAN-F21R_CPL02A18 / Chapel Creek / Segment begins at the perrenial headwaters of Chapel Creek and continues downstream to the upstream boundary of Garnett Millpond.	5C	pH	2018	L	3.93

Chapel Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**8.57**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-05-BAC** **Herring Creek**

Cause Location: Begins at the confluence with Dorrell Creek and continues downstream until the confluence with the Mattaponi River

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-HER005.12 at Route 609. E. coli bacteria criterion excursions (4 of 24 samples - 16.7%) at station 8-HER000.33 at Route 600.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_HER01A06 / Herring Creek / Segment begins at the confluence with an unnamed tributary to Herring Creek, at rivermile 2.14, and continues downstream until the confluence with the Mattaponi River.	5A	Escherichia coli	2018	L	2.14
VAN-F21R_HER01B02 / Herring Creek / Segment begins at the confluence with Dorrell Creek and continues downstream until the confluence with an unnamed tributary to Herring Creek, at rivermile 2.14.	5A	Escherichia coli	2016	L	5.09

Herring Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-07-BAC** **Mattaponi River**

Cause Location: Begins at the confluence with Union Swamp, at rivermile 76.58, and continues downstream until the confluence with Cobbin Creek, at rivermile 67.64.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-MPN073.75 at Route 647.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_MPN02A02 / Mattaponi River / Segment begins at the confluence with Union Swamp, at rivermile 76.58, and continues downstream until the confluence with Cobbin Creek, at rivermile 67.64.	5A	Escherichia coli	2018	L	8.87

Mattaponi River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.87**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-08-BAC** **Dorrell Creek**

Cause Location: Begins at the confluence with Little Dorrell Creek and continues downstream to the confluence with an unnamed tributary near the upstream reach of Dublin Millpond.

City / County: Caroline Co. King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-DRL000.85 at Route 608.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_DRL01A18 / Dorrell Creek / Segment begins at the confluence with Little Dorrell Creek and continues downstream to the confluence with Herring Creek.	5A	Escherichia coli	2018	L	4.96

Dorrell Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.96**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F21R-09-BAC** **Gravel Run**

Cause Location: Begins at the perennial headwaters of Gravel Run and continues downstream to the confluence with Mattaponi River.

City / County: King And Queen Co. King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at station 8-GVL000.56 at Route 608.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_GVL01A18 / Gravel Run / Segment begins at the perrenial headwaters of Gravel Run and continues downstream to the confluence with Mattaponi River.	5A	Escherichia coli	2018	L	3.54

Gravel Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22L-01-HG** **Collins Pond**

Cause Location: Segment includes all of Collins Pond.

City / County: Caroline Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

2010 Assessment: Excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in tissue from two species (largemouth bass, yellow bullhead catfish) of fish samples (three total excursions) collected in 2003 at monitoring station 8-DOC003.63.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22L_DOC01A06 / Collins Pond / Segment includes all of Collins Pond.	5A	Mercury in Fish Tissue	2010	L	63.93

Collins Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**63.93**	

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-01-BAC** **Maracossic Creek**

Cause Location: Begins at the outlet of Broaddus Pond and continues downstream until the confluence with Jones Run. Begins again at the confluence with Beverly Run and continues downstream until the confluence with the Mattaponi River.

City / County: Caroline Co. King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 8-MAR014.20 at Route 641. E. coli bacteria criterion excursions (9 of 36 samples - 25.0%) at station 8-MAR003.24 at Route 627. The Mattaponi River Watershed bacteria TMDL for the Maracossic Creek watershed was developed and approved by the EPA on 07/19/2016 (Fed ID 66041). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_MAR01A02 / Maracossic Creek / Segment begins at the confluence with Beverly Run and continues downstream until the confluence with the Mattaponi River.	4A	Escherichia coli	2006	L	4.21
VAN-F22R_MAR04A08 / Maracossic Creek / Segment begins at the outlet of Broaddus Pond and continues downstream until the confluence with Jones Run.	4A	Escherichia coli	2018	L	6.77

Maracossic Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.98**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-02-BAC** **Doctors Creek**

Cause Location: Begins at the confluence with Tanyard Swamp and continues downstream until the confluence with Maracossic Creek.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at station 8-DOC000.69 at Route 644. The Mattaponi River Watershed bacteria TMDL for the Doctors Creek watershed was developed and approved by the EPA on 07/19/2016 (Fed ID 66043). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_DOC01A08 / Doctors Creek / Segment begins at the confluence with Tanyard Swamp and continues downstream until the confluence with Maracossic Creek.	4A	Escherichia coli	2014	L	2.32

Doctors Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.32**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-02-PH** **Root Swamp**

Cause Location: Begins at the headwaters of Root Swamp and continues downstream until the confluence with Beverly Run.

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (3 of 19 samples - 15.8%) at station 8-ROT001.09 at Route 721 and excursions less than the lower limit of the pH criterion range (5 of 11 samples - 45.5%) at station 8-ROT003.65 at Route 649.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_ROT01A06 / Root Swamp / Segment begins at the headwaters of Root Swamp and continues downstream until the confluence with Beverly Run.	5C	pH	2006	L	7.83

Root Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.83**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-03-BAC** **Root Swamp**

Cause Location: Begins at the confluence with Cook Swamp and continues downstream until the confluence with Beverly Run.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (4 of 18 samples - 22.2%) at station 8-ROT001.09 at Route 721. The Mattaponi River Watershed bacteria TMDL for the Root Swamp watershed was developed and approved by the EPA on 07/19/2016 (Fed ID 66029). The SWCB approved the TMDL on 06/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_ROT01A06 / Root Swamp / Segment begins at the headwaters of Root Swamp and continues downstream until the confluence with Beverly Run.	4A	Escherichia coli	2014	L	7.83

Root Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-03-DO** **Unnamed tributary to Root Swamp**

Cause Location: Begins at the headwaters of an unnamed tributary to Root Swamp and continues downstream until the confluence with Root Swamp.

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

2008 Assessment: Excursions less than the minimum dissolved oxygen criterion (2 of 6 samples - 33.3%) at station 8-XDY000.27 at Route 689.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_XDY01A06 / Unnamed tributary to Root Swamp / Segment begins at the headwaters of an unnamed tributary to Root Swamp and continues downstream until the confluence with Root Swamp.	5C	Oxygen, Dissolved	2006	L	0.70

Unnamed tributary to Root Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.70**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-03-PH** **Unnamed tributary to Root Swamp**

Cause Location: Begins at the headwaters of an unnamed tributary to Root Swamp and continues downstream until the confluence with Root Swamp.

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

2008 Assessment: Excursions less than the lower limit of the pH criterion range (6 of 6 samples - 100%) at station 8-XDY000.27 at Route 689.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_XDY01A06 / Unnamed tributary to Root Swamp / Segment begins at the headwaters of an unnamed tributary to Root Swamp and continues downstream until the confluence with Root Swamp.	5C	pH	2006	L	0.70

Unnamed tributary to Root Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**0.70**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-04-BAC** **Beverly Run**

Cause Location: Begins at the confluence with Mason Swamp and continues downstream until the confluence with King and Queen Swamp.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 8-BEV006.78 at Route 630. A new TMDL is not required for this impaired segment of Beverly Run because the downstream Mattaponi River Watershed bacteria TMDL (Fed ID 66041, 07/19/2016) included modeling, source identification, and reductions that covered the entire Maracossic Creek watershed. The SWCB approved the TMDL on 6/27/2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_BEV01B00 / Beverly Run / Segment begins at the confluence with Mason Swamp and continues downstream until the confluence with King and Queen Swamp.	4A	Escherichia coli	2016	L	3.07

Beverly Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.07**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-04-PH** **Beverly Run**

Cause Location: Begins at the confluence with Shady Grove Run and continues downstream until the confluence with Mason Swamp.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (6 of 11 samples - 54.5%) at station 8-BEV008.47 at Route 665.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_BEV02A08 / Beverly Run / Segment begins at the confluence with Shady Grove Run and continues downstream until the confluence with Mason Swamp.	5C	pH	2008	L	3.31

Beverly Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**3.31**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-05-PH** **Doctors Creek**

Cause Location: Begins at the confluence with Tanyard Swamp and continues downstream until the confluence with Maracossic Creek.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (5 of 17 samples - 29.4%) at station 8-DOC000.69 at Route 644.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_DOC01A08 / Doctors Creek / Segment begins at the confluence with Tanyard Swamp and continues downstream until the confluence with Maracossic Creek.	5C	pH	2008	L	2.32

Doctors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**2.32**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F22R-06-PH** **Maracossic Creek**

Cause Location: Begins at the outlet of Broaddus Pond and continues downstream until the confluence with Jones Run.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Excursions less than the lower limit of the pH criterion range (3 of 12 samples - 25.0%) at station 8-MAR014.20 at Route 641.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F22R_MAR04A08 / Maracossic Creek / Segment begins at the outlet of Broaddus Pond and continues downstream until the confluence with Jones Run.	5C	pH	2018	L	6.77

Maracossic Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.77**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23E-02-BAC** **Mattaponi River**

Cause Location: The mainstem Mattaponi River from Ayletts Creek to the confluence with Garnetts Creek.

City / County: King And Queen Co. King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, the Mattaponi River from Ayletts Creek to Garnetts Creek was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 2/9 at 8-MPN034.33 (pier at Rosepont.)

Continued monitoring is recommended due to an acceptable exceedance rate at 8-MPN029.08 (Rt. 629 bridge near Walkerton.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23E_MPN03A06 / Mattaponi River / Aylett Creek to Garnetts Creek.	5A	Escherichia coli	2016	L	1.756

MPNTF

Mattaponi River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**1.756**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-01-BAC** **Garnetts Creek**

Cause Location: The mainstem of Garnetts Creek from the confluence with Dickeys Swamp to the tidal limit.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2010 cycle, Garnetts Creek from the confluence with Dickeys Swamp downstream to the tidal limit was assessed as impaired of the Recreation Use due to E. coli violations at the Route 633 bridge (8-GNT001.54).

The exceedance rate was 6/23 during the 2014 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_GNT01A00 / Garnetts Creek / Dickeys Swamp to tidal limit	5A	Escherichia coli	2010	H, 2yr	2.83

Garnetts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-03-DO** **Walkerton Branch**

Cause Location: Watershed upstream of Walkerton Millpond

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Walkerton Branch was initially assessed as not supporting of the Aquatic Life Use for dissolved oxygen in 2006 based on exceedances at Route 636 (8-WKN003.16).

Additional monitoring was conducted during the 2014 cycle. The segment remained impaired for dissolved oxygen with an exceedance rates of 3/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_WKN01A00 / Walkerton Branch / Watershed above Walkerton Millpond.	5C	Oxygen, Dissolved	2006	L	4.62

Walkerton Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.62**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-03-PH** **Walkerton Branch**

Cause Location: Watershed upstream of Walkerton Millpond

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Walkerton Branch was initially assessed as not supporting of the Aquatic Life Use goal in 2004 based on pH exceedances at Route 636 (8-WKN003.16).

Additional monitoring was conducted during the 2014 cycle. The segment remained impaired for pH with an exceedance rate of 4/11.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_WKN01A00 / Walkerton Branch / Watershed above Walkerton Millpond.	5C	pH	2004	L	4.62

Walkerton Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.62**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-04-BAC** **Aylett Creek**

Cause Location: The mainstem of Aylett Creek.

City / County: King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2012 cycle, Aylett Creek was impaired of the Recreation Use due to an E. coli violation rate of 3/11 at 8-AYL002.27, which is located at the Route 600 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_AYL01A12 / Aylett Creek / Headwaters to mouth at Mattaponi River	5A	Escherichia coli	2012	H, 2yr	6.83

Aylett Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.83**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-04-PH** **Aylett Creek**

Cause Location: The mainstem of Aylett Creek.

City / County: King William Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

Aylett Creek was impaired of the Aquatic Life Use during the 2012 cycle due to a pH exceedance rate of 6/13 at the Route 600 bridge (8-AYL002.27).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_AYL01A12 / Aylett Creek / Headwaters to mouth at Mattaponi River	5C	pH	2012	L	6.83

Aylett Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**6.83**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-05-BEN** **Fleets Creek**

Cause Location: Fleets Creek from its headwaters to its mouth.

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2018 cycle, Fleets Creek was assessed as impaired of the Aquatic Life Use due to benthic alteration during sampling in 2015 at 2-FTS001.98.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_FTS01A10 / Fleets Creek / Headwaters to mouth at Dickeys Swamp	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	5.01

Fleets Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.01**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-06-PCB** **Mattaponi River**

Cause Location: The Mattaponi River from the Route 628 bridge downstream to the mouth at West Point.

City / County: King And Queen Co. King William Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

During the 1998 cycle, the Mattaponi River from Herring Creek to the tidal limit was considered fully supporting but threatened of the Fish Consumption Use due to exceedance of a PCB screening value in 1 species (white perch) in 1996.

During the 2006 cycle, 2003 monitoring at 8-MPN041.41 indicated exceedances of the fish tissue level for PCBs in 2 species. In addition, the VDH issued a fish consumption advisory on 12/13/2004 for PCBs from Herring Creek to Aylett Creek which recommends that adults eat no more than 2 meals/month of anadromous striped bass, white perch, and gizzard shad. The TMDL is due in 2018.

The advisory was revised on 10/7/2009. The advisory now extends from Route 628 downstream approximately 55 miles to the mouth of the Mattaponi at West Point. No more than two meals/month of anadromous (coastal) striped bass, white perch, and gizzard shad are recommended due to PCBs.

The advisory is based on the results of DEQ's fish tissue monitoring program, which indicated PCB exceedances at 8-MPN029.08, 8-MPN014.33 and 8-MPN041.41.

Note: In the 2002 cycle, PCBs were accidentally included as an impairment, however previous and current guidance states that confirmation is needed before an impairment; therefore, the listing was in error.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAN-F21R_MPN01A06 / Mattaponi River / Segment begins at the confluence with Gravel Run and continues downstream until the confluence with Herring Creek.	5A	PCB in Fish Tissue	2010	L	6.07
VAN-F21R_MPN01B02 / Mattaponi River / Segment begins at the Route 628 crossing and continues downstream until the confluence with Gravel Run.	5A	PCB in Fish Tissue	2010	L	4.91
VAP-F23E_MPN02A98 / Mattaponi River / From the limit of tide above the Route 360 bridge to Aylett Creek.	5A	PCB in Fish Tissue	2006	L	0.159
MPNTF					
VAP-F23E_MPN03A06 / Mattaponi River / Aylett Creek to Garnetts Creek.	5A	PCB in Fish Tissue	2010	L	1.756
MPNTF					
VAP-F23R_MPN01A00 / Mattaponi River / From the watershed boundary (Herring Creek) to the limit of tide near the Route 360 bridge.	5A	PCB in Fish Tissue	2006	L	4.72
VAP-F24E_MPN03A98 / Mattaponi River / Garnetts Creek to tidal freshwater/oligohaline boundary at approximately river mile 18	5A	PCB in Fish Tissue	2010	L	1.384
MPNTF					
VAP-F24E_MPN03B02 / Mattaponi River / Tidal freshwater/oligohaline boundary to Melrose Landing at Route 602	5A	PCB in Fish Tissue	2010	L	0.423
MPNOH					
VAP-F24E_MPN03C06 / Mattaponi River / Melrose Landing (Route 602) to Heartquake Creek.	5A	PCB in Fish Tissue	2010	L	0.717

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

MPNOH VAP-F25E_MPN05A00 / Mattaponi River / From Heartquake Creek to VDH-DSS 049-004B, 8/3/2015	5A	PCB in Fish Tissue	2010	L	1.292
MPNOH VAP-F25E_MPN05B06 / Mattaponi River / From VDH-SFC 049-004B,8/3/2015 to the oligohaline/York mesohaline boundary.	5A	PCB in Fish Tissue	2010	L	0.384
MPNOH VAP-F25E_MPN06A04 / Mattaponi River / The Mattaponi mainstem within VDH advisory 049-004D, 8/3/2015.	5A	PCB in Fish Tissue	2010	L	0.209
YRKMH VAP-F25E_MPN06B06 / Mattaponi River / DS of VDH-DSS condemnation 049-004D to mouth at York River.	5A	PCB in Fish Tissue	2010	L	0.641

YRKMH

Mattaponi River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**6.965**		**15.70**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-08-BAC** **Dickeys Swamp**

Cause Location: Dickeys Swamp from the confluence with Dogwoods Fork downstream to the Route 620 bridge.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, Dickeys Swamp from Dogwoods Fork downstream to the Route 620 bridge was impaired of the Recreation Use due to an E. coli exceedance rate of 4/12 at station 8-DKW004.31.

Note: monitoring at station 8-DKW001.12 was acceptable (0/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_DKW01B00 / Dickeys Swamp / Dogwoods Fork to Route 620	5A	Escherichia coli	2014	H, 2yr	4.33

Dickeys Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.33**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-09-BAC** **Market Swamp**

Cause Location: Market Swamp from the Walker Coleman Pond dam downstream to its mouth.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, Market Swamp below Walker Coleman Pond was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at station 8-MKT001.04, which is located at the Route 14 bridge .

Note: monitoring at station 8-MKT001.96 was acceptable (0/12).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_MKT01B00 / Market Swamp / Walker Coleman Pond to mouth at Dickeys Swamp.	5A	Escherichia coli	2014	H, 2yr	2.01

Market Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.01**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-10-BAC** **XJG - Dickeys Swamp, UT**

Cause Location: Tributary XJG in its entirety.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, Dickeys Swamp UT XJG was considered impaired of the Recreation Use due to an E. coli exceedance rate of 5/12 at 8-XJG000.08.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_XJG01A14 / XJG - Dickeys Swamp, UT / Headwaters to mouth	5A	Escherichia coli	2014	H, 2yr	1.99

XJG - Dickeys Swamp, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**1.99**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-11-BAC** **Dogwood Fork**

Cause Location: Dogwood Fork from its headwaters to its mouth at Dickeys Swamp

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2014 cycle, Dogwood Fork was impaired of the Recreation Use due to an E. coli exceedance rate of 4/12 at station 8-DWD000.77, which is located at the Route 621 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_DWD01A00 / Dogwood Fork / From its headwaters to its mouth at Dickeys Swamp.	5A	Escherichia coli	2014	H, 2yr	2.91

Dogwood Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.91**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F23R-12-BAC** **XDN - Garnetts Creek, UT**

Cause Location: Headwaters to mouth at Garnetts Creek

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Based on monitoring during the 2014 cycle, tributary XDN was impaired of the Recreation Use due to an E. coli exceedance rate of 2/11 at 8-XDN000.12, which is located at the Route 620 bridge.

Unfortunately, the impairment was inadvertently left off in the 2014 cycle. Although XDN was first listed in the 2016 cycle, the TMDL due date is 2026 to reflect the initial monitoring.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23R_XDN01A00 / Garnetts Creek, UT / Headwaters to mouth at Garnetts Creek.	5A	Escherichia coli	2016	H, 2yr	2.53

XDN - Garnetts Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F24E-02-BAC** **Mattaponi River**

Cause Location: The Mattaponi River from Garnetts Creek to the tidal freshwater/oligohaline boundary at approximately river mile 18

City / County: King And Queen Co. King William Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2018 cycle, the Mattaponi River from Garnetts Creek to the tidal freshwater/oligohaline boundary was impaired of the Recreation Use due to an E. coli exceedance rate of 4/35 at 8-MPN017.46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F24E_MPN03A98 / Mattaponi River / Garnetts Creek to tidal freshwater/oligohaline boundary at approximately river mile 18	5A	Escherichia coli	2018	L	1.384

MPNTF

Mattaponi River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**1.384**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F24R-01-BAC** **Heartquake Creek**

Cause Location: Heartquake Creek from the confluence with the UT at approx. rivermile 4.67 downstream to the tidal limit.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2012 cycle, the segment was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at the Route 14 bridge (8-HTQ003.77).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F24R_HTQ01A00 / Heartquake Creek / From the confluence with the UT at approx. rivermile 4.67 downstream to the tidal limit.	4A	Escherichia coli	2012	L	2.27

Heartquake Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.27**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F24R-03-BAC** **Courthouse Creek**

Cause Location: Courthouse Creek from King and Queen Courthouse Pond to the tidal limit

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

During the 2016 cycle, Courthouse Creek downstream of King and Queen Courthouse Pond was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 8-CTH001.96, which is located at the Route 14 bridge.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F24R_CTH01A00 / Courthouse Creek / From King and Queen Courthouse Pond downstream to the tidal limit.	5A	Escherichia coli	2016	H, 2yr	0.72

Courthouse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F24R-03-DO** **Courthouse Creek**

Cause Location: Courthouse Creek from King and Queen Courthouse Pond to the tidal limit

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

During the 2014 cycle, Courthouse Creek downstream of King and Queen Courthouse Pond was impaired of the Aquatic Life Use due to dissolved oxygen exceedances at 8-CTH001.96, which is located at the Route 14 bridge.

The exceedance rate was 4/24 during the 2016 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F24R_CTH01A00 / Courthouse Creek / From King and Queen Courthouse Pond downstream to the tidal limit.	5A	Oxygen, Dissolved	2014	L	0.72

Courthouse Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.72**

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F25E-01-BAC** **Mattaponi River**

Cause Location: The Mattaponi River from Heartquake Creek downstream to its mouth.

City / County: King And Queen Co. King William Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

The Mattaponi from Heartquake Creek downstream to its mouth was assessed as not supporting the Recreation Use based on enterococci exceedances at 8-MPN004.39 during the 2006 cycle.

The TMDL was approved by the EPA on 7/28/2010; therefore, the segment is Category 4A.

During the 2018 cycle, enterococci exceedance rates were 15/69 at 8-MPN004.39 and 5/12 at 8-MPN006.23. The exceedance rate at 8-MPN000.98 was acceptable (0/10).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F25E_MPN05A00 / Mattaponi River / From Heartquake Creek to VDH-DSS 049-004B, 8/3/2015	4A	Enterococcus	2006	L	1.292
MPNOH					
VAP-F25E_MPN05B06 / Mattaponi River / From VDH-SFC 049-004B,8/3/2015 to the oligohaline/York mesohaline boundary.	4A	Enterococcus	2006	L	0.384
MPNOH					
VAP-F25E_MPN06A04 / Mattaponi River / The Mattaponi mainstem within VDH advisory 049-004D, 8/3/2015.	4A	Enterococcus	2006	L	0.209
YRKMH					
VAP-F25E_MPN06B06 / Mattaponi River / DS of VDH-DSS condemnation 049-004D to mouth at York River.	4A	Enterococcus	2006	L	0.641
YRKMH					

Mattaponi River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**2.525**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F25R-01-BAC** **Tastine Swamp and Little Tastine Swamp**

Cause Location: From the headwaters of Little Tastine Swamp down Tastine Swamp to Corbins Pond.

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Tastine Swamp from the Route 611 bridge downstream to Corbins Pond was initially assessed in 1998 as fully supporting but threatened of the Recreation use goal.

During the year 2002 cycle the segment was downgraded and extended to incorporate Little Tastine Swamp.

In the 2004 cycle, the segment continued to be impaired based on fecal coliform exceedances at 8-TST001.81 (Route 611 bridge).

E. coli monitoring was conducted during the 2010 cycle. Although the exceedance rate was acceptable at the original listing station (1/12 at 8-TST001.81), impairment was noted at two new stations (3/12 at 8-LTS001.85 and 2/12 at 8-TST001.35). The impairment converted to E. coli but the original TMDL due date was maintained.

The stream is located within the study area for the tidal Lower Mattaponi River Bacterial TMDL, which was approved by the EPA on 7/28/2010. Implementation of the enterococci TMDL is expected to bring the riverine E. coli impairment into compliance; therefore, the impairment was considered nested (Category 4A) in the 2012 cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F25R_TST01A98 / Tastine Swamp, Little Tastine Swamp / From the headwaters of Little Tastine Swamp down Tastine Swamp to Corbin Pond	4A	Escherichia coli	2010	L	6.25

Tastine Swamp and Little Tastine Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.25**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F25R-01-DO** **Tastine Swamp and Little Tastine Swamp**

Cause Location: From the headwaters of Little Tastine Swamp down Tastine Swamp to Corbins Pond.

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

During the 2016 cycle, the segment was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/12 at 8-TST001.81 (Rt. 611 bridge.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F25R_TST01A98 / Tastine Swamp, Little Tastine Swamp / From the headwaters of Little Tastine Swamp down Tastine Swamp to Corbin Pond	5C	Oxygen, Dissolved	2016	L	6.25

Tastine Swamp and Little Tastine Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.25**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F25R-02-DO** **Tastine Swamp**

Cause Location: From the headwaters of Tastine Swamp downstream to the confluence with Little Tastine Swamp

City / County: King And Queen Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Tastine Swamp from its headwaters down to the confluence with Little Tastine Swamp was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a dissolved oxygen violation rate of 2/12 at station 8-TST003.16.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F25R_TST01B10 / Tastine Swamp / Headwaters to confluence with Little Tastine Swamp	5C	Oxygen, Dissolved	2010	L	2.15

Tastine Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.15**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F25R-03-BAC** **XIN - Tastine Swamp, UT**

Cause Location: From the headwaters downstream to the mouth at Tastine Swamp

City / County: King And Queen Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

During the 2010 cycle, the tributary was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 3/12 at station 8-XIN001.00.

The stream is located within the study area for the tidal Lower Mattaponi River Bacterial TMDL, which was approved by the EPA on 7/28/2010. Implementation of the enterococci TMDL is expected to bring the riverine E. coli impairment into compliance; therefore, the impairment was considered nested during the 2012 cycle (Category 4A.)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F25R_XIN01A10 / Tastine Swamp, UT / Headwaters to mouth at Tastine Swamp	4A	Escherichia coli	2010	L	2.40

XIN - Tastine Swamp, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.40**

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-01-PCB** **York River, Queens Creek, Kings Creek, Wormley**

Cause Location: This cause encompasses the area from the confluence of the Mattaponi and Pamunkey Rivers down to the mouth of the York River including King, Queens and Wormley Creek

City / County: Gloucester Co. James City Co. King And Queen Co. King William Co. New Kent Co.
Williamsburg City York Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The segment is included under a 12/13/2004 VDH Fish Consumption Advisory due to polychlorinated biphenyls (PCBs) in fish tissue. The advisory recommends that adults eat no more than two meals/month of croaker, gizzard shad, and spot. High risk individual

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_QEN01A02 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of tidal waters (below dam at Waller Mill Res.) downstream to end of DSS shellfish condemnation # 051-035 A, 7/16/2010. CBP segment YRKMH.	5A	PCB in Fish Tissue	2006	L	0.296
Split in 2012 cycle.					
VAT-F26E_QEN01B12 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of DSS shellfish condemnation # 051-035 (20110317). downstream to mouth. CBP segment YRKMH.	5A	PCB in Fish Tissue	2006	L	0.136
VAT-F26E_YRK01A04 / York River / York River at Goalders Creek downstream to the boundary of DSS OPEN condemnation # 049-004 (effective 20150803). CBP segment YRKMH.	5A	PCB in Fish Tissue	2006	L	4.796
VAT-F26E_YRK01B10 / York River / Start of York River at West Point (RM 32.0) downstream to the boundary of ADMIN COND # 049-004 A (effective 8/03/2015), approx. Goff Point . CBP segment YRKMH.	5A	PCB in Fish Tissue	2006	L	1.086
VAT-F26E_YRK01C12 / York River-at Hockley Cr / York River segment at mouth of Hockley Cr within VDH DSS Condemnation 049-004 C, 8/3/2015. CB Seg - YRKMH.	5A	PCB in Fish Tissue	2006	L	0.029
VAT-F26E_YRK01D12 / York River / Portion of York River within VDH Seasonal Condem 0049-004 effective date 20150803	5A	PCB in Fish Tissue	2006	L	0.042
YRKMH					
VAT-F26E_YRK01E14 / York River / York River from Goff Point (end of Admin Condem) to Goalders Creek. VDH new Restricted Condemnation 049-004 A 8/3/2015 . CBP segment YRKMH.	5A	PCB in Fish Tissue	2006	L	1.753
VAT-F26E_YRK02A14 / York River (Lower Middle MSN) / Segment starts south of New Kent and James City Boundary and extends downstream to the MSN boundary near Mt. Folly/Poropotank Bay. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	5A	PCB in Fish Tissue	2006	L	2.680
VAT-F26E_YRK03A00 / York River (Lower Middle) / Segment starts at end of MSN boundary near Mt. Folly/Poropotank Bay and extends downstream to the mesohaline/polyhaline boundary. CBP segment	5A	PCB in Fish Tissue	2006	L	20.372

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

YRKMH. No DSS shellfish direct harvesting condemnation present.

VAT-F26E_YRK03B12 / York River (Lower Middle) / Portion of York River at Carter Creek north of Camp Peary. Within VDH-DSS condemnation 050-087 B, 20150724. CB segment YRKMH.	5A	PCB in Fish Tissue	2006	L	0.023
VAT-F27E_KNG01A02 / King Creek - Upper / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From end of tidal waters downstream to end of DSS condemnation # 051-035C, 7/16/2010. CBP segment YRKPH.	5A	PCB in Fish Tissue	2006	L	0.200

Shortened in 2012 cycle.

VAT-F27E_KNG02A02 / King Creek - Mouth / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From boundary of (OPEN) condemnation # 051-035 (7/16/2010) to mouth. CBP segment YRKPH.	5A	PCB in Fish Tissue	2002	L	0.220
VAT-F27E_WOR01A08 / Wormley Creek / South shore York River near Amoco facility southeast of Gloucester Point. CBP segment YRKPH. Upstream portion of DSS (ADMINISTRATIVE) condemnation # 052-006 A (effective 2002-03-07).	5A	PCB in Fish Tissue	2002	L	0.283
VAT-F27E_YRK01A00 / York River - Lower Middle / The polyhaline boundary downstream to line from Roosevelt Pond N to Mumfort Islands at RM 7.49, excluding otherwise segmented DSS shellfish condemnation areas. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	5A	PCB in Fish Tissue	2006	L	10.393

YRKPH

VAT-F27E_YRK01B00 / York R - DSS AdminCond @ Cheatham Annex/Camp Peary / Segment adjacent to Cheatham Annex, VDH-DSS condemnation 051-035 B (effective 7/16/2010) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	5A	PCB in Fish Tissue	2006	L	0.260
VAT-F27E_YRK01C00 / York R - DSS AdminCond @ Naval Weapons Station / Segment adjacent to Yorktown Naval Weapons Sta., VDH-DSS condemnation 051-040 B (effective 20080618) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	5A	PCB in Fish Tissue	2006	L	0.236
VAT-F27E_YRK01D06 / York River - Yorktown Beach / Yorktown Beach VDH bathing area. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	5A	PCB in Fish Tissue	2006	L	0.024
VAT-F27E_YRK01E06 / York River - Gloucester Point Beach / Gloucester Point Beach VDH bathing area. CBP segment YRKPH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 046-027 (effective 20120808).	5A	PCB in Fish Tissue	2006	L	0.018
VAT-F27E_YRK02A00 / York River - Lower / Segment starts at line across river from Roosevelt Pond to Mumfort Islands (RM 7.49), downstream to mouth (RM 0.0) near Thoroughfare Creek. CBP segment YRKPH. No DSS shellfish condemnation.	5A	PCB in Fish Tissue	2006	L	11.657
VAT-F27E_YRK02B00 / York R - DSS AdminCond @ HRSD York STP/Amoco / Described in VDH-DSS (ADMINISTRATIVE) shellfish condemnation 052-006 B&C (effective 20020307) adjacent Wormley Cr., HRSD STP & power plant and refinery. CBP segment YRKPH.	5A	PCB in Fish Tissue	2006	L	0.508
VAT-F27E_YRK02C00 / York River - DSS AdminCond @ Wormley to USCG / Segment on Yorktown side (south shore) of river. DSS (ADMINISTRATIVE) shellfish condemnation # 052-006 A (effective 2002-03-07) (portion in York R), from Wormley Cr. to USCG Station, S	5A	PCB in Fish Tissue	2006	L	2.698

York River Basin

shore to mid-channel. CBP segment YRKPH.

VAT-F27E_YRK02D12 / York River - Lower / Portion of York River within VDH-DSS seasonal condemnation 046-052M1, 20161011. CBP segment YRKPH.	5A	PCB in Fish Tissue	2006	L	0.139

York River, Queens Creek, Kings Creek, Wormley **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**57.849**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-03-BAC** **Queens Creek**

Cause Location: This cause encompasses the entirety of Queens Creek to the end of VDH shellfish condemnation 051-035 on the southern shore of the York River.

City / County: Williamsburg City York Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

Queens Creek was initially assessed as impaired of the Recreation Use in the 2002 cycle. The impairment is based on data collected at station 8-QEN002.47. The exceedance rate is 6/32. The Recreation Use impairment is located within the study area for the Shellfish TMDL completed April 17, 2008; therefore it will be considered nested in 2012.
NESTED: 34372, 4/17/2008
2006 00328 / 2008 F26E-03-BAC

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_QEN01A02 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of tidal waters (below dam at Waller Mill Res.) downstream to end of DSS shellfish condemnation # 051-035 A, 7/16/2010. CBP segment YRKMH.	4A	Enterococcus	2002	L	0.296
Split in 2012 cycle.					
VAT-F26E_QEN01B12 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of DSS shellfish condemnation # 051-035 (20110317). downstream to mouth. CBP segment YRKMH.	4A	Enterococcus	2002	L	0.136

Queens Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.432**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-06-SF** **Fox Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation #047-072 A, 7/22/2016.

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the VDH-DSS condemnation 047-072A (20160722).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_FOX01A06 / Fox Creek / North shore trib to York River. Located southeast of Allmondsville in Gloucester Co. From estuarine/riverine transition to mouth. CBP segment YRKMH. DSS condemnation # 047-072 A (effective 20160722).	5B	Fecal Coliform	2006	L	0.016

Fox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-10-SF** **Carter Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 050-079A, 7/24/2015.

City / County: James City Co. King And Queen Co. New Kent Co. York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

Portion of VDH-DSS condemnation 050-079A (20150724)
Carter Creek has been impaired since the 2004 cycle due to a VDH condemnation. During the 2012 cycle, the condemnation extends into a portion of the York River

2006 70004 / 2008 F26E-10-SF

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_CTC01A06 / Carter Creek / Located in York County near Skimino. From estuarine/riverine transition to mouth. CBP segment YRKMH. Portion of DSS condemnation # 050-087 B, 20150724.	5B	Fecal Coliform	2004	L	0.025
VAT-F26E_YRK03B12 / York River (Lower Middle) / Portion of York River at Carter Creek north of Camp Peary. Within VDH-DSS condemnation 050-087 B, 20150724. CB segment YRKMH.	5B	Fecal Coliform	2012	L	0.023

Carter Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.048**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-12-SF** **Adams Creek-Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 048-128 B (effective 7/26/2016).

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the VDH-DSS condemnation 048-128B, 7/26/2016. A portion of Adams Creek was listed on the 1998 303(d) list due to VDH condemnation 198B. The condemnation expanded and, during the 2010 cycle, the condemnation extended to the mouth of the creek (#048-128B, 7/6/2005). The TMDL was approved by the EPA on 6/9/2009 for most of the Creek (from upstream end of tidal waters to downstream last Unnamed Trib). During the 2014 cycle, the condemnation shrank. The open area within the TMDL study area will be partially delisted (Category 2C) and added to AU VAT-F26E_ADM01B12, the condemned area will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_ADM01A00 / Adams Creek-Upper / Eastern shore of York River near Purtan Island. CBP segment YRKMH. DSS shellfish condemnation # 048-128 B (effective 7/26/2016).	4A	Fecal Coliform	1998	L	0.116

Adams Creek-Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.116**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-14-SF** **Poropotank River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 048-128A, 7/26/2016.

City / County: Gloucester Co. King And Queen Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on the VDH-DSS condemnation 048-128A, 7/26/2016. A portion of Poropotank Creek was listed on the 1998 303(d) list due to VDH condemnation 198A. The condemnation expanded and during the 2010 cycle, the condemnation extended to the mouth of the creek (#048-128A, 7/6/2005) (see 2010 fact sheet F26E-28-SF). However, the TMDL addressed the 1998 impaired area only. The TMDL was approved by the EPA on 6/9/2009. During the 2012 cycle, the condemnation shrank and is now smaller than the 1998 impairment. The downstream area will be partially delisted (Category 2A), the open area within the TMDL study area will be partially delisted (Category 2C), the condemned area is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_PTK01A00 / Poropotank River / North shore of York River near Purtan Island. Forms boundary of King and Queen/Gloucester Co. From end of tidal waters downstream to end of DSS condemnation # 048-128A, 7/26/2016. CBP segment YRKMH.	4A	Fecal Coliform	1998	L	0.451

Poropotank River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.451**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-15-SF** **Aberdeen Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 047-078 A (8/4/2015).

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired for a portion of Aberdeen Creek and has been impaired since the 1998 cycle due to VDH shellfish condemnation 047-078. The condemnation has since expanded and is currently included under 047-078A (20150804). However, the TMDL "York River: Gloucester Point to Jones Creek", which was approved by the EPA on 7/30/2007, only addressed the 1998 portion. The original condemned area will be considered Category 4A. In 2014, the downstream expansion (F26E-02-SF) will be Nested and now included with this CGC and AU. New nesting rules for 2014 allow nesting within the tidal range as long as newly impaired segments are comparable and all existing sources are accounted for in the TMDL. NESTED 2014: 33102 , 7/30/2007 from VAT-F26E_ABD02A12 from 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_ABD01A00 / Aberdeen Creek - Upper / Southeast of Clay Bank, south of Rt. 631. From the end of tidal waters downstream to the end of Shellfish Condem. Portion of CBP segment YRKMH. Portion of DSS shellfish direct harvesting condemnation # 047-078 A (effective 8/4/2015).	4A	Fecal Coliform	1998	L	0.106

Aberdeen Creek - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.106**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-16-SF** **Queens Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 051-035 A, 7/16/2010.

City / County: Williamsburg City York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired for Queens Creek. Queens Creek was impaired of the Shellfish Use in the 1998 cycle. The TMDL was developed to address the impairment and was approved by the EPA on 4/17/2008. However, the condemnation has subsequently shortened and is currently addressed in VDH condemnation #051-035A, 7/16/2010. The open downstream area was partially delisted (Category 2C); the condemned area remains Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_QEN01A02 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of tidal waters (below dam at Waller Mill Res.) downstream to end of DSS shellfish condemnation # 051-035 A, 7/16/2010. CBP segment YRKMH.	4A	Fecal Coliform	1998	L	0.296

Split in 2012 cycle.

Queens Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.296**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-17-SF** **Skimino Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 050-087 A (effective 20150724).

City / County: James City Co. York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation which is present 050-087A, 7/24/2015. The TMDL for Chesapeake Bay Shellfish Waters: Ware Creek, Taskinas Creek, and Skimino Creek Bacterial Impairments in York, James City, and New Kent Counties, VA, for growing area 50 - Condemnations 073 and 087 was completed during the 2012 cycle and was approved by the EPA on 3/25/2010. Skimino Creek will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_SKM01A00 / Skimino Creek / North of Skimino Farms. Boundary of James City/York Co. From estuarine/riverine transition (dam at Barlows Pond, Rt 604) to mouth. CBP segment YRKMH. DSS shellfish condemnation # 050-087 A (effective 20150724).	4A	Fecal Coliform	1998	L	0.174

Skimino Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.174**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-18-SF** **Taskinas Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 050-073 B (effective 20160728).

City / County: James City Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation which is present 050-073B, 7/28/2016. The TMDL was completed during the 2012 cycle and was approved by the EPA on 3/25/2010. Taskinas Creek will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_TSK01A00 / Taskinas Creek / West of Purtan Island, south of Croaker Landing. From end of tidal waters downstream to mouth. CBP segment YRKMH. DSS shellfish condemnation # 050-073 B (effective 20160728).	4A	Fecal Coliform	1998	L	0.026

Taskinas Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-19-SF** **Ware Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 050-073 A (effective 20160728).

City / County: James City Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation which is present, 050-073A, 7/28/2016. The TMDL was completed during the 2012 cycle and was approved by the EPA on 3/25/2010. Ware Creek will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_WRE01A00 / Ware Creek / South of Terrapin Pt., W of Purtan Island. From end of tidal waters downstream to mouth; includes piece of York SF Condem, CBP segment YRKMH. DSS shellfish condemnation # 050-073 A (effective 20160728).	4A	Fecal Coliform	1998	L	0.133

Ware Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.133**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-20-SF** **Baker Creek, Philbates Creek, York River at Hockley & Unsegmented SF Condemned in F26E**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 049-004 A (20120621) as well as the southern portion of VDH condemnation 049-004 A (20150803)

City / County: King And Queen Co. New Kent Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on the DSS condemnation #049-009A, effective 20150803.

Included in TMDL for Bacteria for the Upper York River EPA approved 7/28/2010. TMDL #1 for SF Condemnations in the York R Mainstem, unsegmented estuaries in F26, Philbates, Baker, Bakers Ferry, Hockley and Robinson Creeks are included.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_BKS01A08 / Baker Creek / South shore trib to York R. S of Plum Pt. & E of Davis Pond. Estuarine portion of creek with York River. CBP segment YRKMH. DSS Condem 049-004 A (20150803)	4A	Fecal Coliform	2008	L	0.017
VAT-F26E_PHB01A00 / Philbates Creek / South shore trib to York R. NW of Belleview. Estuarine portion of creek. From dam to confluence with York River. CBP segment YRKMH. VDH-DSS 049-009 shellfish condemnation (effective 20150803)	4A	Fecal Coliform	2004	L	0.013
VAT-F26E_YRK01C12 / York River-at Hockley Cr / York River segment at mouth of Hockley Cr within VDH DSS Condemnation 049-004 C, 8/3/2015. CB Seg - YRKMH.	4A	Fecal Coliform	2002	L	0.029
VAT-F26E_ZZZ02B18 / Unsegmented SF Condemned estuaries in F26E / Non-segmented areas within VDH-DSS Restricted condemnation 049-004 A (effective 20150803). CBP segment YRKMH.	4A	Fecal Coliform	2018	L	0.039

Baker Creek, Philbates Creek, York River at Hockley & Unsegmented SF Condemned in F26E	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.097**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-22-SF** **Hockley Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 049-004 C (effective 8/03/2015). Northern portion of condemnation area.

City / County: King And Queen Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfish Use is impaired based on DSS Condemnation 049-004 C effective 8/3/2015.

The impairment was addressed in the report "Bacteria Total Maximum Daily Load (TMDL) Development for the Upper York River, the Lower Pamunkey River, and the Lower Mattaponi River (Tidal) Watersheds" which was completed during the 2012 cycle and was approved by the EPA on 7/28/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_HCK01A04 / Hockley Creek / North shore York R NW of Belleview. Estuarine portion of creek. CBP segment YRKMH. Portion of DSS condemnation # 049-004 C (effective 8/03/2015).	4A	Fecal Coliform	2002	L	0.055

Hockley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.055**		

Sources:

Municipal Point Source Discharges

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-26-SF** **Purtan & Leigh Creeks**

Cause Location: Described in VDH and Description of Shellfish condemnation Number 048-128 C (effective 20160726).

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 5B

Shellfishing Use is not supporting based on VDH-DSS Open condemnation # 048-128 C (effective date 20160726.)

The Shellfishing Use had been impaired since the 2008 cycle due to VDH condemnations. However, during the 2012 cycle, condemnation # 048-128 C (effective 20070625) was rescinded and the area is open on condemnation 048-128, 7/15/2010. The impairment was delisted. Now in 2018 the impairment is again in effect for SF based on effective date 20160726 Condemnation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_PTN01A08 / Purtan & Leigh Creeks / North shore of York River at Purtan Bay. Forms headwaters of Purtan Bay. CBP segment YRKMH. DSS shellfish condemnation # 048-128 C(effective 20160726).	5B	Fecal Coliform	2008	L	0.187

Purtan & Leigh Creeks	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.187**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26E-29-SF** **York River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 049-004 A ,8/3/2015. This is the only portion of the condemnation that is not administrative.

City / County: King And Queen Co. King William Co. New Kent Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on new VDH Restricted Condemnation apart of Admin Condemn 049-004 A effective date 8/3/2015. Included in the report "Bacteria Total Maximum Daily Load (TMDL) Development for the Upper York River, the Lower Pamunkey River, and the Lower Mattaponi River (Tidal) Watersheds" which was completed during the 2012 cycle and was approved by the EPA on 7/28/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_YRK01E14 / York River / York River from Goff Point (end of Admin Condem) to Goalders Creek. VDH new Restricted Condemnation 049-004 A 8/3/2015 . CBP segment YRKMH.	4A	Fecal Coliform	2014	L	1.753

York River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**1.753**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26R-01-BAC** **Carter Creek**

Cause Location: This cause encompasses Carter Creek from the tidal limit upstream to the confluence with an unnamed tributary.

City / County: York Co.

Use(s): Recreation

Cause(s) / VA Category: Fecal Coliform / 5A

Carter Creek is impaired of the Recreation Use due to fecal coliform exceedances at 8-CTC003.78. The exceedance rate was 2/3 during the 2006 cycle. No additional monitoring has been conducted.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26R_CTC01A04 / Carter Creek / NW & SE of Skimino, N of Camp Peary area. Riverine portion of Carter Creek, extends upstream to branches SW of Skimino area.	5A	Fecal Coliform	2004	L	3.38

Carter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**3.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26R-01-BEN** **Carter Creek**

Cause Location: This cause encompasses Carter Creek from the tidal limit upstream to the confluence with an unnamed tributary.

City / County: York Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic biological monitoring previously conducted at station 8-CTC003.78 (located at State Route 604) indicated the stream's benthic community was moderately impaired (Benthic MI: 1999, SI S&F 2000, MI F 2001]. As a result, DEQ's General Standard (VR680-21-01.2) is not met for the protection of benthic aquatic life and this segment is assessed as not supporting of the Clean Water Act's Aquatic Life Use. Impairment retained as no more recent data available since 2001.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26R_CTC01A04 / Carter Creek / NW & SE of Skimino, N of Camp Peary area. Riverine portion of Carter Creek, extends upstream to branches SW of Skimino area.	5A	Benthic-Macroinvertebrate Bioassessments	2004	L	3.38

Carter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26R-02-BEN** **XEA - Bland Creek, UT**

Cause Location: This cause encompasses the tributary XEA from its headwater to its mouth at Bland Creek.

City / County: Gloucester Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic life use is not supporting based on benthic population diversity and abundance measures at this Freshwater Probabilistic Monitoring (FPM) station. The Aquatic Life Use is not supporting based on benthic population diversity and abundance measures at this Freshwater Probabilistic Monitoring (FPM) station, IM-carried forward as no data in cycle. The Aquatic Life Use is not supported based on the benthic data collected in 2001 (Benthic ProbMon-Benthic IM [MI: S&F-01]. Benthic biological monitoring at station 8-XEA000.12 (FPM) indicated the stream's benthic community was moderately impaired. As a result, DEQ's General Standard (VR680-21-01.2) is not met for the protection of benthic aquatic life and this segment is assessed as not supporting of the Clean Water Act's Aquatic Life Use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26R_XEA01A08 / Unnamed Tributary to Bland Creek / Located northwest of Sassafras area, in Gloucester County. From headwaters downstream to confluence with Bland Creek. Downstream (west) of Rt. 606 7 Rt 615, NE of Stubbs Pond	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	1.23

XEA - Bland Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.23**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26R-04-BEN** **Bird Creek**

Cause Location: This cause encompasses Bird Creek from its headwater to its mouth at Ware Creek.

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2012 cycle, Byrd Creek was impaired of the Aquatic Use due to a slightly impaired benthic community at freshwater probabilistic monitoring station 8-BRD000.43.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26R_BRD01A12 / Bird Swamp / Headwaters to mouth at Ware Creek	5A	Benthic-Macroinvertebrate Bioassessments	2012	L	2.47

Bird Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F26R-05-BAC** **France Swamp**

Cause Location: This cause encompasses the Trib to Ware Creek. NW of Croaker, NE of Toano.

City / County: James City Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

Recreation Use is not supporting based on E.coli data at station 8-FRS001.17, with 4 viol/ 22 obs. Previously was supporting with 0 viol/ 11 obs. In 2018 nested new recreation use impairment in EPA approved Ware, Taskinas and Skimino Creeks Fecal Coliform TMDL. New impairment is contained in TMDL watershed with similar land uses. Reductions in the TMDL apply to entire TMDL and are adequate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26R_FRS01A00 / France Swamp / Trib to Ware Creek. NW of Croaker, NE of Toano.	4A	Escherichia coli	2018	L	4.53

France Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.53**

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-05-BAC** **King Creek**

Cause Location: This cause encompasses all of King Creek, at South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility.

City / County: York Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 4A

King Creek from the tidal limit to its mouth is impaired of the Recreation Use due to an enterococci violation rate of 12/29 at 8-KNG004.46. The Recreation Use is nested within the Shellfish Use TMDL, EPA approved 4/8/2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_KNG01A02 / King Creek - Upper / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From end of tidal waters downstream to end of DSS condemnation # 051-035C, 7/16/2010. CBP segment YRKPH.	4A	Enterococcus	1998	L	0.200
Shortened in 2012 cycle.					
VAT-F27E_KNG02A02 / King Creek - Mouth / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From boundary of (OPEN) condemnation # 051-035 (7/16/2010) to mouth. CBP segment YRKPH.	4A	Enterococcus	1998	L	0.220

King Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.420**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-06-BAC** **York River - Yorktown Beach**

Cause Location: This cause encompasses Yorktown Beach VDH bathing area. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.

City / County: York Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

Enterococcus is impaired based on a monthly geometric mean violation in 2013 as well as multiple swimming advisories. Enterococcus data at VDHB station VA482894 had 2 geometric mean viol/ 20 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_YRK01D06 / York River - Yorktown Beach / Yorktown Beach VDH bathing area. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	5A	Enterococcus	2016	L	0.024

York River - Yorktown Beach **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.024**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-07-BAC** **York River - Gloucester Point Beach**

Cause Location: This cause encompasses Gloucester Point Beach VDH bathing area. CBP segment YRKPH.

City / County: Gloucester Co.

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

Enterococcus is impaired based on a monthly geometric mean violation at VDH Beach Program station VA714367 as well as multiple swimming advisories. Enterococcus data collected at station VA714367 had 1 viol/ 20 obs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_YRK01E06 / York River - Gloucester Point Beach / Gloucester Point Beach VDH bathing area. CBP segment YRKPH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 046-027 (effective 20120808).	5A	Enterococcus	2016	L	0.018

York River - Gloucester Point Beach **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.018**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-13-SF** **King Creek - Upper**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 051-035C, 7/16/2010.

City / County: York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on VDH-DSS Condemnation 051-035C, 7/16/2010. King Creek was impaired in the 1998 cycle due to a VDH-DSS condemnation. The TMDL was approved by the EPA on 4/17/2008 and addressed King Creek to the mouth at the York River. During the 2012 cycle, the condemnation shortened. The condemned area remains Category 4A; the open downstream area will be Category 2C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_KNG01A02 / King Creek - Upper / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From end of tidal waters downstream to end of DSS condemnation # 051-035C, 7/16/2010. CBP segment YRKPH.	4A	Fecal Coliform	1998	L	0.200

Shortened in 2012 cycle.

King Creek - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.200**		

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-15-SF** **Northwest & Northeast Branch Sarah Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 046-052 A, C, E, M1 as well as the non-administratively condemned region of 046-052 B (effective 20161011).

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired for a portion of VDH-DSS condemnation 046-052 Seasonal M1 and Restricted A, C, E 10/11/2016.

Sarah Creek was impaired of the Shellfish Use in the 1998 cycle. The TMDL for Sarah Creek from Tidemill Road downstream to the extent of the 1998 impairment was approved by the EPA on 6/4/2006. The condemned areas will be considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_SRH01B10 / Sarah Creek - Northeast Branch, Upper / North shore trib to York River near Gloucester Point. Segment includes north branch off of the northeast branch of Sarah Creek. CBP segment YRKPH. Part of DSS condemnation # 046-052 B, 20161011.	4A	Fecal Coliform	1998	L	0.029
VAT-F27E_SRW01A14 / Northwest Branch Sarah Creek / North shore York River near Gloucester Point. Segment extends from headwaters north of Rt 641 downstream to mouth of Northwest Br. DSS condemnation # 046-052 M1, A, C and E (effective 20161011). CBP segment YRKPH.	4A	Fecal Coliform	1998	L	0.193

Northwest & Northeast Branch Sarah Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.222**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-16-SF** **Timberneck Creek - Upper [TMDL-bact]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number # 047-003 A (effective 7/22/2016).

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation which is present, 047-003A 7/22/2016. Covered under TMDL "York River: Gloucester Point to Jones Creek" VAT-F26E-13, 15-18, EPA approved 7/30/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_TMB01A00 / Timberneck Creek - Upper [TMDL-bact] / North shore York River, NE of Catlett Islands. From the end of tidal waters downstream to the end of DSS shellfish direct harvesting condemnation # 047-003 A (effective 20160722). Portion of CBP segment YRKPH.	4A	Fecal Coliform	1998	L	0.139

Timberneck Creek - Upper [TMDL-bact]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.139**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-17-SF** **Cedarbush Creek - Upper [TMDL-bact]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 047-078 C (effective 20150804).

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation which is present, 047-078C (20150804). Covered under TMDL "York River: Gloucester Point to Jones Creek" VAT-F26E-13, 15-18, EPA approved 7/30/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_CDB01A00 / Cedarbush Creek - Upper [TMDL-bact] / North shore York River, NW of Catlett Islands. From the end of tidal waters downstream to the end of TMDL (07) coverage. Portion of CBP segment YRKPH. DSS shellfish direct harvesting condemnation # 047-078 C (effective 20150804).	4A	Fecal Coliform	1998	L	0.078

Cedarbush Creek - Upper [TMDL-bact]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.078**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-18-SF** **Carter Cr. (Gloucester Co.) - Upper portion [TMDL-bact]**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 047-078B (20150804).

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The shellfish use is impaired for Carter Creek. Carter Creek has been impaired since the 1998 cycle due to VDH-DSS condemnations. The impairment was addressed in the TMDL "York River: Gloucester Point to Jones Creek VAT-F26E-13, 15-18, which was approved by the EPA on 7/30/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_CRT01A00 / Carter Cr. (Gloucester Co.) - Upper portion [TMDL-bact] / North shore York River, north of Catlett Islands. From the end of tidal waters downstream to the end of DSS condemnation 047-078B, 20150804 . Portion of CBP segment YRKPH.	4A	Fecal Coliform	1998	L	0.180

Split in 2012 cycle

Carter Cr. (Gloucester Co.) - Upper portion [TMDL-bact]	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.180**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-20-SF** **Cedarbush Creek - Mouth**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 047-078 C (20150804) not included in TMDL.

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfish Use is impaired based on the portion of VDH-DSS Condemnation 047-078C (20150804).

Not covered under TMDL for "York River: Gloucester Point to Jones Creek" (38987) EPA approved 7/30/2007. However will nest since SF impairment is within tidal range of York River TMDL, newly impaired segments are comparable and all existing sources are accounted for in the TMDL. The upstream portion of Cedarbush Creek was impaired in the 1998 cycle. That portion was covered under TMDL "York River: Gloucester Point to Jones Creek" VAT-F26E-13, 15-18, EPA approved 7/30/2007. The condemnation shrank in the 2012 cycle, but is still larger than the original impairment.
F27E-20-SF/2008 F27E-17-SF

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_CDB02A00 / Cedarbush Creek - Mouth / North shore York River, NW of Catlett Islands. CBP segment YRKPH. Portion of DSS shellfish condemnation # 047-078 C (20150804) not included in TMDL.	4A	Fecal Coliform	2010	L	0.015

Cedarbush Creek - Mouth **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.015**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-28-SF** **Jones Creek**

Cause Location: Described in the VDH Notice and Description of Shellfish Condemnation number 047-072 B (20160722)

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfish Use is impaired based on the Restricted VDH-DSS Condemnation # 047-072B, effective date 20160722). Covered under TMDL "York River: Gloucester Point to Jones Creek" VAT-F26E-13, 15-18, EPA approved 7/30/2007.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F26E_JNS01A00 / Jones Creek / NW of Clay Bank, between Rts 618 & 616. Portion of CBP segment YRKMH. Described in DSS shellfish direct harvesting condemnation # 047-072 (effective 20160722).	4A	Fecal Coliform	2002	L	0.051

Jones Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.051**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-29-SF** **Perrin River - Upper**

Cause Location: Described in the VDH Notice and Description of Shellfish Condemnation number 046-081 A (20150804)

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfish Use is impaired for Upper Perrin River based on Restricted Condemnation for Shellfish Use based on VDH-DSS condemnation #046-081A (effective date 20150804).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_PRN01A00 / Perrin River - Upper / North shore York River near Cuba Island. Described in DSS Restricted condemnation # 046-081A (effective 20150804). CBP segment YRKPH.	4A	Fecal Coliform	2002	L	0.052

Perrin River - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.052**		

Sources:

Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-31-SF** **Sarah Creek - Northeast Branch, Middle**

Cause Location: Described in the VDH Notice and Description of Shellfish Condemnation number 046-052 D (10/11/2016)

City / County: Gloucester Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

Shellfish Use is impaired for Sarah Creek based on Restricted Condemnation for Shellfish Use based on VDH-DSS condemnation #046-052D (effective date 10/11/2016).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_SRH02B16 / Sarah Creek - Northeast Branch, Middle / North shore York River near Gloucester Point. Mainstem and tribs to the Northeast Branch. CBP segment YRKPH. DSS Restricted condemnation # 046-052 D (effective 10/11/2016).	4A	Fecal Coliform	2016	L	0.021

Sarah Creek - Northeast Branch, Middle **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.021**		

Sources:

Livestock (Grazing or Feeding Operations)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* F27E-32-SF** **UT to Cedarbush Creek**

Cause Location: Described in the VDH Notice and Description of RESTRICTED Shellfish condemnation # 047-078 (effective 20150804).

City / County: Gloucester Co. York Co.

Use(s): Shellfishing

Cause(s) / VA Category: Fecal Coliform / 4A

The Shellfish Use is impaired based on the Restricted Shellfish GA # 047-078 D effective date 20150804. Impairment is nested within the TMDL for Shellfish Areas listed due to bacteria contamination for York River: Gloucester Point to Jones Creek. The new impairment is located within existing TMDL watershed with similar land use. Reductions for Cedarbush Cr in the TMDL are 91% for the 90th percentile for Fecal Coliform. The necessary reductions to meet water quality standards are 100% for human, livestock and pets with 45% reductions to wildlife.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_CDB04A18 / UT to Cedarbush Creek / UT at Mouth of Cedarbush Creek. CBP segment YRKPH. RESTRICTED condemnation # 047-078 (effective 20150804).	4A	Fecal Coliform	2018	L	0.029

UT to Cedarbush Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.029**		

Sources:

Livestock (Grazing or Feeding Operations)	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* MPNOH-DO-BAY Mattaponi River**

Cause Location: The oligohaline Mattaponi estuary.

City / County: King And Queen Co. King William Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Chesapeake Bay and its tidal tributaries were added by the EPA to the 1998 303(d) list. This included the entire tidal portion of the Mattaponi River. EPA listed the impairment as dissolved oxygen exceedances caused by nutrient overenrichment. During the 2002 cycle, dissolved oxygen and chlorophyll A violation rates at multiple monitoring stations were all acceptable. Since the listing was based solely on the EPA overlist, the impairment was considered Nutrients/Eutrophication Biological Indicators.

However, during the 2006 cycle, the Chesapeake Bay water quality standards were implemented. The area failed both the Open Water default summer criteria and the rest-of-year criteria of 5 mg/L.

Water quality standards specific for the Pamunkey and Mattaponi Rivers were adopted in the 2008 cycle. The specific criteria recognize that DO is naturally depressed in the rivers due to their extensive marsh systems. During the 2016 and 2018 cycles, MPNOH fails the OW summer criteria. The Rest-of-Year criteria is met. The TMDL was approved by the EPA on 12/29/2010; therefore, the estuary is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F24E_MPN03B02 / Mattaponi River / Tidal freshwater/oligohaline boundary to Melrose Landing at Route 602	4A	Oxygen, Dissolved	2006	L	0.423
MPNOH					
VAP-F24E_MPN03C06 / Mattaponi River / Melrose Landing (Route 602) to Heartquake Creek.	4A	Oxygen, Dissolved	2006	L	0.717
MPNOH					
VAP-F24E_ZZZ02A06 / Unsegmented estuaries in F24 / Unsegmented portion of the watershed within MPNOH	4A	Oxygen, Dissolved	2006	L	0.102
VAP-F25E_BMC01A08 / Burnt Mill Creek / Tidal limit to mouth at Mattaponi River	4A	Oxygen, Dissolved	2006	L	0.054
MPNOH					
VAP-F25E_CBN01A00 / Corbin Creek / Corbin Pond to tidal limit	4A	Oxygen, Dissolved	2006	L	0.037
MPNOH					
VAP-F25E_MPN05A00 / Mattaponi River / From Heartquake Creek to VDH-DSS 049-004B, 8/3/2015	4A	Oxygen, Dissolved	2006	L	1.292
MPNOH					
VAP-F25E_MPN05B06 / Mattaponi River / From VDH-SFC 049-004B,8/3/2015 to the oligohaline/York mesohaline boundary.	4A	Oxygen, Dissolved	2006	L	0.384
MPNOH					
VAP-F25E_ZZZ01A00 / Unsegmented estuaries in F25 / Unsegmented portion of the watershed.	4A	Oxygen, Dissolved	2006	L	0.067
MPNOH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAP-F25E_ZZZ02A06 / Unsegmented estuaries in F25 / Unsegmented portion of the watershed within SFC 049-004B, 8/3/2015.	A	Oxygen, Dissolved	2006	L	0.006

MPNOH

Mattaponi River **Aquatic Life**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Oxygen, Dissolved - Total Impaired Size by Water Type:	**3.081**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* MPNTF-DO-BAY** **Mattaponi River**

Cause Location: The tidal freshwater Mattaponi mainstem.

City / County: King And Queen Co. King William Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4D

The Chesapeake Bay and its tidal tributaries were added by the EPA to the 1998 303(d) list. This included the entire tidal mainstem of the Mattaponi River. EPA listed the impairment as dissolved oxygen exceedances caused by nutrient overenrichment. During the 2002 cycle, dissolved oxygen and chlorophyll a exceedance rates at multiple monitoring stations were all acceptable (see below). Since the listing was based solely on the EPA overlist, the impairment was considered Nutrients/Eutrophication Biological Indicators.

During the 2006 cycle, the Chesapeake Bay water quality standards were implemented. The tidal freshwater portion of the Mattaponi had acceptable SAV acreages and was considered fully supporting of the Shallow Water Use. However, the area failed the default CB 30-day open water summer criteria of 5.5 mg/L.

Water quality standards specific for the Pamunkey and Mattaponi Rivers were adopted in the 2008 cycle. The specific criteria recognize that dissolved oxygen is naturally depressed in the rivers due to their extensive marsh systems. The Mattaponi Tidal Freshwater segment is in attainment of both the site-specific 30-day open water summer DO criteria and the 30-day Rest of Year DO criteria. The Shallow Water Use is fully supporting the SAV acreage criteria.

Although the Mattaponi Tidal Freshwater segment is in attainment of every Chesapeake Bay criteria which is measured, there is insufficient information to assess the Migratory Spawning Use or the other Open Water Use's dissolved oxygen frequency criteria; therefore, the mainstem must remain impaired due to EPA's overlisting (nutrients/eutrophication biological indicators). The TMDL is was approved on 12/29/2010, so the mainstem Mattaponi is considered Category 4D.

Note: The tributaries are considered Category 2C because they were not included in the overlist.

Previously MPNTF-BNUT-BAY

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F23E_MPN02A98 / Mattaponi River / From the limit of tide above the Route 360 bridge to Aylett Creek.	4D	Oxygen, Dissolved	1998	L	0.159
MPNTF					
VAP-F23E_MPN03A06 / Mattaponi River / Aylett Creek to Garnetts Creek.	4D	Oxygen, Dissolved	1998	L	1.756
MPNTF					
VAP-F24E_MPN03A98 / Mattaponi River / Garnetts Creek to tidal freshwater/oligohaline boundary at approximately river mile 18	4D	Oxygen, Dissolved	1998	L	1.384
MPNTF					

Mattaponi River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**3.300**		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* PMKOH-DO-BAY Pamunkey River**

Cause Location: The oligohaline Pamunkey mainstem.

City / County: King William Co. New Kent Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4D

The Pamunkey River was initially listed on the 1998 303(d) list as fully supporting but threatened of the Aquatic Life Use goal because a 1995 special study showed river subject to 33% violation rate of daily mean DO standard during warm weather conditions (May through October). The estuarine Pamunkey was considered fully allocated relative to dissolved oxygen and new discharges cannot result in further DO depression.

The Chesapeake Bay and its tidal tributaries were added by the EPA to the 1998 303(d) list. EPA listed the impairment as dissolved oxygen exceedances caused by nutrient overenrichment. This listing included the entire mainstem estuarine Pamunkey River.

However, during the 2006 cycle, the new Chesapeake Bay water quality standards were adopted. The oligohaline Pamunkey segment failed the default CB 30-day open water summer dissolved oxygen criteria of 5 mg/L.

During the 2008 cycle, Water Quality Standards specific for the Pamunkey and Mattaponi Rivers were adopted; the specific criteria recognize that dissolved oxygen is naturally depressed below the default criteria in the rivers due to their extensive marsh systems. The PMKOH segment failed the Summer Open Water 30-day dissolved oxygen criteria.

The TMDL was approved by the EPA on 12/29/2010; therefore, the mainstem was considered Category 4A

During the 2012 cycle, the Pamunkey Oligohaline segment was in attainment of both the site-specific 30-day open water summer DO criteria and the 30-day Rest of Year DO criteria.

The Open Water summer 30-day mean failed again during the 2014 cycle; therefore, the entire estuary was impaired for dissolved oxygen (Category 4A).

In the 2016 cycle, the Pamunkey Oligohaline segment was again in attainment of every Chesapeake Bay dissolved oxygen criteria which was measured. However, EPA considers there to be insufficient information to assess the Migratory Spawning Use or the other Open Water Use's dissolved oxygen frequency criteria, and therefore the mainstem must remain impaired due to EPA's overlisting (Category 4D). The tributaries to the segment were partially delisted (Category 2C.)

The segment continued to meet the 30-day mean dissolved oxygen criteria in the 2018 cycle.

Previously PMKOH-BNUT-BAY

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_PMK05A18 / Pamunkey River / 0.5 miles above station 8-PMK017.90 downstream to Sweet Hall Landing.	4D	Oxygen, Dissolved	1998	L	0.113
PMKOH					
VAP-F14E_PMK05B00 / Pamunkey River / Tidal freshwater/oligohaline boundary at approximately river mile 23.6 downstream to 0.5 mile above station 8-PMK017.90	4D	Oxygen, Dissolved	1998	L	1.193
PMKOH					
VAP-F14E_PMK06A00 / Pamunkey River / Sweet Hall Landing to upstream boundary of VDH-DSS SFC 049-004A, 8/3/2015	4D	Oxygen, Dissolved	1998	L	3.382
PMKOH					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAP-F14E_PMK06B06 / Pamunkey River / VDH-DSS SFC 004A, 8/3/2015 to mesohaline boundary	D	Oxygen, Dissolved	1998	L	0.584

PMKOH

Pamunkey River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**5.272**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* PMKTF-DO-BAY Pamunkey River**

Cause Location: The tidal freshwater Pamunkey River mainstem.

City / County: Hanover Co. King William Co. New Kent Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4D

The tidal Pamunkey River was initially listed on the 1998 303(d) list as fully supporting but threatened of the Aquatic Life Use goal because a 1995 special study showed river subject to 33% violation rate of daily mean DO standard during warm weather conditions May through October. The estuarine Pamunkey River was considered fully allocated relative to dissolved oxygen and new discharges could not result in further DO depression.

The Chesapeake Bay and its tidal tributaries were added by the EPA to the 1998 303(d) list. EPA listed the impairment as dissolved oxygen exceedances caused by nutrient overenrichment. This listing included the entire mainstem estuarine Pamunkey River.

During the 2006 cycle, the new Chesapeake Bay water quality standards were adopted. The tidal freshwater Pamunkey segment failed the default CB 30-day open water summer dissolved oxygen criteria of 5.5 mg/L. Water quality standards specific for the Pamunkey and Mattaponi Rivers were adopted and the new criteria were used in the 2008 cycle. The specific criteria recognize that dissolved oxygen is naturally depressed in the rivers due to their extensive marsh systems. The Pamunkey Tidal Freshwater segment is in attainment of both the site-specific 30-day open water summer DO criteria and the 30-day Rest of Year DO criteria. The Shallow Water Use is fully supporting the SAV acreage criteria.

Although the Pamunkey Tidal Freshwater segment is in attainment of every Chesapeake Bay criteria which are measured, the EPA considers there to be insufficient information to assess the Migratory Spawning Use or the other Open Water Use's dissolved oxygen frequency criteria; therefore, the mainstem must remain impaired due to EPA's overlisting.

The Chesapeake Bay TMDL was approved by the EPA on 12/31/2010. The Pamunkey is a Cat 4D water. The tributaries are considered Category 2C.

Previously PMKTF-BNUT-BAY

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F13E_PMK01A98 / Pamunkey River / Extent of tide near Totopotomoy Creek to Pampatike Landing.	4D	Oxygen, Dissolved	1998	L	0.307
PMKTF					
VAP-F13E_PMK02A98 / Pamunkey River / Pampatike Landing downstream to Jacks Creek.	4D	Oxygen, Dissolved	1998	L	0.783
PMKTF					
VAP-F13E_PMK03A06 / Pamunkey River / Jacks Creek downstream to Macon Creek.	4D	Oxygen, Dissolved	1998	L	0.115
PMKTF					
VAP-F14E_PMK02A00 / Pamunkey River / Macon Creek to downstream extent of tidal freshwater segment at approximately river mile 23.6	4D	Oxygen, Dissolved	1998	L	3.638
PMKTF					

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

Pamunkey River

Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**4.843**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* YRKMH-DO-BAY Chesapeake Bay segment YRKMH**

Cause Location: The York mesohaline segment, including the applicable portions of the Pamunkey and Mattaponi Rivers.

City / County: Gloucester Co. James City Co. King And Queen Co. King William Co. New Kent Co.
Williamsburg City York Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A

The Pamunkey River was initially listed on the 1998 303(d) list as fully supporting but threatened of the aquatic life use goal because a 1995 special study showed river subject to 33% exceedance rate of daily mean DO standard during warm weather conditions May through October. The estuarine Pamunkey River is considered fully allocated relative to dissolved oxygen; new discharges cannot result in further DO depression.

The Chesapeake Bay and its tidal tributaries were added by the EPA to the 1998 303(d) list. EPA listed the impairment as dissolved oxygen exceedances caused by nutrient overenrichment. This listing included the entire mainstem estuarine York, Pamunkey, and Mattaponi Rivers.

New Chesapeake Bay water quality standards have since been adopted. During the 2018 cycle, the mesohaline York segment (which includes the mouths of the Pamunkey and Mattaponi Rivers) failed the 30-day mean open water summer dissolved oxygen criteria. The rest-of-year criteria was met.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010. The segment is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_PMK07A04 / Pamunkey River / Mesohaline boundary to mouth	4A	Oxygen, Dissolved	1998	L	0.398
YRKMH					
VAP-F14E_ZZZ03A06 / Unsegmented estuaries in F14 / Unsegmented portion of the watershed within YRKMH	4A	Oxygen, Dissolved	2006	L	0.077
VAP-F25E_MPN06A04 / Mattaponi River / The Mattaponi mainstem within VDH advisory 049-004D, 8/3/2015.	4A	Oxygen, Dissolved	2006	L	0.209
YRKMH					
VAP-F25E_MPN06B06 / Mattaponi River / DS of VDH-DSS condemnation 049-004D to mouth at York River.	4A	Oxygen, Dissolved	2006	L	0.641
YRKMH					
VAP-F25E_ZZZ03A06 / Unsegmented estuaries in F25 / Unsegmented portion of the watershed within SFC 049-004D, 8/3/2015.	4A	Oxygen, Dissolved	2006	L	0.031
YRKMH					
VAT-F26E_ABD01A00 / Aberdeen Creek - Upper / Southeast of Clay Bank, south of Rt. 631. From the end of tidal waters downstream to the end of Shellfish Condem. Portion of CBP segment YRKMH. Portion of DSS shellfish direct harvesting condemnation # 047-078 A (effective 8/4/2015).	4A	Oxygen, Dissolved	2006	L	0.106
VAT-F26E_ABD01B08 / Aberdeen Creek - Mouth / Southeast of Clay Bank, south of Rt. 631. From the end of TMDL (07) coverage downstream to the mouth. Portion of CBP segment YRKMH. Open DSS shellfish direct harvesting condemnation # 047-078 8/04/2015).	4A	Oxygen, Dissolved	2006	L	0.010

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAT-F26E_ADM01A00 / Adams Creek-Upper / Eastern shore of York River near Purtan Island. CBP segment YRKMH. DSS shellfish condemnation # 048-128 B (effective 7/26/2016).	4A	Oxygen, Dissolved	2006	L	0.116
VAT-F26E_ADM01B12 / Adams Creek- Lower / Eastern shore of York River near Purtan Island. CBP segment YRKMH. Portion of 1998 impairment open in DSS shellfish condemnation # 048-128 (effective 7/26/2016).	4A	Oxygen, Dissolved	2006	L	0.072
VAT-F26E_BAK01A00 / Bakers Creek / North shore York R SE of West Point Municipal Airport & NW of Hockley Cr. Estuarine portion of creek. CBP segment YRKMH. DSS Condemnation 049-004 OPEN (20150803).	4A	Oxygen, Dissolved	2006	L	0.039
VAT-F26E_BKS01A08 / Baker Creek / South shore trib to York R. S of Plum Pt. & E of Davis Pond. Estuarine portion of creek with York River. CBP segment YRKMH. DSS Condem 049-004 A (20150803)	4A	Oxygen, Dissolved	2006	L	0.017
VAT-F26E_BND01A06 / Bland Creek / North shore York R west of Sassafras. Estuarine portion of creek, from the tidal limit to mouth. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation.	4A	Oxygen, Dissolved	2006	L	0.051
VAT-F26E_CTC01A06 / Carter Creek / Located in York County near Skimino. From estuarine/riverine transition to mouth. CBP segment YRKMH. Portion of DSS condemnation # 050-087 B, 20150724.	4A	Oxygen, Dissolved	2006	L	0.025
VAT-F26E_FER01A08 / Ferry Creek / South shore trib to York R. SW of West Point. Estuarine portion of creek. From dam to confluence with York River. CBP segment YRKMH. Portion of DSS shellfish ADMIN condemnation # 049-004 A (effective 6/20/2012).	4A	Oxygen, Dissolved	2006	L	0.004
VAT-F26E_FOX01A06 / Fox Creek / North shore trib to York River. Located southeast of Allmondsville in Gloucester Co. From estuarine/riverine transition to mouth. CBP segment YRKMH. DSS condemnation # 047-072 A (effective 20160722).	4A	Oxygen, Dissolved	2006	L	0.016
VAT-F26E_HCK01A04 / Hockley Creek / North shore York R NW of Belleview. Estuarine portion of creek. CBP segment YRKMH. Portion of DSS condemnation # 049-004 C (effective 8/03/2015).	4A	Oxygen, Dissolved	2006	L	0.055
VAT-F26E_JNS01A00 / Jones Creek / NW of Clay Bank, between Rts 618 & 616. Portion of CBP segment YRKMH. Described in DSS shellfish direct harvesting condemnation # 047-072 (effective 20160722).	4A	Oxygen, Dissolved	2006	L	0.051
VAT-F26E_PHB01A00 / Philbates Creek / South shore trib to York R. NW of Belleview. Estuarine portion of creek. From dam to confluence with York River. CBP segment YRKMH. VDH-DSS 049-009 shellfish condemnation (effective 20150803)	4A	Oxygen, Dissolved	2006	L	0.013
VAT-F26E_PTK01A00 / Poropotank River / North shore of York River near Purtan Island. Forms boundary of King and Queen/Gloucester Co. From end of tidal waters downstream to end of DSS condemnation # 048-128A, 7/26/2016. CBP segment YRKMH.	4A	Oxygen, Dissolved	2006	L	0.451
VAT-F26E_PTK02A08 / Morris Bay at mouth of Poropotank River / From end of the upstream DSS condemnation downstream to the mouth. CBP segment YRKMH. DSS shellfish direct harvesting OPEN condemnation # 048-128 (effective date 20160726).	4A	Oxygen, Dissolved	2006	L	0.606
VAT-F26E_PTN01A08 / Purtan & Leigh Creeks / North shore of York River at Purtan Bay. Forms headwaters of Purtan Bay. CBP segment YRKMH. DSS shellfish condemnation # 048-128 C(effective 20160726).	4A	Oxygen, Dissolved	2006	L	0.187

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAT-F26E_QEN01A02 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of tidal waters (below dam at Waller Mill Res.) downstream to end of DSS shellfish condemnation # 051-035 A, 7/16/2010. CBP segment YRKMH. Split in 2012 cycle.	4A	Oxygen, Dissolved	1998	L	0.296
VAT-F26E_QEN01B12 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of DSS shellfish condemnation # 051-035 (20110317). downstream to mouth. CBP segment YRKMH.	4A	Oxygen, Dissolved	1998	L	0.136
VAT-F26E_RBN01A08 / Robinson Creek / North shore York R SE of West Point Municipal Airport. Estuarine portion of creek. CBP segment YRKMH. Part of VDH-DSS OPEN condemnation 049-004 (effective 20150803)	4A	Oxygen, Dissolved	2006	L	0.012
VAT-F26E_SKM01A00 / Skimino Creek / North of Skimino Farms. Boundary of James City/York Co. From estuarine/riverine transition (dam at Barlows Pond, Rt 604) to mouth. CBP segment YRKMH. DSS shellfish condemnation # 050-087 A (effective 20150724).	4A	Oxygen, Dissolved	2006	L	0.174
VAT-F26E_SND01A08 / Sandy Creek / North shore York R near Allmondsville. Estuarine portion of creek, from the tidal limit to mouth. CBP segment YRKMH. DSS (OPEN) shellfish direct harvesting condemnation # 047-072, 20160722.	4A	Oxygen, Dissolved	2006	L	0.007
VAT-F26E_TSK01A00 / Taskinas Creek / West of Purtan Island, south of Croaker Landing. From end of tidal waters downstream to mouth. CBP segment YRKMH. DSS shellfish condemnation # 050-073 B (effective 20160728).	4A	Oxygen, Dissolved	2006	L	0.026
VAT-F26E_WRE01A00 / Ware Creek / South of Terrapin Pt., W of Purtan Island. From end of tidal waters downstream to mouth; includes piece of York SF Condem, CBP segment YRKMH. DSS shellfish condemnation # 050-073 A (effective 20160728).	4A	Oxygen, Dissolved	2006	L	0.133
VAT-F26E_YRK01A04 / York River / York River at Goalders Creek downstream to the boundary of DSS OPEN condemnation # 049-004 (effective 20150803). CBP segment YRKMH.	4A	Oxygen, Dissolved	2006	L	4.796
VAT-F26E_YRK01B10 / York River / Start of York River at West Point (RM 32.0) downstream to the boundary of ADMIN COND # 049-004 A (effective 8/03/2015), approx. Goff Point . CBP segment YRKMH.	4A	Oxygen, Dissolved	2006	L	1.086
VAT-F26E_YRK01C12 / York River-at Hockley Cr / York River segment at mouth of Hockley Cr within VDH DSS Condemnation 049-004 C, 8/3/2015. CB Seg - YRKMH.	4A	Oxygen, Dissolved	2006	L	0.029
VAT-F26E_YRK01D12 / York River / Portion of York River within VDH Seasonal Condem 0049-004 effective date 20150803 YRKMH	4A	Oxygen, Dissolved	2006	L	0.042
VAT-F26E_YRK01E14 / York River / York River from Goff Point (end of Admin Condem) to Goalders Creek. VDH new Restricted Condemnation 049-004 A 8/3/2015 . CBP segment YRKMH.	4A	Oxygen, Dissolved	2006	L	1.753
VAT-F26E_YRK02A14 / York River (Lower Middle MSN) / Segment starts south of New Kent and James City Boundary and extends downstream to the MSN boundary near Mt. Folly/Poropotank Bay. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	4A	Oxygen, Dissolved	2006	L	2.680

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VAT-F26E_YRK03A00 / York River (Lower Middle) / Segment starts at end of MSN boundary near Mt. Folly/Poropotank Bay and extends downstream to the mesohaline/polyhaline boundary. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	4A	Oxygen, Dissolved	2006	L	20.372
VAT-F26E_YRK03B12 / York River (Lower Middle) / Portion of York River at Carter Creek north of Camp Peary. Within VDH-DSS condemnation 050-087 B, 20150724. CB segment YRKMH.	4A	Oxygen, Dissolved	2006	L	0.023
VAT-F26E_ZZZ01A00 / Unsegmented estuaries in F26E / Non-segmented areas of F26E (N shore York R. trib SW of Gressit) within MSN area. CBP segment YRKMH. DSS (OPEN) shellfish direct harvesting condemnation # 049-004 (effective 20150803)	4A	Oxygen, Dissolved	2006	L	0.008
VAT-F26E_ZZZ01B06 / Unsegmented estuaries in F26E / Non-segmented areas of F26E (N shore York R. tribs, upstream of Poropotank R.) below MSN boundary. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	4A	Oxygen, Dissolved	2006	L	0.072
VAT-F26E_ZZZ02A06 / Unsegmented estuaries in F26E / Non-segmented areas within VDH-DSS OPEN condemnation 049-004 (effective 20150803). Includes Goalders Creek. CBP segment YRKMH.	4A	Oxygen, Dissolved	2006	L	0.038
VAT-F26E_ZZZ02B18 / Unsegmented SF Condemned estuaries in F26E / Non-segmented areas within VDH-DSS Restricted condemnation 049-004 A (effective 20150803). CBP segment YRKMH.	4A	Oxygen, Dissolved	2006	L	0.039

Chesapeake Bay segment YRKMH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**34.892**		

Sources:

- Agriculture
- Atmospheric Deposition - Nitrogen
- Industrial Point Source Discharge
- Internal Nutrient Recycling
- Loss of Riparian Habitat
- Municipal Point Source Discharges
- Sources Outside State Jurisdiction or Borders
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* YRKMH-SAV-BAY Chesapeake Bay segment YRKMH**

Cause Location: The York mesohaline segment, including the applicable portions of the Pamunkey and Mattaponi Rivers.

City / County: Gloucester Co. James City Co. King And Queen Co. King William Co. New Kent Co.
Williamsburg City York Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

During the 2006 cycle, the Chesapeake Bay water quality standards were adopted. The mesohaline York segment (which includes the mouths of the Pamunkey and Mattaponi Rivers) fails the Shallow Water Subuse's submerged aquatic vegetation (SAV) acreage requirements. There is insufficient data to assess the water clarity acreage criteria.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010. YRKMH is considered Category 4A.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAP-F14E_PMK07A04 / Pamunkey River / Mesohaline boundary to mouth	4A	Aquatic Plants (Macrophytes)	2006	L	0.398
YRKMH					
VAP-F14E_ZZZ03A06 / Unsegmented estuaries in F14 / Unsegmented portion of the watershed within YRKMH	4A	Aquatic Plants (Macrophytes)	2006	L	0.077
VAP-F25E_MPN06A04 / Mattaponi River / The Mattaponi mainstem within VDH advisory 049-004D, 8/3/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.209
YRKMH					
VAP-F25E_MPN06B06 / Mattaponi River / DS of VDH-DSS condemnation 049-004D to mouth at York River.	4A	Aquatic Plants (Macrophytes)	2006	L	0.641
YRKMH					
VAP-F25E_ZZZ03A06 / Unsegmented estuaries in F25 / Unsegmented portion of the watershed within SFC 049-004D, 8/3/2015.	4A	Aquatic Plants (Macrophytes)	2006	L	0.031
YRKMH					
VAT-F26E_ABD01A00 / Aberdeen Creek - Upper / Southeast of Clay Bank, south of Rt. 631. From the end of tidal waters downstream to the end of Shellfish Condem. Portion of CBP segment YRKMH. Portion of DSS shellfish direct harvesting condemnation # 047-078 A (effective 8/4/2015).	4A	Aquatic Plants (Macrophytes)	2006	L	0.106
VAT-F26E_ABD01B08 / Aberdeen Creek - Mouth / Southeast of Clay Bank, south of Rt. 631. From the end of TMDL (07) coverage downstream to the mouth. Portion of CBP segment YRKMH. Open DSS shellfish direct harvesting condemnation # 047-078 8/04/2015).	4A	Aquatic Plants (Macrophytes)	2006	L	0.010
VAT-F26E_ADM01A00 / Adams Creek-Upper / Eastern shore of York River near Purtan Island. CBP segment YRKMH. DSS shellfish condemnation # 048-128 B (effective 7/26/2016).	4A	Aquatic Plants (Macrophytes)	2006	L	0.116
VAT-F26E_ADM01B12 / Adams Creek- Lower / Eastern shore of York River near Purtan Island. CBP segment YRKMH. Portion of 1998 impairment open in DSS shellfish condemnation # 048-128 (effective 7/26/2016).	4A	Aquatic Plants (Macrophytes)	2006	L	0.072

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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VAT-F26E_BAK01A00 / Bakers Creek / North shore York R SE of West Point Municipal Airport & NW of Hockley Cr. Estuarine portion of creek. CBP segment YRKMH. DSS Condemnation 049-004 OPEN (20150803).	4A	Aquatic Plants (Macrophytes)	2006	L	0.039
VAT-F26E_BKS01A08 / Baker Creek / South shore trib to York R. S of Plum Pt. & E of Davis Pond. Estuarine portion of creek with York River. CBP segment YRKMH. DSS Condem 049-004 A (20150803)	4A	Aquatic Plants (Macrophytes)	2006	L	0.017
VAT-F26E_BND01A06 / Bland Creek / North shore York R west of Sassafras. Estuarine portion of creek, from the tidal limit to mouth. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	0.051
VAT-F26E_CTC01A06 / Carter Creek / Located in York County near Skimino. From estuarine/riverine transition to mouth. CBP segment YRKMH. Portion of DSS condemnation # 050-087 B, 20150724.	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
VAT-F26E_FER01A08 / Ferry Creek / South shore trib to York R. SW of West Point. Estuarine portion of creek. From dam to confluence with York River. CBP segment YRKMH. Portion of DSS shellfish ADMIN condemnation # 049-004 A (effective 6/20/2012).	4A	Aquatic Plants (Macrophytes)	2006	L	0.004
VAT-F26E_FOX01A06 / Fox Creek / North shore trib to York River. Located southeast of Allmondsville in Gloucester Co. From estuarine/riverine transition to mouth. CBP segment YRKMH. DSS condemnation # 047-072 A (effective 20160722).	4A	Aquatic Plants (Macrophytes)	2006	L	0.016
VAT-F26E_HCK01A04 / Hockley Creek / North shore York R NW of Belleview. Estuarine portion of creek. CBP segment YRKMH. Portion of DSS condemnation # 049-004 C (effective 8/03/2015).	4A	Aquatic Plants (Macrophytes)	2006	L	0.055
VAT-F26E_JNS01A00 / Jones Creek / NW of Clay Bank, between Rts 618 & 616. Portion of CBP segment YRKMH. Described in DSS shellfish direct harvesting condemnation # 047-072 (effective 20160722).	4A	Aquatic Plants (Macrophytes)	2006	L	0.051
VAT-F26E_PHB01A00 / Philbates Creek / South shore trib to York R. NW of Belleview. Estuarine portion of creek. From dam to confluence with York River. CBP segment YRKMH. VDH-DSS 049-009 shellfish condemnation (effective 20150803)	4A	Aquatic Plants (Macrophytes)	2006	L	0.013
VAT-F26E_PTK01A00 / Poropotank River / North shore of York River near Purtan Island. Forms boundary of King and Queen/Gloucester Co. From end of tidal waters downstream to end of DSS condemnation # 048-128A, 7/26/2016. CBP segment YRKMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.451
VAT-F26E_PTK02A08 / Morris Bay at mouth of Poropotank River / From end of the upstream DSS condemnation downstream to the mouth. CBP segment YRKMH. DSS shellfish direct harvesting OPEN condemnation # 048-128 (effective date 20160726).	4A	Aquatic Plants (Macrophytes)	2006	L	0.606
VAT-F26E_PTN01A08 / Purtan & Leigh Creeks / North shore of York River at Purtan Bay. Forms headwaters of Purtan Bay. CBP segment YRKMH. DSS shellfish condemnation # 048-128 C(effective 20160726).	4A	Aquatic Plants (Macrophytes)	2006	L	0.187
VAT-F26E_QEN01A02 / Queens Creek / South shore York River, south of Camp Peary Naval Reservation. From end of tidal waters (below dam at Waller Mill Res.) downstream to end of DSS shellfish condemnation # 051-035 A, 7/16/2010. CBP segment YRKMH. Split in 2012 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.296
VAT-F26E_QEN01B12 / Queens Creek / South shore York River,	4A	Aquatic Plants (Macrophytes)	2006	L	0.136

south of Camp Peary Naval Reservation. From end of DSS shellfish condemnation # 051-035 (20110317). downstream to mouth. CBP segment YRKMH.					
VAT-F26E_RBN01A08 / Robinson Creek / North shore York R SE of West Point Municipal Airport. Estuarine portion of creek. CBP segment YRKMH. Part of VDH-DSS OPEN condemnation 049-004 (effective 20150803)	4A	Aquatic Plants (Macrophytes)	2006	L	0.012
VAT-F26E_SKM01A00 / Skimino Creek / North of Skimino Farms. Boundary of James City/York Co. From estuarine/riverine transition (dam at Barlows Pond, Rt 604) to mouth. CBP segment YRKMH. DSS shellfish condemnation # 050-087 A (effective 20150724).	4A	Aquatic Plants (Macrophytes)	2006	L	0.174
VAT-F26E_SND01A08 / Sandy Creek / North shore York R near Allmondsville. Estuarine portion of creek, from the tidal limit to mouth. CBP segment YRKMH. DSS (OPEN) shellfish direct harvesting condemnation # 047-072, 20160722.	4A	Aquatic Plants (Macrophytes)	2006	L	0.007
VAT-F26E_TSK01A00 / Taskinas Creek / West of Purtan Island, south of Croaker Landing. From end of tidal waters downstream to mouth. CBP segment YRKMH. DSS shellfish condemnation # 050-073 B (effective 20160728).	4A	Aquatic Plants (Macrophytes)	2006	L	0.026
VAT-F26E_WRE01A00 / Ware Creek / South of Terrapin Pt., W of Purtan Island. From end of tidal waters downstream to mouth; includes piece of York SF Condem, CBP segment YRKMH. DSS shellfish condemnation # 050-073 A (effective 20160728).	4A	Aquatic Plants (Macrophytes)	2006	L	0.133
VAT-F26E_YRK01A04 / York River / York River at Goalders Creek downstream to the boundary of DSS OPEN condemnation # 049-004 (effective 20150803). CBP segment YRKMH.	4A	Aquatic Plants (Macrophytes)	2006	L	4.796
VAT-F26E_YRK01B10 / York River / Start of York River at West Point (RM 32.0) downstream to the boundary of ADMIN COND # 049-004 A (effective 8/03/2015), approx. Goff Point . CBP segment YRKMH.	4A	Aquatic Plants (Macrophytes)	2006	L	1.086
VAT-F26E_YRK01C12 / York River-at Hockley Cr / York River segment at mouth of Hockley Cr within VDH DSS Condemnation 049-004 C, 8/3/2015. CB Seg - YRKMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.029
VAT-F26E_YRK01D12 / York River / Portion of York River within VDH Seasonal Condem 0049-004 effective date 20150803 YRKMH	4A	Aquatic Plants (Macrophytes)	2006	L	0.042
VAT-F26E_YRK01E14 / York River / York River from Goff Point (end of Admin Condem) to Goalders Creek. VDH new Restricted Condemnation 049-004 A 8/3/2015 . CBP segment YRKMH.	4A	Aquatic Plants (Macrophytes)	2006	L	1.753
VAT-F26E_YRK02A14 / York River (Lower Middle MSN) / Segment starts south of New Kent and James City Boundary and extends downstream to the MSN boundary near Mt. Folly/Poropotank Bay. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	4A	Aquatic Plants (Macrophytes)	2006	L	2.680
VAT-F26E_YRK03A00 / York River (Lower Middle) / Segment starts at end of MSN boundary near Mt. Folly/Poropotank Bay and extends downstream to the mesohaline/polyhaline boundary. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	4A	Aquatic Plants (Macrophytes)	2006	L	20.372
VAT-F26E_YRK03B12 / York River (Lower Middle) / Portion of York River at Carter Creek north of Camp Peary. Within VDH-DSS	4A	Aquatic Plants (Macrophytes)	2006	L	0.023

York River Basin

condemnation 050-087 B, 20150724. CB segment YRKMH.

VAT-F26E_ZZZ01A00 / Unsegmented estuaries in F26E / Non-segmented areas of F26E (N shore York R. trib SW of Gressit) within MSN area. CBP segment YRKMH. DSS (OPEN) shellfish direct harvesting condemnation # 049-004 (effective 20150803)	4A	Aquatic Plants (Macrophytes)	2006	L	0.008
VAT-F26E_ZZZ01B06 / Unsegmented estuaries in F26E / Non-segmented areas of F26E (N shore York R. tribs, upstream of Poropotank R.) below MSN boundary. CBP segment YRKMH. No DSS shellfish direct harvesting condemnation present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.072
VAT-F26E_ZZZ02A06 / Unsegmented estuaries in F26E / Non-segmented areas within VDH-DSS OPEN condemnation 049-004 (effective 20150803). Includes Goalders Creek. CBP segment YRKMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.038
VAT-F26E_ZZZ02B18 / Unsegmented SF Condemned estuaries in F26E / Non-segmented areas within VDH-DSS Restricted condemnation 049-004 A (effective 20150803). CBP segment YRKMH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.039

Chesapeake Bay segment YRKMH **Shallow-Water Submerged Aquatic Vegetation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**34.892**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* YRKPH-DO-BAY** **Chesapeake Bay segment YRKPH**

Cause Location: This cause encompasses the polyhaline portion of the York.

City / County: Gloucester Co. York Co.

Use(s): Aquatic Life Deep-Water Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4A Oxygen, Dissolved / 4D

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer and Rest of Year. There is insufficient data to assess the remaining shorter-term dissolved oxygen criteria for these uses. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_CDB01A00 / Cedarbush Creek - Upper [TMDL-bact] / North shore York River, NW of Catlett Islands. From the end of tidal waters downstream to the end of TMDL (07) coverage. Portion of CBP segment YRKPH. DSS shellfish direct harvesting condemnation # 047-078 C (effective 20150804).	4A	Oxygen, Dissolved	2006	L	0.078
VAT-F27E_CDB02A00 / Cedarbush Creek - Mouth / North shore York River, NW of Catlett Islands. CBP segment YRKPH. Portion of DSS shellfish condemnation # 047-078 C (20150804) not included in TMDL.	4A	Oxygen, Dissolved	2006	L	0.015
VAT-F27E_CDB03A16 / Cedarbush Creek (Mouth) / Mouth of Cedarbush Creek. CBP segment YRKPH. No DSS OPEN condemnation # 047-078 (effective 20130815).	4A	Oxygen, Dissolved	2006	L	0.090
VAT-F27E_CDB04A18 / UT to Cedarbush Creek / UT at Mouth of Cedarbush Creek. CBP segment YRKPH. RESTRICTED condemnation # 047-078 (effective 20150804).	4A	Oxygen, Dissolved	2006	L	0.029
VAT-F27E_CRT01A00 / Carter Cr. (Gloucester Co.) - Upper portion [TMDL-bact] / North shore York River, north of Catlett Islands. From the end of tidal waters downstream to the end of DSS condemnation 047-078B, 20150804 . Portion of CBP segment YRKPH. Split in 2012 cycle	4A	Oxygen, Dissolved	2006	L	0.180
VAT-F27E_CRT02A00 / Carter Cr. (Gloucester Co.) - Lower- Mouth / North shore York River, north of Catlett Islands. CBP segment YRKPH. DSS OPEN shellfish direct harvesting 047-078 (effective date 20150804).	4A	Oxygen, Dissolved	2006	L	0.177
VAT-F27E_FEL01A00 / Felgates Creek / South of Pennimon Spit, within Naval Weapons Station. Segment extends from headwaters downstream to mouth. CBP segment YRKPH. DSS Admin condemnation # 051-035 D (effective 7/16/2010)	4A	Oxygen, Dissolved	2006	L	0.236
VAT-F27E_IFC01A00 / Indian Field Creek / Southeast of Pennimon Spit, within Naval Weapons Station. CBP segment YRKPH. DSS condemnation (ADMINISTRATIVE) # 051-040 A (effective 2008-6-18).	4A	Oxygen, Dissolved	2006	L	0.108
VAT-F27E_KNG01A02 / King Creek - Upper / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From end of tidal waters downstream to end of DSS condemnation # 051-035C, 7/16/2010. CBP segment YRKPH. Shortened in 2012 cycle.	4A	Oxygen, Dissolved	2006	L	0.200

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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VAT-F27E_KNG02A02 / King Creek - Mouth / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From boundary of (OPEN) condemnation # 051-035 (7/16/2010) to mouth. CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.220
VAT-F27E_POP01A16 / Poplar Creek / Entirety of Poplar Creek. CBP segment YRKPH. No DSS condemnations.	4A	Oxygen, Dissolved	2006	L	0.146
VAT-F27E_PRN01A00 / Perrin River - Upper / North shore York River near Cuba Island. Described in DSS Restricted condemnation # 046-081A (effective 20150804). CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.052
VAT-F27E_PRN01C12 / Perrin River - Upper Middle / North shore York River near Cuba Island. Portion of DSS OPEN condemnation 046-081, 20150804. CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.025
VAT-F27E_PRN02A00 / Perrin River - Lower / North shore York River near Cuba Island. CBP segment YRKPH. Portion of DSS seasonal condemnation # 046-081 M1 (effective 20150814) addressed in the TMDL.	4A	Oxygen, Dissolved	2006	L	0.063
VAT-F27E_PRN02B12 / Perrin River - Lower Mouth / North shore York River near Cuba Island. CBP segment YRKPH. From boundary of DSS condemnation 81, 7/21/1996 to end of seasonal condemnation # 046-081 M1 (effective 20150814).	4A	Oxygen, Dissolved	2006	L	0.048
VAT-F27E_SRH01A00 / Sarah Creek - Northeast Branch / Sarah Creek is a North shore trib to York River near Gloucester Point. Northeast branch of Sarah Creek near Guinea Neck. DSS OPEN #046-052 B (20161011). CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.113
VAT-F27E_SRH01B10 / Sarah Creek - Northeast Branch, Upper / North shore trib to York River near Gloucester Point. Segment includes north branch off of the northeast branch of Sarah Creek. CBP segment YRKPH. Part of DSS condemnation # 046-052 B, 20161011.	4A	Oxygen, Dissolved	2010	L	0.029
VAT-F27E_SRH01D14 / Sarah Creek / North shore trib of York River near Gloucester Point. Segment extends from end of OPEN SF Condem 046-052 to end of TMDL area near Rt 642. CBP segment YRKPH. DSS condemnation # 046-052 M1 (effective 20161011).	4A	Oxygen, Dissolved	2010	L	0.062
VAT-F27E_SRH02A08 / Sarah Creek - Lower / North shore trib to York River near Gloucester Point. End of TMDL study area to mouth. CBP segment YRKPH. DSS seasonal condemnation # 046-052 M1 (effective 20161011).	4A	Oxygen, Dissolved	2008	L	0.026
VAT-F27E_SRH02B16 / Sarah Creek - Northeast Branch, Middle / North shore York River near Gloucester Point. Mainstem and tribs to the Northeast Branch. CBP segment YRKPH. DSS Restricted condemnation # 046-052 D (effective 10/11/2016).	4A	Oxygen, Dissolved	2010	L	0.021
VAT-F27E_SRW01A14 / Northwest Branch Sarah Creek / North shore York River near Gloucester Point. Segment extends from headwaters north of Rt 641 downstream to mouth of Northwest Br. DSS condemnation # 046-052 M1, A, C and E (effective 20161011). CBP segment YRKPH.	4A	Oxygen, Dissolved	2010	L	0.193
VAT-F27E_TMB01A00 / Timberneck Creek - Upper [TMDL-bact] / North shore York River, NE of Catlett Islands. From the end of tidal waters downstream to the end of DSS shellfish direct harvesting condemnation # 047-003 A (effective 20160722). Portion of CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.139

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAT-F27E_TMB01B12 / Timberneck Creek - Upper [TMDL-bact] / North shore York River, NE of Catlett Islands. From the end of DSS shellfish (Open) condemnation # 047-003 (effective 20160722). downstream to the end of TMDL (07) coverage. Portion of CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.077
VAT-F27E_TMB02A08 / Timberneck Creek - Middle / North shore York River, north of Catlett Islands. CBP segment YRKPH. DSS (OPEN) shellfish direct harvesting condemnation # 047-003 (effective 7/22/2016).	4A	Oxygen, Dissolved	2008	L	0.034
VAT-F27E_TMB03A08 / Timberneck Creek - Mouth / North shore York River, north of Catlett Islands. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation present.	4A	Oxygen, Dissolved	2008	L	0.188
VAT-F27E_WOR01A08 / Wormley Creek / South shore York River near Amoco facility southeast of Gloucester Point. CBP segment YRKPH. Upstream portion of DSS (ADMINISTRATIVE) condemnation # 052-006 A (effective 2002-03-07).	4A	Oxygen, Dissolved	2008	L	0.283
VAT-F27E_YRK01A00 / York River - Lower Middle / The polyhaline boundary downstream to line from Roosevelt Pond N to Mumfort Islands at RM 7.49, excluding otherwise segmented DSS shellfish condemnation areas. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	4A	Oxygen, Dissolved	2006	L	10.393
YRKPH					
VAT-F27E_YRK01B00 / York R - DSS AdminCond @ Cheatham Annex/Camp Peary / Segment adjacent to Cheatham Annex, VDH-DSS condemnation 051-035 B (effective 7/16/2010) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.260
VAT-F27E_YRK01C00 / York R - DSS AdminCond @ Naval Weapons Station / Segment adjacent to Yorktown Naval Weapons Sta., VDH-DSS condemnation 051-040 B (effective 20080618) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.236
VAT-F27E_YRK01D06 / York River - Yorktown Beach / Yorktown Beach VDH bathing area. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	4A	Oxygen, Dissolved	2006	L	0.024
VAT-F27E_YRK01E06 / York River - Gloucester Point Beach / Gloucester Point Beach VDH bathing area. CBP segment YRKPH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 046-027 (effective 20120808).	4A	Oxygen, Dissolved	2006	L	0.018
VAT-F27E_YRK02A00 / York River - Lower / Segment starts at line across river from Roosevelt Pond to Mumfort Islands (RM 7.49), downstream to mouth (RM 0.0) near Thoroughfare Creek. CBP segment YRKPH. No DSS shellfish condemnation.	4A	Oxygen, Dissolved	2004	L	11.657
VAT-F27E_YRK02B00 / York R - DSS AdminCond @ HRSD York STP/Amoco / Described in VDH-DSS (ADMINISTRATIVE) shellfish condemnation 052-006 B&C (effective 20020307) adjacent Wormley Cr., HRSD STP & power plant and refinery. CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	0.508
VAT-F27E_YRK02C00 / York River - DSS AdminCond @ Wormley to USCG / Segment on Yorktown side (south shore) of river. DSS (ADMINISTRATIVE) shellfish condemnation # 052-006 A (effective 2002-03-07) (portion in York R), from Wormley Cr. to USCG Station, S shore to mid-channel. CBP segment YRKPH.	4A	Oxygen, Dissolved	2006	L	2.698

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAT-F27E_YRK02D12 / York River - Lower / Portion of York River within VDH-DSS seasonal condemnation 046-052M1, 20161011. CBP segment YRKPH.	4A	Oxygen, Dissolved	2004	L	0.139
VAT-F27E_ZZZ01A00 / Unsegmented estuaries in F27E / Non-segmented estuarine areas of F27E - Lower York River. Primarily north shore tribs between Cedarbush and Timberneck Creeks. CBP segment YRKPH. No DSS condemnations.	4A	Oxygen, Dissolved	2006	L	0.112

Chesapeake Bay segment YRKPH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	**28.874**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

Cause Group Code: YRKPH-EBEN-BAY **York River - BIBI YRPHa segments**

Cause Location: This cause encompasses the polyhaline BIBI segment YRKPHa portions of the mainstem York River.

City / County: Gloucester Co. York Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Estuarine Bioassessments / 5A

The Chesapeake Bay BIBI assessment is impaired for YRKPHa. Previously this segment was delisted in 2012 and had insufficient data up until now.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_YRK01A00 / York River - Lower Middle / The polyhaline boundary downstream to line from Roosevelt Pond N to Mumfort Islands at RM 7.49, excluding otherwise segmented DSS shellfish condemnation areas. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation. YRKPH	5A	Estuarine Bioassessments	2004	L	10.393
VAT-F27E_YRK01B00 / York R - DSS AdminCond @ Cheatham Annex/Camp Peary / Segment adjacent to Cheatham Annex, VDH-DSS condemnation 051-035 B (effective 7/16/2010) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	5A	Estuarine Bioassessments	2004	L	0.260
VAT-F27E_YRK01C00 / York R - DSS AdminCond @ Naval Weapons Station / Segment adjacent to Yorktown Naval Weapons Sta., VDH-DSS condemnation 051-040 B (effective 20080618) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	5A	Estuarine Bioassessments	2004	L	0.236
VAT-F27E_YRK01D06 / York River - Yorktown Beach / Yorktown Beach VDH bathing area. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	5A	Estuarine Bioassessments	2006	L	0.024
VAT-F27E_YRK01E06 / York River - Gloucester Point Beach / Gloucester Point Beach VDH bathing area. CBP segment YRKPH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 046-027 (effective 20120808).	5A	Estuarine Bioassessments	2006	L	0.018
VAT-F27E_YRK02A00 / York River - Lower / Segment starts at line across river from Roosevelt Pond to Mumfort Islands (RM 7.49), downstream to mouth (RM 0.0) near Thoroughfare Creek. CBP segment YRKPH. No DSS shellfish condemnation.	5A	Estuarine Bioassessments	2004	L	11.657
VAT-F27E_YRK02B00 / York R - DSS AdminCond @ HRSD York STP/Amoco / Described in VDH-DSS (ADMINISTRATIVE) shellfish condemnation 052-006 B&C (effective 20020307) adjacent Wormley Cr., HRSD STP & power plant and refinery. CBP segment YRKPH.	5A	Estuarine Bioassessments	2004	L	0.508
VAT-F27E_YRK02C00 / York River - DSS AdminCond @ Wormley to USCG / Segment on Yorktown side (south shore) of river. DSS (ADMINISTRATIVE) shellfish condemnation # 052-006 A (effective 2002-03-07) (portion in York R), from Wormley Cr. to USCG Station, S shore to mid-channel. CBP segment YRKPH.	5A	Estuarine Bioassessments	2004	L	2.698
VAT-F27E_YRK02D12 / York River - Lower / Portion of York River within VDH-DSS seasonal condemnation 046-052M1, 20161011. CBP segment YRKPH.	5A	Estuarine Bioassessments	2018	L	0.139

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

York River - BIBI YRPHa segments **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**25.933**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

***Cause Group Code:* YRKPH-SAV-BAY Chesapeake Bay segment YRKPH**

Cause Location: This cause encompasses the polyhaline portion of the York.

City / County: Gloucester Co. York Co.

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) / VA Category: Aquatic Plants (Macrophytes) / 4A

The Aquatic Life Use Aquatic Plants [Macrophytes] use is impaired for the 2016 cycle based on not meeting the SAV criteria. EPA approved Chesapeake Bay TMDL 12/29/2010.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAT-F27E_CDB01A00 / Cedarbush Creek - Upper [TMDL-bact] / North shore York River, NW of Catlett Islands. From the end of tidal waters downstream to the end of TMDL (07) coverage. Portion of CBP segment YRKPH. DSS shellfish direct harvesting condemnation # 047-078 C (effective 20150804).	4A	Aquatic Plants (Macrophytes)	2006	L	0.078
VAT-F27E_CDB02A00 / Cedarbush Creek - Mouth / North shore York River, NW of Catlett Islands. CBP segment YRKPH. Portion of DSS shellfish condemnation # 047-078 C (20150804) not included in TMDL.	4A	Aquatic Plants (Macrophytes)	2006	L	0.015
VAT-F27E_CDB03A16 / Cedarbush Creek (Mouth) / Mouth of Cedarbush Creek. CBP segment YRKPH. No DSS OPEN condemnation # 047-078 (effective 20130815).	4A	Aquatic Plants (Macrophytes)	2006	L	0.090
VAT-F27E_CDB04A18 / UT to Cedarbush Creek / UT at Mouth of Cedarbush Creek. CBP segment YRKPH. RESTRICTED condemnation # 047-078 (effective 20150804).	4A	Aquatic Plants (Macrophytes)	2006	L	0.029
VAT-F27E_CRT01A00 / Carter Cr. (Gloucester Co.) - Upper portion [TMDL-bact] / North shore York River, north of Catlett Islands. From the end of tidal waters downstream to the end of DSS condemnation 047-078B, 20150804 . Portion of CBP segment YRKPH. Split in 2012 cycle	4A	Aquatic Plants (Macrophytes)	2006	L	0.180
VAT-F27E_CRT02A00 / Carter Cr. (Gloucester Co.) - Lower- Mouth / North shore York River, north of Catlett Islands. CBP segment YRKPH. DSS OPEN shellfish direct harvesting 047-078 (effective date 20150804).	4A	Aquatic Plants (Macrophytes)	2006	L	0.177
VAT-F27E_FEL01A00 / Felgates Creek / South of Pennimon Spit, within Naval Weapons Station. Segment extends from headwaters downstream to mouth. CBP segment YRKPH. DSS Admin condemnation # 051-035 D (effective 7/16/2010)	4A	Aquatic Plants (Macrophytes)	2006	L	0.236
VAT-F27E_IFC01A00 / Indian Field Creek / Southeast of Pennimon Spit, within Naval Weapons Station. CBP segment YRKPH. DSS condemnation (ADMINISTRATIVE) # 051-040 A (effective 2008-6-18).	4A	Aquatic Plants (Macrophytes)	2006	L	0.108
VAT-F27E_KNG01A02 / King Creek - Upper / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From end of tidal waters downstream to end of DSS condemnation # 051-035C, 7/16/2010. CBP segment YRKPH. Shortened in 2012 cycle.	4A	Aquatic Plants (Macrophytes)	2006	L	0.200

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAT-F27E_KNG02A02 / King Creek - Mouth / South shore of York River. East of Pennimon Spit, within Naval Weapons Station facility. From boundary of (OPEN) condemnation # 051-035 (7/16/2010) to mouth. CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.220
VAT-F27E_POP01A16 / Poplar Creek / Entirety of Poplar Creek. CBP segment YRKPH. No DSS condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	0.146
VAT-F27E_PRN01A00 / Perrin River - Upper / North shore York River near Cuba Island. Described in DSS Restricted condemnation # 046-081A (effective 20150804). CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.052
VAT-F27E_PRN01C12 / Perrin River - Upper Middle / North shore York River near Cuba Island. Portion of DSS OPEN condemnation 046-081, 20150804. CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.025
VAT-F27E_PRN02A00 / Perrin River - Lower / North shore York River near Cuba Island. CBP segment YRKPH. Portion of DSS seasonal condemnation # 046-081 M1 (effective 20150814) addressed in the TMDL.	4A	Aquatic Plants (Macrophytes)	2006	L	0.063
VAT-F27E_PRN02B12 / Perrin River - Lower Mouth / North shore York River near Cuba Island. CBP segment YRKPH. From boundary of DSS condemnation 81, 7/21/1996 to end of seasonal condemnation # 046-081 M1 (effective 20150814).	4A	Aquatic Plants (Macrophytes)	2006	L	0.048
VAT-F27E_SRH01A00 / Sarah Creek - Northeast Branch / Sarah Creek is a North shore trib to York River near Gloucester Point. Northeast branch of Sarah Creek near Guinea Neck. DSS OPEN #046-052 B (20161011). CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.113
VAT-F27E_SRH01B10 / Sarah Creek - Northeast Branch, Upper / North shore trib to York River near Gloucester Point. Segment includes north branch off of the northeast branch of Sarah Creek. CBP segment YRKPH. Part of DSS condemnation # 046-052 B, 20161011.	4A	Aquatic Plants (Macrophytes)	2006	L	0.029
VAT-F27E_SRH01D14 / Sarah Creek / North shore trib of York River near Gloucester Point. Segment extends from end of OPEN SF Condem 046-052 to end of TMDL area near Rt 642. CBP segment YRKPH. DSS condemnation # 046-052 M1 (effective 20161011).	4A	Aquatic Plants (Macrophytes)	2006	L	0.062
VAT-F27E_SRH02A08 / Sarah Creek - Lower / North shore trib to York River near Gloucester Point. End of TMDL study area to mouth. CBP segment YRKPH. DSS seasonal condemnation # 046-052 M1 (effective 20161011).	4A	Aquatic Plants (Macrophytes)	2006	L	0.026
VAT-F27E_SRH02B16 / Sarah Creek - Northeast Branch, Middle / North shore York River near Gloucester Point. Mainstem and tribs to the Northeast Branch. CBP segment YRKPH. DSS Restricted condemnation # 046-052 D (effective 10/11/2016).	4A	Aquatic Plants (Macrophytes)	2006	L	0.021
VAT-F27E_SRW01A14 / Northwest Branch Sarah Creek / North shore York River near Gloucester Point. Segment extends from headwaters north of Rt 641 downstream to mouth of Northwest Br. DSS condemnation # 046-052 M1, A, C and E (effective 20161011). CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.193
VAT-F27E_TMB01A00 / Timberneck Creek - Upper [TMDL-bact] / North shore York River, NE of Catlett Islands. From the end of tidal waters downstream to the end of DSS shellfish direct harvesting condemnation # 047-003 A (effective 20160722). Portion of CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.139

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

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VAT-F27E_TMB01B12 / Timberneck Creek - Upper [TMDL-bact] / North shore York River, NE of Catlett Islands. From the end of DSS shellfish (Open) condemnation # 047-003 (effective 20160722). downstream to the end of TMDL (07) coverage. Portion of CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.077
VAT-F27E_TMB02A08 / Timberneck Creek - Middle / North shore York River, north of Catlett Islands. CBP segment YRKPH. DSS (OPEN) shellfish direct harvesting condemnation # 047-003 (effective 7/22/2016).	4A	Aquatic Plants (Macrophytes)	2006	L	0.034
VAT-F27E_TMB03A08 / Timberneck Creek - Mouth / North shore York River, north of Catlett Islands. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation present.	4A	Aquatic Plants (Macrophytes)	2006	L	0.188
VAT-F27E_WOR01A08 / Wormley Creek / South shore York River near Amoco facility southeast of Gloucester Point. CBP segment YRKPH. Upstream portion of DSS (ADMINISTRATIVE) condemnation # 052-006 A (effective 2002-03-07).	4A	Aquatic Plants (Macrophytes)	2006	L	0.283
VAT-F27E_YRK01A00 / York River - Lower Middle / The polyhaline boundary downstream to line from Roosevelt Pond N to Mumfort Islands at RM 7.49, excluding otherwise segmented DSS shellfish condemnation areas. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	10.393
YRKPH					
VAT-F27E_YRK01B00 / York R - DSS AdminCond @ Cheatham Annex/Camp Peary / Segment adjacent to Cheatham Annex, VDH-DSS condemnation 051-035 B (effective 7/16/2010) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.260
VAT-F27E_YRK01C00 / York R - DSS AdminCond @ Naval Weapons Station / Segment adjacent to Yorktown Naval Weapons Sta., VDH-DSS condemnation 051-040 B (effective 20080618) ADMINISTRATIVE condemnation due to National Security. CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.236
VAT-F27E_YRK01D06 / York River - Yorktown Beach / Yorktown Beach VDH bathing area. CBP segment YRKPH. No DSS shellfish direct harvesting condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	0.024
VAT-F27E_YRK01E06 / York River - Gloucester Point Beach / Gloucester Point Beach VDH bathing area. CBP segment YRKPH. Portion of DSS (OPEN) shellfish direct harvesting condemnation # 046-027 (effective 20120808).	4A	Aquatic Plants (Macrophytes)	2006	L	0.018
VAT-F27E_YRK02A00 / York River - Lower / Segment starts at line across river from Roosevelt Pond to Mumfort Islands (RM 7.49), downstream to mouth (RM 0.0) near Thoroughfare Creek. CBP segment YRKPH. No DSS shellfish condemnation.	4A	Aquatic Plants (Macrophytes)	2006	L	11.657
VAT-F27E_YRK02B00 / York R - DSS AdminCond @ HRSD York STP/Amoco / Described in VDH-DSS (ADMINISTRATIVE) shellfish condemnation 052-006 B&C (effective 20020307) adjacent Wormley Cr., HRSD STP & power plant and refinery. CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.508
VAT-F27E_YRK02C00 / York River - DSS AdminCond @ Wormley to USCG / Segment on Yorktown side (south shore) of river. DSS (ADMINISTRATIVE) shellfish condemnation # 052-006 A (effective 2002-03-07) (portion in York R), from Wormley Cr. to USCG Station, S shore to mid-channel. CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	2.698

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

York River Basin

VAT-F27E_YRK02D12 / York River - Lower / Portion of York River within VDH-DSS seasonal condemnation 046-052M1, 20161011. CBP segment YRKPH.	4A	Aquatic Plants (Macrophytes)	2006	L	0.139
VAT-F27E_ZZZ01A00 / Unsegmented estuaries in F27E / Non-segmented estuarine areas of F27E - Lower York River. Primarily north shore tribs between Cedarbush and Timberneck Creeks. CBP segment YRKPH. No DSS condemnations.	4A	Aquatic Plants (Macrophytes)	2006	L	0.112

Chesapeake Bay segment YRKPH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	**28.874**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N01R-01-BAC** **Big Horse Creek**

Cause Location: Tributary to North Fork New River in North Carolina. This is a loop that flows into Virginia from North Carolina and back into North Carolina. This segment was previously BHC01A02 and BUR01A02.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The ambient water quality monitoring station 9-BHO017.70 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_BHO01A02 / Big Horse Creek & tributaries / Tributary to North Fork New River in NC. This is a loop that flows into VA from NC and back into NC south of Whitetop. This segment was previously BHC01A02 and BUR01A02, WQS Section 2, iii.	5A	Escherichia coli	2004	M	7.90

Big Horse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.90**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_BHO01A02 / Big Horse Creek & tributaries / Tributary to North Fork New River in NC. This is a loop that flows into VA from NC and back into NC south of Whitetop. This segment was previously BHC01A02 and BUR01A02, WQS Section 2, iii.	5A	Fecal Coliform	2004	M	7.90

Big Horse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.90**

Sources:

Animal Feeding Operations (NPS)	Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N01R-02-BAC** **Little Helton Creek**

Cause Location: A tributary to Helton Creek. The segment extends from the Virginia state line upstream.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The ambient water quality monitoring station 9-LHC001.92 had a 58% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_LHC01A02 / Little Helton Creek & tributaries / From Virginia state line upstream to Haw Orchard in Grayson Highlands State Park, a tributary to Helton Creek, WQS Section 2, ii.	5A	Escherichia coli	2010	M	6.30

Little Helton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.30**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_LHC01A02 / Little Helton Creek & tributaries / From Virginia state line upstream to Haw Orchard in Grayson Highlands State Park, a tributary to Helton Creek, WQS Section 2, ii.	5A	Fecal Coliform	2004	M	6.30

Little Helton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.30**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N02R-02-BAC** **New River and Grassy Creek**

Cause Location: This segment begins at the North Carolina state line, includes Fields Dam, and extends downstream to the New River confluence with Saddle Creek at the Route 601 bridge. Grassy Creek from the headwaters downstream to the North Carolina state line and Bridle Creek, a tributary of the New River west of Rt. 601.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 9-NEW187.46 had an 18% exceedance of the E. coli water quality standard and station 9-NEW181.66 had a 18% exceedance. 9-NEW172.45 had 16% that exceeded WQS. Station 9-GRA003.36 had a 33% exceedance. Level III citizen data at station 9-BRL1-NCNR indicate a 46% violation rate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_BRL01A10 / Bridle Creek / Tributary of New River, west of Rt. 601, south of Rt. 58.	5A	Escherichia coli	2014	M	1.13
VAS-N02R_GRA01A10 / Grassy Creek / Headwaters to NC state line east of Quillen Ridge and parallel SR 725, WQS Section 2.	5A	Escherichia coli	2010	M	3.64
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina, WQS Section 2.	5A	Escherichia coli	2010	M	0.73
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox, WQS Section 2k.	5A	Escherichia coli	2010	M	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge, WQS Section 2k.	5A	Escherichia coli	2010	M	4.22
VAS-N04R_NEW01A98 / New River / Mainstem from Brush Creek confluence downstream to Peach Bottom Creek confluence, parallel to North Carolina state line, WQS Section 2.	5A	Escherichia coli	2012	M	5.98
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence, WQS Section 2.	5A	Escherichia coli	2010	M	1.47

New River and Grassy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.67**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina, WQS Section 2.	5A	Fecal Coliform	2004	M	0.73
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox, WQS Section 2k.	5A	Fecal Coliform	2004	M	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek	5A	Fecal Coliform	2004	M	4.22

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge, WQS Section 2k.

VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence, WQS Section 2.	A	Fecal Coliform	2004	M	1.47

New River and Grassy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**8.92**

Sources:

Grazing in Riparian or Shoreline Zones	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N02R-02-HG** **New River**

Cause Location: This segment begins at the upper mainstem at the North Carolina state line at river mile 189.06, and extends downstream to the Saddle Creek confluence, it includes the mainstem from the North Carolina line in N04 downstream to the confluence with Rock Creek and the mainstem from Buddle Branch downstream to the confluence with Reed Creek.

City / County: Grayson Co. Wythe Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station 9-NEW171.94 showed smallmouth bass, rock bass and carp exceeded the level of concern for Mercury; a second flathead catfish exceeded the Virginia Department of Health's level of concern. Station 9-NEW158.40 was monitored for sediment and fish tissue. Mercury exceeded the level of concern in several species. 9-NEW117.47 was monitored for sediment and fish tissue in 2004. Mercury was found in the fish tissue.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina, WQS Section 2.	5A	Mercury in Fish Tissue	2006	L	0.73
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox, WQS Section 2k.	5A	Mercury in Fish Tissue	2006	L	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge, WQS Section 2k.	5A	Mercury in Fish Tissue	2006	L	4.22
VAS-N04R_NEW01A98 / New River / Mainstem from Brush Creek confluence downstream to Peach Bottom Creek confluence, parallel to North Carolina state line, WQS Section 2.	5A	Mercury in Fish Tissue	2006	L	5.98
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence, WQS Section 2.	5A	Mercury in Fish Tissue	2008	L	1.47
VAS-N04R_NEW01C02 / New River / Mainstem west of Baywood, from Little River confluence downstream to Rock Creek confluence, WQS Section 2.	5A	Mercury in Fish Tissue	2006	L	4.68
VAS-N04R_NEW02A06 / New River / From Peach Bottom Creek confluence downstream to Little River confluence, WQS Section 2.	5A	Mercury in Fish Tissue	2010	L	3.61
VAS-N04R_NEW02B06 / New River / From NC state line downstream to Brush Creek confluence at Rt. 21/221 bridge, WQS Section 2.	5A	Mercury in Fish Tissue	2006	L	0.42
VAS-N08R_NEW03A06 / New River / Mainstem from I-77 bridge downstream to Reed Creek confluence near Lone Ash, WQS Section 2.	5A	Mercury in Fish Tissue	2006	L	6.51

New River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**30.12**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N02R-03-BAC** **Wilson Creek**

Cause Location: This segment includes the Wilson Creek mainstem from the New River confluence upstream to the Quebec Branch confluence.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM stations 9-WLS001.78 had a 30% and 9-WLS002.57 had a 27% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_WLS01A04 / Wilson Creek / Middle segment of Wilson Creek from mile 8.8 near Rugby, upstream to Quebec Branch confluence, WQS Section 2. Most is in National Forest.	5A	Escherichia coli	2018	M	4.62
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles, WQS Section 2. Parallel to Rt. 58, includes Volney.	5A	Escherichia coli	2010	M	8.90

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.52**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles, WQS Section 2. Parallel to Rt. 58, includes Volney.	5A	Fecal Coliform	2004	M	8.90

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.90**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N03R-01-BAC** **Fox Creek**

Cause Location: This segment includes the mainstem of Fox Creek from the Mill Creek confluence to the New River confluence, Middle Fox Creek from the Fox Creek confluence upstream 4.1 miles and Mill Creek from the confluence with Fox Creek upstream to the headwaters. Little Fox Creek is included in this segment and it extends from the Fox Creek confluence upstream 2.2 miles.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

Designated a natural trout stream. The AWQM station, 9-FXC003.35, had a 25% exceedance in the E. coli water quality standard, station 9-LFX000.06 had a 45% exceedance of the E.coli standards, stations 9-MIR000.13 and 9-MIR000.28 both had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N03R_FXC01A98 / Fox Creek / Mainstem of Fox Creek from Mill Creek confluence north of Grant to the New River confluence near Fox, WQS Section 2.	5A	Escherichia coli	2010	M	7.65
VAS-N03R_LFX01A10 / Little Fox Creek / A Fox Creek tributary downstream to confluence with Fox Creek, WQS Section 2, South of Grubbs Chapel, parallels Rt. 680.	5A	Escherichia coli	2010	M	2.28
VAS-N03R_MFX02A02 / Middle Fox Creek / From Fox Creek confluence upstream 4.4 miles, west of Buck Mountain, WQS Section 2, vi.	5A	Escherichia coli	2010	M	4.61
VAS-N03R_MIR01A02 / Mill Creek / From Fox Creek confluence north of Grant, upstream to origin on Pine Mountain, WQS Section 2, ii, parallels Rt. 739.	5A	Escherichia coli	2010	M	4.57

Fox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.11**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N03R_FXC01A98 / Fox Creek / Mainstem of Fox Creek from Mill Creek confluence north of Grant to the New River confluence near Fox, WQS Section 2.	5A	Fecal Coliform	2004	M	7.65

Fox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.65**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N04R-02-BAC** **Little River**

Cause Location: This segment includes the Little River mainstem from NC state line, river mile 5.20, to the confluence at New River.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station, 9-LVR001.34, had a 25% exceedance of the fecal coliform water quality standard in the 2004 WQA. The station was moved to 9-NEW002.65 in 2003 and had a 16% exceedance of the E. coli water quality standard. Stations 9-LVR002.65 had a 16% exceedance and 9-LVR007.16 had a 28% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_LVR01A98 / Little River / Little River mainstem east of Peach Bottom, from NC state line, river mile 5.20, to the confluence of New River, WQS Section 2.	5A	Escherichia coli	2012	M	6.55

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**6.55**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N04R-03-BAC** **Peach Bottom Creek**

Cause Location: This segment includes the mainstem from the headwaters downstream to the confluence with the New River. This also includes Rock Creek from the U.S. 21 crossing to the confluence with the New River.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-PBC001.12, had a 33% exceedance of the E.coli water quality standard, at 9-PBC008.61 25% exceed and at 9-RCK000.50 58% exceed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_PBC01A98 / Peach Bottom Creek / Mainstem from Beaverdam Creek confluence downstream to New River confluence parallel to SR 697, WQS Section 2.	5A	Escherichia coli	2006	M	2.81
VAS-N04R_PBC01B02 / Peach Bottom Creek / Peach Bottom Creek headwaters north of Buck Mountain, downstream to confluence of Little Peach Bottom Creek north of Independence, WQS Section 2, vi.	5A	Escherichia coli	2012	M	8.86
VAS-N04R_PBC01C04 / Peach Bottom Creek / East of Independence from Beaverdam Creek confluence, upstream to Little Peach Bottom Creek confluence, WQS Section 2.	5A	Escherichia coli	2016	M	5.34
VAS-N04R_RCK01A12 / Rock Creek / New River tributary from SR 654 near Chestnut Hill School downstream, northeast of Independence.	5A	Escherichia coli	2012	M	5.00

Peach Bottom Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**22.01**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_PBC01A98 / Peach Bottom Creek / Mainstem from Beaverdam Creek confluence downstream to New River confluence parallel to SR 697, WQS Section 2.	5A	Fecal Coliform	2004	M	2.81

Peach Bottom Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.81**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N04R-07-BAC** **Saddle Creek**

Cause Location: This segment includes the mainstem from the New River confluence upstream 3.09 miles, west of Independence.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station, 9-SDL000.05, had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_SDL01A06 / Saddle Creek / A New River tributary west of Independence, WQS Section 2.	5A	Escherichia coli	2006	M	3.17

Saddle Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.17**

Sources:

Animal Feeding Operations (NPS)	Livestock (Grazing or Feeding Operations)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N05R-01-BAC** **Elk Creek & Tributaries**

Cause Location: This segment includes Elk Creek from the Comers Rock Branch confluence downstream to the New River confluence, including 4.31 miles of Knob Fork and Middle Branch Elk Creek, west of Bennington Mill. It also includes the headwaters of Turkey Fork near Dry Run Gap on Iron Mountain.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM stations, 9-EKC000.11, 9-EKC003.78, 9-EKC010.47, 9-EKC012.13, 9-EKC017.51 and 9-KNB000.03 had exceedances of the E. coli water quality standard that ranged from 26-66%. Stations 9-ECM001.01 had a 76% exceedance and 9-TKY001.55 had a 100% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_ECM01A14 / Middle Branch Elk Creek / Elk Creek tributary west of Bennington Mill, Section 2.	4A	Escherichia coli	2016	L	3.06
VAS-N05R_EKC01A00 / Elk Creek / Lower Elk Creek from the Knob Fork confluence, north of Lundy Knob, downstream to the New River confluence, WQS Section 2,***.	4A	Escherichia coli	2006	L	3.32
VAS-N05R_EKC02A00 / Elk Creek / Upper Elk Creek from the Turkey Fork confluence, north of Poor Knob, downstream to Knob Fork confluence, WQS Section 2, ***.	4A	Escherichia coli	2006	L	7.59
VAS-N05R_EKC03A02 / Elk Creek / Mainstem from confluence of Comers Rock Branch near Bennington Mill, downstream to Turkey Fork confluence, WQS Section 2.	4A	Escherichia coli	2006	L	9.38
VAS-N05R_KNB01A06 / Knob Fork / Elk Creek tributary upstream to Farmers Branch, at The Pilot, NE of Brierpatch Mountain, WQS Section 2.	4A	Escherichia coli	2006	L	4.60
VAS-N05R_TKY01A02 / Turkey Fork / Headwaters near Dry Run Gap on Iron Mountain in Jefferson National Forest, WQS Section 2 iii.	4A	Escherichia coli	2018	L	6.00

Elk Creek & Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**33.95**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_EKC01A00 / Elk Creek / Lower Elk Creek from the Knob Fork confluence, north of Lundy Knob, downstream to the New River confluence, WQS Section 2,***.	4A	Fecal Coliform	2002	L	3.32
VAS-N05R_EKC02A00 / Elk Creek / Upper Elk Creek from the Turkey Fork confluence, north of Poor Knob, downstream to Knob Fork confluence, WQS Section 2, ***.	4A	Fecal Coliform	2002	L	7.59

Elk Creek & Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**10.91**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Rural (Residential Areas)
- Septage Disposal
- Sewage Discharges in Unsewered Areas
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N05R-01-BEN** **Elk Creek and Turkey Fork**

Cause Location: This segment includes the mainstem from the confluence of Comers Rock Branch downstream to Turkey Fork. It also includes the headwaters of Turkey Fork near Dry Run Gap on Iron Mountain.

City / County: Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Probabilistic Monitoring station located at 9-EKC013.81 was impaired based on VSCI scores of 47 and 45. Probabilistic Monitoring station 9-TKY001.55 was impaired based on VSCI scores of 40 and 39.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_EKC03A02 / Elk Creek / Mainstem from confluence of Comers Rock Branch near Bennington Mill, downstream to Turkey Fork confluence, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2008	L	9.38
VAS-N05R_TKY01A02 / Turkey Fork / Headwaters near Dry Run Gap on Iron Mountain in Jefferson National Forest, WQS Section 2 iii.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	6.00

Elk Creek and Turkey Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.38**

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N06R-01-BAC** **Chestnut Creek**

Cause Location: This segment extends from the confluence with Coal Creek downstream to river mile 14.27 at the Galax raw water intake and from river mile 14.27 downstream to the Allied-Signal Gossan mine discharge at river mile 8.06. It also includes Lower Chestnut Creek from the Skunk Branch confluence at the Allied Gossan mine, river mile 8.06, downstream to the confluence with New River.

City / County: Carroll Co. Galax City Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 9-CST0016.82, had a 20% exceedance of the E.coli water quality standard, station 9-CST002.64 25% exceeded WQS. Station 9-CST012.75 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_CST01A94 / Chestnut Creek / Lower Chestnut Creek from Skunk Branch confluence at Allied Gossan mine, river mile 8.06, downstream to the confluence with New River, WQS Section 2.	4A	Escherichia coli	2014	L	8.68
VAS-N06R_CST02A94 / Chestnut Creek / Segment extends from the City of Galax Water Treatment Plant intake, river mile 14.27, downstream to the Allied-Signal Gossan mine discharge, river mile 8.06, Section 2.	4A	Escherichia coli	2016	L	5.68
VAS-N06R_CST03A94 / Chestnut Creek / Segment extends from the southern Route 89 bridge, river mile 15.00, near the upstream Galax City limit, downstream to river mile 14.27, the Galax raw water intake, WQS Section 2h.	4A	Escherichia coli	2004	L	1.09
VAS-N06R_CST04A98 / Chestnut Creek / This is an upstream continuation of the public water supply segment for the City of Galax raw water intake extending upstream to Cox Mill, WQS Section 2h.	4A	Escherichia coli	2004	L	2.10

Chestnut Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.55**

Sources:

- Animal Feeding Operations (NPS)
- Crop Production (Crop Land or Dry Land)
- Livestock (Grazing or Feeding Operations)
- Rural (Residential Areas)
- Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N06R-01-BEN** **Chestnut Creek**

Cause Location: This segment includes the mainstem of Chestnut Creek from the Skunk Branch confluence downstream to the confluence with New River.

City / County: Carroll Co. Galax City Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The AWQM station, 9-CST002.64, historically indicated an impairment of the aquatic life use.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_CST01A94 / Chestnut Creek / Lower Chestnut Creek from Skunk Branch confluence at Allied Gossan mine, river mile 8.06, downstream to the confluence with New River, WQS Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	8.68
VAS-N06R_CST02A94 / Chestnut Creek / Segment extends from the City of Galax Water Treatment Plant intake, river mile 14.27, downstream to the Allied-Signal Gossan mine discharge, river mile 8.06, Section 2.	4A	Benthic-Macroinvertebrate Bioassessments	2004	L	5.68

Chestnut Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.36**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_CST01A94 / Chestnut Creek / Lower Chestnut Creek from Skunk Branch confluence at Allied Gossan mine, river mile 8.06, downstream to the confluence with New River, WQS Section 2.	4A	Sedimentation/Siltation	2010	L	8.68

Chestnut Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**8.68**

Sources:

Acid Mine Drainage	Crop Production (Crop Land or Dry Land)	Grazing in Riparian or Shoreline Zones	Mine Tailings
Silviculture Activities	Unrestricted Cattle Access	Urban Runoff/Storm Sewers	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N06R-03-BAC** **Meadow Creek & New River**

Cause Location: This segment includes Meadow Creek and its tributaries and New River from Elk Creek confluence downstream to Eagle Bottom Creek confluence.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

AWQM station located at 9-MCR000.20 had a 77% exceedance of the E. coli water quality standard. 9-NEW148.23 has E.coli exceedance rate of 25%.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_MCR01A02 / Meadow Creek & tributaries / Meadow Creek from confluence with New River upstream to headwaters and tributaries, south west of Galax WQS Section 2, v, NEW-5.	5A	Escherichia coli	2010	M	10.53
VAS-N06R_NEW01A00 / New River / Mainstem from the Elk Creek confluence near Riverside to five miles above Fries Dam, WQS Section 2.	5A	Escherichia coli	2004	M	5.38
VAS-N06R_NEW02A02 / New River / New River mainstem from Fries Dam, five miles upstream, Section 2i.	5A	Escherichia coli	2014	M	5.03

Meadow Creek & New River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.94**

Sources:

Livestock (Grazing or Feeding Operations)	Rural (Residential Areas)	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N06R-03-PH** **New River**

Cause Location: Mainstem from the Elk Creek confluence near Riverside to five miles above the Fries Dam and from the Fries Dame, five miles upstream.

City / County: Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

12% pf the pH measurements at station 9-NEW148.23 exceed the maximum water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_NEW01A00 / New River / Mainstem from the Elk Creek confluence near Riverside to five miles above Fries Dam, WQS Section 2.	5A	pH	2018	L	5.38
VAS-N06R_NEW02A02 / New River / New River mainstem from Fries Dam, five miles upstream, Section 2i.	5A	pH	2018	L	5.03

New River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**10.41**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N06R-04-BAC** **Brush Creek**

Cause Location: A New River tributary, north of Fries Junction, WQS Section 2.

City / County: Carroll Co. Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Station 9-BRU003.59 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_BRU01A08 / Brush Creek / A New River tributary, from the Lick Creek confluence near the Carroll/Grayson line, downstream, north of Fries Junction, WQS Section 2.	5A	Escherichia coli	2014	M	7.29

Brush Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.29**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N07R-01-BAC** **Crooked Creek**

Cause Location: This segment extends from the headwaters of Crooked Creek downstream to the confluence with New River at Byllesby.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-CRK020.79, had a 25% exceedance of the E. coli water quality standard. This segment is designated natural trout waters. Station 9-CRK015.69 had a 50% exceedance of the E.coli water quality standard. 9-CRK003.00 has 33% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK01A04 / Crooked Creek / From headwaters near Pipers Gap to Beaverdam Creek confluence south of Woodlawn, WQS Section 2, ii.	5A	Escherichia coli	2010	M	11.45
VAS-N07R_CRK01A98 / Crooked Creek / From confluence of Cranberry Creek east of SR 635, downstream to New River at Byllesby, WQS Section 2, iii.	5A	Escherichia coli	2010	M	12.09
VAS-N07R_CRK02A04 / Crooked Creek / From Beaverdam Creek confluence, south of Woodlawn, to Cranberry Creek confluence, WQS Section 2.	5A	Escherichia coli	2010	M	4.36

Crooked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**27.90**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK01A04 / Crooked Creek / From headwaters near Pipers Gap to Beaverdam Creek confluence south of Woodlawn, WQS Section 2, ii.	5A	Fecal Coliform	2004	M	11.45
VAS-N07R_CRK01A98 / Crooked Creek / From confluence of Cranberry Creek east of SR 635, downstream to New River at Byllesby, WQS Section 2, iii.	5A	Fecal Coliform	2004	M	12.09

Crooked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**23.54**

Sources:

Grazing in Riparian or Shoreline Zones	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N07R-01-TEMP** **Crooked Creek**

Cause Location: This segment of Crooked Creek begins at Route 707 and continues to Route 620.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

The AWQM station located at 9-CRK015.69 had a 25% exceedance of the temperature standard for natural trout streams.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK02A04 / Crooked Creek / From Beaverdam Creek confluence, south of Woodlawn, to Cranberry Creek confluence, WQS Section 2.	5A	Temperature, water	2010	M	4.36

Crooked Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.36**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N08R-01-BAC** **New River Tributaries**

Cause Location: This segment includes the tributaries of the New River from the Reed Creek confluence downstream to the backwaters of Claytor Lake near the Wythe/Pulaski county line.

City / County: Carroll Co. Pulaski Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

Station 9-NEW107.51 was formally contained in the 1999 Federal Consent Decree Attachment B List for fecal coliform bacteria. The 2002 Assessment found the recreational use fully supported. Station 107.51 found only three of 52 samples in excess of the former WQS fecal coliform 1000 n/100 ml instantaneous criterion. The waters were therefore not 303(d) listed in 2002. The initial 303(d) Listing for fecal coliform bacteria occurs with the 2004 IR. The 2006 Assessment and 303(d) Listings replace fecal coliform bacteria with Escherichia coli (E.coli) bacteria as the indicator with sufficient E.coli data as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The waters were delisted with the 2014 assessment as E.coli excursions of the 235 cfu/100 ml instantaneous criterion are three of 35 observations. An 8.5% exceedance rate at station 9-NEW107.51 (Allisonia USGS Gage) results in the delisting of these 1999 Consent Decree waters. These waters are listed in the 2016 data window based on the information detailed below.

9-NEW107.51 (Allisonia USGS Gage) The 2016 Integrated Report finds five of 39 E.coli samples in excess of the WQS instantaneous criterion of 235 cfu/100 ml. Excessive values range from 280 cfu/100 ml to greater than 2000.
Station 9-PRN000.84 had a 41%(5/12) exceedance of the E. coli water quality standard. At 9-MRN000.31 58% exceeded WQS.
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Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_MRN01A04 / Mill Creek / Enters New River from north, upper end is near SR 606 near New Jersey Zinc, WQS Section 2.	5A	Escherichia coli	2010	M	4.37
VAS-N08R_NEW01A02 / New River / Mainstem, north of Barren Springs, from Reed Creek confluence downstream to Big Reed Island Creek confluence, WQS Section 2.	5A	Escherichia coli	2016	M	5.71
VAS-N08R_NEW01B98 / New River / From Mill Creek confluence near Austinville, downstream to the confluence of unnamed tributary west of Flatwood, WQS Section 2.	5A	Escherichia coli	2016	M	1.44
VAS-N08R_NEW01L98 / New River at Byllesby / New River mainstem in Carroll County. This is a run-of-River power generating facility with limited public access that extends from Buck Dam upstream to Byllesby Dam.	5A	Escherichia coli	2008	M	3.06
VAS-N08R_NEW02B00 / New River / Mainstem public water supply segment for Austinville from Buck Dam tailwaters downstream to the Mill Creek confluence, WQS Section 2l.	5A	Escherichia coli	2016	M	5.01
VAS-N08R_NEW03B98 / New River / From Buck Dam, to tailwaters, five miles upstream of Austinville raw water intake, section 2.	5A	Escherichia coli	2016	M	0.92
VAS-N08R_PNR01A10 / Pine Run / At the Wythe/Pulaski County line, New River tributary from Pine Run Church downstream, WQS Section 2.	5A	Escherichia coli	2010	M	1.43
VAW-N16R_NEW01A00 / New River / This section of the New River extends from the mouth of Big Reed Island Creek downstream to the backwaters of Claytor Lake Class IV sec. 2c (NE43).	5A	Escherichia coli	2006	M	0.61

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

New River Tributaries

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**22.55**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_MRN01A04 / Mill Creek / Enters New River from north, upper end is near SR 606 near New Jersey Zinc, WQS Section 2.	5A	Fecal Coliform	2004	M	4.37

New River Tributaries

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.37**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Source Unknown
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N08R-03-BAC** **Shorts Creek and Unnamed Tributary**

Cause Location: This segment includes Shorts Creek and continues until it enters New River at Jackson Ferry. This segment also includes an unnamed tributary to Shorts Creek that enters at Jackson Ferry and flows west from Rackettown.

City / County: Carroll Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-SRT000.12, had a 100% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_SRT01A04 / Shorts Creek / Headwaters, south of Poplar Camp Mountain, WQS Section 2.	5A	Escherichia coli	2012	M	3.31
VAS-N08R_SRT01B04 / Shorts Creek / The lower reach of Shorts Creek, enters New River at Jackson Ferry, WQS Section 2, vi.	5A	Escherichia coli	2010	M	7.07
VAS-N08R_XEE01A06 / Shorts Creek unnamed tributary / Flows west from Rackettown and enters Shorts Creek above Jackson Ferry, WQS Section 2.	5A	Escherichia coli	2010	M	3.88

Shorts Creek and Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**14.26**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_SRT01B04 / Shorts Creek / The lower reach of Shorts Creek, enters New River at Jackson Ferry, WQS Section 2, vi.	5A	Fecal Coliform	2004	M	7.07
VAS-N08R_XEE01A06 / Shorts Creek unnamed tributary / Flows west from Rackettown and enters Shorts Creek above Jackson Ferry, WQS Section 2.	5A	Fecal Coliform	2006	M	3.88

Shorts Creek and Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**10.95**

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N09R-01-BAC** **Cripple Creek**

Cause Location: This segment includes the mainstem from the confluence with Dry Run, downstream to the Francis Mill Creek confluence as well as the lower segment of the mainstem from the New River confluence upstream to the Dean Branch confluence. It also includes Crigger Creek from the confluence with Cripple Creek upstream to the confluence with Middle Creek.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM stations, 9-CPL018.47 and 9-CPL022.99, both had a 45% exceedance of the E. coli water quality standard. AWQM stations 9-CPL0001.03 had a 25% exceedance and 9-CGG000.35 had a 36% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_CGG01B04 / Crigger Creek / From confluence with Cripple Creek upstream to Middle Creek confluence, WQS Section 2, iv.	4A	Escherichia coli	2018	L	4.20
VAS-N09R_CPL01A98 / Cripple Creek / Extends from Dean Branch confluence upstream to Francis Mill Creek confluence, WQS Section 2.	4A	Escherichia coli	2018	L	11.68
VAS-N09R_CPL01B04 / Cripple Creek / Lower segment of mainstem from the New River confluence upstream to the Dean Branch confluence at Porter Crossroads, WQS Section 2I.	4A	Escherichia coli	2010	L	3.17
VAS-N09R_CPL02A98 / Cripple Creek / From the Dry Run confluence near Speedwell downstream to the Francis Mill Creek confluence, WQS Section 2.	4A	Escherichia coli	2010	L	6.49
VAS-N09R_CPL02B04 / Cripple Creek / Mainstem from Blue Spring Creek confluence downstream to the Dry Run confluence near Speedwell, WQS Section 2, ***.	4A	Escherichia coli	2010	L	6.43

Cripple Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**31.97**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_CPL01B04 / Cripple Creek / Lower segment of mainstem from the New River confluence upstream to the Dean Branch confluence at Porter Crossroads, WQS Section 2I.	4A	Fecal Coliform	2004	L	3.17
VAS-N09R_CPL02A98 / Cripple Creek / From the Dry Run confluence near Speedwell downstream to the Francis Mill Creek confluence, WQS Section 2.	4A	Fecal Coliform	2004	L	6.49

Cripple Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.66**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N09R-03-BAC** **Slate Spring Branch and Dean Branch**

Cause Location: This segment includes Slate Spring Branch from the Cripple Creek confluence up stream to the headwaters and Dean Branch from the confluence with Cripple Creek upstream 1.7 miles.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station, 9-SPB000.10, had a 100% exceedance of the E.coli water quality standard. Station 9-DEN000.03 had a 33% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_DEN01A10 / Dean Branch / Cripple Creek tributary at Porters Crossroads, WQS Section 2.	4A	Escherichia coli	2010	M	1.92
VAS-N09R_SPB01A04 / Slate Spring Branch / From Cripple Creek confluence at Eagle Cliff upstream to headwaters at Matney Flat, WQS Section 2.	4A	Escherichia coli	2010	M	6.14

Slate Spring Branch and Dean Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.06**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_SPB01A04 / Slate Spring Branch / From Cripple Creek confluence at Eagle Cliff upstream to headwaters at Matney Flat, WQS Section 2.	4A	Fecal Coliform	2004	M	6.14

Slate Spring Branch and Dean Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.14**

Sources:

Animal Feeding Operations (NPS)	Non-Point Source	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N09R-03-BEN** **Dean Branch**

Cause Location: A Cripple Creek tributary at Porters Crossroads.

City / County: Smyth Co. Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The freshwater probabilistic monitoring station at 9-DEN000.03 was impaired based on VSCI scores of 54.70 and 57.54.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_DEN01A10 / Dean Branch / Cripple Creek tributary at Porters Crossroads, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2016	L	1.92

Dean Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.92**

Sources:

Animal Feeding Operations (NPS)	Livestock (Grazing or Feeding Operations)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N10R-01-TEMP** **Reed Creek**

Cause Location: Reed Creek mainstem from Venrick Run upstream to South Fork.

City / County: Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

Water temperature was exceeded for Class VI WQS at 9-RDC033.94.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia in Section 2g.	5A	Temperature, water	2012	L	1.43

Reed Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.43**

Sources:

- Grazing in Riparian or Shoreline Zones
- Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N10R-02-BAC** **South Fork Reed Creek and Mill Creek**

Cause Location: This segment includes the mainstem of South Fork Reed Creek downstream to the Reed Creek confluence as well as the mainstem of Mill Creek to the confluence with Reed Creek. It also includes Hubble Branch, north of I81 near Rural Retreat.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 9-MCE000.37, had a 67% exceedance of the E.coli water quality standard. Station 9- RSF000.08 & 9-RSF006.78 had a 67% exceedance of the E.coli water quality standard. 9-HOL000.74 had 67% E.coli exceedance rate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_HOL01A12 / Huddle Branch / A Mill Creek tributary from the Monkey Run confluence parallel SR 617 North of I81 at Staley Crossroads.	4A	Escherichia coli	2012	L	1.48
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick, WQS Section 2.	4A	Escherichia coli	2006	L	6.39
VAS-N10R_RSF01A00 / South Fork Reed Creek / Mainstem from river mile 6.8 near Groseclose, downstream to the Reed Creek confluence parallel and south of I81, WQS Section 2; Wytheville National Fish Hatchery is on this reach.	4A	Escherichia coli	2006	L	6.77
VAS-N10R_RSF01A02 / South Fork Reed Creek / Mainstem in headwaters near Fairview and through Groseclose, WQS Section 2, vi.	4A	Escherichia coli	2012	L	13.35

South Fork Reed Creek and Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**27.99**

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N10R-02-BEN** **Mill Creek**

Cause Location: From the headwaters, west of Rural Retreat, to the confluence with Reed Creek, east of Blacklick.

City / County: Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The probabilistic monitoring station at 9-MCE000.27 was impaired based on VSCI scores of 58 and 51.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	6.39

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.39**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N10R-03-BAC** **Stony Fork**

Cause Location: This segment includes the headwaters downstream to the Reed Creek confluence.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 9-SFK000.28, had a 45% exceedance of the E. coli water quality standard and station 9-SFK001.51 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_SFK01A02 / Stony Fork / Class V waters @ Favonia downstream to Reed Creek confluence, WQS Section 2, vi.	4A	Escherichia coli	2006	L	1.90
VAS-N10R_SFK01A12 / Stony Fork / Headwaters in Jefferson National Forest south of Walker Mountain downstream to Class VI waters @ Favonia, WQS Section 2, vi.	4A	Escherichia coli	2012	L	4.73

Stony Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.63**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N10R-04-BAC** **Tate Run**

Cause Location: This segment begins at the Stuffle Run confluence and extends downstream to Reed Creek.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 9-TAT000.46, had a 58% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_TAT01A06 / Tate Run / From Stuffle Run confluence downstream to Reed Creek, Section 2g.	4A	Escherichia coli	2006	L	0.56

Tate Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.56**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N11R-01-BAC** **Reed Creek**

Cause Location: This segment begins at the Gullion Fork confluence and extends downstream to the Venrick Run confluence. It also includes the lower mainstem of Reed Creek from its confluence with an unnamed tributary East of Route 21 to the confluence with Miller Creek.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station, 9-RDC046.65, had a 33% exceedance of the E.coli water quality standard. Station 9-RDC038.01 had a 25% exceedance of the E. coli standard and station 9-RDC033.78 had a 67% exceedance and station 9-RDC023.24 had a 27% exceedance of the E.coli water quality standard. Station 9-PRN000.04 had a 67% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_PRN01A12 / Pine Run / Reed Creek tributary north of I81 and south of Pine Ridge	4A	Escherichia coli	2012	L	4.13
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia in Section 2g.	4A	Escherichia coli	2008	L	1.43
VAS-N10R_RDC01A02 / Reed Creek / From South Fork Reed Creek confluence upstream to Stony Fork confluence west of Petunia, WQS Section 2, ***.	4A	Escherichia coli	2006	L	5.23
VAS-N10R_RDC01B00 / Reed Creek / Mainstem from the Stony Fork confluence south of Favonia, upstream to the Gullion Fork confluence, WQS Section 2, ***.	4A	Escherichia coli	2006	L	9.85
VAS-N10R_RDC01C02 / Reed Creek / Headwaters of Reed Creek from Redding Gap in Jefferson National Forest downstream to Gullion Fork confluence, WQS Section 2, ***.	4A	Escherichia coli	2012	L	6.83
VAS-N11R_RDC01B00 / Reed Creek / Lower mainstem from Muskrat Branch confluence downstream to Rt. 52 bridge south of Max Meadows, WQS Section 2.	4A	Escherichia coli	2006	L	5.85
VAS-N11R_RDC01C02 / Reed Creek / Segment begins at confluence of unnamed tributary east of Rt. 21 bridge and extends downstream to the Muskrat Branch confluence, north of Rt. 11, WQS Section 2.	4A	Escherichia coli	2010	L	6.21

Reed Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**39.53**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia in Section 2g.	4A	Fecal Coliform	2002	L	1.43

Reed Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.43**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Source Unknown
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N11R-02-BAC** **Miller Creek**

Cause Location: This segment includes the mainstem from the Beaverdam confluence at Max Meadows downstream to Reed Creek and from the West Fork confluence downstream to Max Meadows.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 9-MER000.09, had a 45% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_MER01A06 / Miller Creek / From Beaverdam confluence in the community of Max Meadows downstream to Reed Creek, WQS Section 2.	4A	Escherichia coli	2006	L	0.42
VAS-N11R_MER02A10 / Miller Creek / A Reed Creek tributary From West Fork confluence on Brushy Ridge downstream to Max Meadows, WQS Section 2.	4A	Escherichia coli	2012	L	3.64

Miller Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.06**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N11R-02-BEN** **Reed Creek tributary**

Cause Location: This segment includes an unnamed tributary of Reed Creek that drains the Wytheville Community College at the east end of the town of Wytheville.

City / County: Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station 9-XES000.94 was impaired based on VSCI scores of 41 and 51.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_XES01A10 / Reed Creek tributaries / Tributary that drains location of Wytheville Community College at east end of Wytheville, WQS Section 2.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	2.67

Reed Creek tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.67**

Sources:

Grazing in Riparian or Shoreline Zones	Rural (Residential Areas)	Streambank Modifications/destabilization	Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N11R-03-BAC** **McGavock Creek**

Cause Location: A Reed Creek tributary east of Grahams Forge, parallel to Route 618.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM Station located at 9-MGV000.37 has a 18% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_MGV01A12 / McGavock Creek / Reed Creek tributary west of Grahams Forge and parallel, to SR 618.	4A	Escherichia coli	2012	M	2.58

McGavock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.58**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N12R-01-BAC** **Cove Creek and St. Lukes Fork**

Cause Location: This segment includes the lower Cove Creek mainstem from St. Lukes Fork downstream to the confluence with Reed Creek. This segment also includes St. Lukes Fork from the Cove Creek confluence upstream 1.4 miles, north of Queens Knob.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station, 9-CVR003.88, had a 45% exceedance of the E.coli water quality standard. Station 9-SLK001.24 had a 83% exceedance of the E.coli water quality standard

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N12R_CVR01A00 / Cove Creek / Lower Cove Creek from St. Lukes Fork confluence, near Queens Knob, downstream to the confluence with Reed Creek, east of Wytheville, WQS Section 2.	4A	Escherichia coli	2006	L	9.92
VAS-N12R_SLK01A04 / St. Lukes Fork / From Cove Creek confluence upstream 1.4 miles, north of Queens Knob, in Section 2.	4A	Escherichia coli	2016	L	1.77

Cove Creek and St. Lukes Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.69**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N13R-01-BAC** **Big Reed Island Creek**

Cause Location: This segment begins at the headwaters of Big Reed Island Creek and continues downstream to the confluence with Pine Creek.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 9-RIC049.29 had a 52% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01A00 / Big Reed Island Creek / North of Crooked Oak from Pine Creek confluence to Snake Creek confluence, WQS Section 2, iii.	5A	Escherichia coli	2018	M, 2yr	6.64
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak, WQS Section 2, iii.	5A	Escherichia coli	2008	M, 2yr	19.85

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**26.49**

Sources:

Animal Feeding Operations (NPS)	Grazing in Riparian or Shoreline Zones

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N13R-01-BEN** **Big Reed Island Creek**

Cause Location: This segment begins at the headwaters of Big Reed Island Creek and continues downstream to the confluence with Pine Creek.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Probabilistic Monitoring station located at 9-RIC051.80 was impaired based on the VSCI scores of 70 and 46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak, WQS Section 2, iii.	5A	Benthic-Macroinvertebrate Bioassessments	2008	H, 2yr	19.85

Big Reed Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.85**

Sources:

Animal Feeding Operations (NPS)	Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N13R-01-TEMP** **Big Reed Island Creek**

Cause Location: North of Crooked Oak from the Pine Creek confluence to the Snake Creek confluence.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

AWQM station located 9-RIC039.71 had a 25% exceedance of the WQS for Class IV waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01A00 / Big Reed Island Creek / North of Crooked Oak from Pine Creek confluence to Snake Creek confluence, WQS Section 2, iii.	5A	Temperature, water	2018	L	6.64

Big Reed Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**6.64**

Sources:

Grazing in Riparian or Shoreline Zones

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N13R-02-BAC** **Snake Creek**

Cause Location: From the Big Reed Island confluence upstream 3.5 miles to near the Macey Branch confluence, WQS Section 2, iii.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 9-SKE000.98 had a 41% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_SKE01A04 / Snake Creek / From Big Reed Island Creek confluence upstream 3.5 miles to near Macey Branch confluence, WQS Section 2, iii.	5A	Escherichia coli	2014	M, 2yr	3.54

Snake Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N14R-01-BAC** **Big Reed Island Creek**

Cause Location: This segment includes the mainstem of Big Reed Island Creek from the confluence of Snake Creek downstream to the confluence with Bobbitt Creek, from Bobbitt Creek to the Greasy Creek confluence, and from the Island Creek confluence downstream to the Big Branch confluence.

City / County: Carroll Co. Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-RIC029.23, had a 27% exceedance of the fecal coliform water quality standard and station 9-RIC018.90 had a 22% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence, WQS Section 2, iii.	5A	Escherichia coli	2018	H, 2yr	7.55
VAS-N14R_RIC01B04 / Big Reed Island Creek / Big Reed Island Creek from Bobbitt Creek confluence south of Witcher Knob to Greasy Creek confluence, WQS Section 2.	5A	Escherichia coli	2010	H, 2yr	13.81

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**21.36**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence, WQS Section 2, iii.	5A	Fecal Coliform	2004	H, 2yr	7.55
VAS-N14R_RIC01B04 / Big Reed Island Creek / Big Reed Island Creek from Bobbitt Creek confluence south of Witcher Knob to Greasy Creek confluence, WQS Section 2.	5A	Fecal Coliform	2014	H, 2yr	13.81

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**21.36**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N14R-01-TEMP** **Big Reed Island Creek**

Cause Location: Big Reed Island Creek east of Red Hill, from the Bobbitt Creek confluence upstream to the Snake Creek

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

AWQM station located 9-RIC029.23 had a 25% exceedance of the WQS for Class IV waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence, WQS Section 2, iii.	5A	Temperature, water	2018	L	7.55

Big Reed Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**7.55**

Sources:

Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N14R-02-BAC** **Greasy Creek**

Cause Location: This segment begins at the Carroll county line and continues downstream to the confluence with Big Reed Island Creek.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 9-GSC000.03 had a 26% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_GSC01A08 / Greasy Creek / From Carroll/Floyd County line downstream to Big Reed Island Creek confluence south of Macks Mountain, WQS Section 2.	5A	Escherichia coli	2008	H, 2yr	13.63

Greasy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.63**

Sources:

Grazing in Riparian or Shoreline Zones

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N14R-03-BAC** **Big Reed Island Creek**

Cause Location: This segment includes the lower mainstem of Big Reed Island Creek from the Greasy Creek confluence downstream to the New River confluence.

City / County: Carroll Co. Floyd Co. Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 9-RIC000.50 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_ISL01A12 / Island Creek & tributaries / Big Reed Island Creek tributary northeast of Hillsville from headwaters near Huffman Knob.	5A	Escherichia coli	2018	L	13.35
VAS-N14R_RIC01B98 / Big Reed Island Creek / Big Reed Island Creek mainstem from Greasy Creek confluence downstream to New River confluence in Pulaski County, WQS Section 2.	5A	Escherichia coli	2008	L	9.85

Big Reed Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**23.20**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N15R-01-BAC** **Little Reed Island Creek**

Cause Location: This segment begins 5 miles above the Hillsville public water intake and extends downstream to the confluence with Big Reed Island Creek.

City / County: Carroll Co. Pulaski Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

AWQM station 9-LRI001.62 had a 36% exceedance of the E.coli water quality standard, station 9-LRI009.11 had a 27% exceedance, station 9-LRI017.64 had a 41% exceedance, station 9-LRI023.48 had a 50% exceedance, and station 9-LRI031.58 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N15R_LRI01A98 / Little Reed Island Creek / Little Reed Island Creek mainstem from confluence with Big Reed Island Creek upstream to Rock C confluence in Carroll County, WQS Section 2.	5A	Escherichia coli	2008	H, 2yr	11.00
VAS-N15R_LRI01B98 / East Fork Little Reed Island Creek / From Hillsville PWS intake south of Rt. 58, upstream five miles, WQS Section 2f.	5A	Escherichia coli	2008	H, 2yr	5.28
VAS-N15R_LRI02A08 / Little Reed Island Creek / Segment extends from Rock Creek confluence upstream to Hillsville PWS intake west of Rt. 100, WQS Section 2.	5A	Escherichia coli	2008	H, 2yr	19.70

Little Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**35.98**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N15R-01-TEMP** **Little Reed Island Creek**

Cause Location: This segment begins approximately 1 mile below the Hillsville water intake and continues downstream to the Big Reed Island Creek confluence.

City / County: Carroll Co. Pulaski Co. Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

AWQM station 9-LRI017.64 had a 21% exceedance of the temperature standard. Stations 9-LRI020.76 and 9-LRI023.48 had a 27% and 15% exceedance of the temperature standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N15R_LRI02A08 / Little Reed Island Creek / Segment extends from Rock Creek confluence upstream to Hillsville PWS intake west of Rt. 100, WQS Section 2.	5A	Temperature, water	2008	H, 2yr	19.70

Little Reed Island Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	Temperature, water - Total Impaired Size by Water Type:			**19.70**

Sources:

Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N16L-01-DO** **Claytor Lake - New River**

Cause Location: Claytor Lake - New River mainstem from the mouth of Peak Creek downstream to Claytor Dam (Dublin and Radford South Quads).

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

A portion of Claytor Lake, 1,799.25 acres, is originally 2002 303(d) Listed for excursions of the Class IV Water Quality Standard (WQS) dissolved oxygen minimum criterion of 4.0 mg/l. The impairment is categorized as natural (4C) in past assessment cycles where no excursions of the Claytor Lake criterion for chlorophyll a (25 µg/L) or total phosphorus (20 µg/L algaecides applied) occur from stations 9-NEW089.34 or 9-NEW087.14 (Lacustrine zone).
Virginia's Lake Nutrient Criteria (9 VAC 25-260-187) states the nutrient criteria apply only in the epilimnion for lacustrine waters during thermal stratification for control of nutrient enrichment. Guidance Memo No. 09-2005 "Monitoring and Assessment of Lakes and Reservoirs" outlines criteria for evaluating dissolved oxygen during periods of thermal stratification. Data from the following stations find the waters not supporting the Aquatic Life Use in the epilimnion from dissolved oxygen exceedances of the minimum 4.0 mg/l criterion.

9-NEW092.66- (Dublin Water Works)2018 epilimnion dissolved oxygen (DO) measurements are 113 exceeding values from a total of 635 measurements. 2016 epilimnion dissolved oxygen (DO) measurements are 68 exceeding values from a total of 851 measurements. However these data are not deemed sufficient for delisting these waters. The 2014 data window reports 88 of 787 DO total measurements exceed the minimum 4.0 mg/l criterion. 2012 data reveal 118 of 807 DO measurements exceeding the 4.0 mg/l minimum criterion. The 2010 assessment reports 101 epilimnion dissolved oxygen (DO) measurements exceeding the 4.0 mg/l minimum from 806 measurements. 2008 results find 154 exceed from 656 total observations.

9-NEW089.34- (Line Between Beach and Inlet)2018 epilimnion DO measurements are 161 of 624 measurements. 2016 epilimnion DO measurements are 58 of 806 indicating support of the minimum DO criterion. However these data alone are not sufficient to delist this section of the Lake. Epilimnion DO measurements within the 2014 data window record 59 of 747 total measurements exceed the minimum of 4.0 mg/l. 2012 data exceed in 82 of 798 total measurements. The 2010 assessment finds 99 of 857 epilimnion DO measurements in excess of the minimum criterion. 2008 results find 121 exceed from 637 total observations.

9-NEW087.14- (Under Power Lines above Dam)2018 epilimnion DO measurements are 164 exceeding of 664 measurements. 2016 epilimnion DO measurements are 58 of 806 indicating support of the minimum DO criterion. However these data alone are not sufficient to delist this section of the Lake. 2012 measurements of DO in the epilimnion are 93 of 804 exceeding the 4.0 minimum criterion. DO exceeds the minimum criterion in 99 of 830 epilimnion measurements within the 2010 data window. 2008 results find 115 exceed from 695 total observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N16L_NEW01A02 / Claytor Lake (New River) / Claytor Lake from its impounding structure upstream to the Claytor State Park Cabins.	4C	Oxygen, Dissolved			######
VAW-N16L_NEW01B14 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the former Burlington Industries water intake.	4C	Oxygen, Dissolved			602.03
VAW-N16L_NEW02A02 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the confluence of Peak Creek	4C	Oxygen, Dissolved			278.51

Claytor Lake - New River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		**2,077.45**	

Fact Sheets for
Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N16L-02-DO** **Claytor Lake - Peak Creek**

Cause Location: Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation (Dublin Quad).

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 4C

A portion of Claytor Lake in the Peak Creek (Lower) (216.86 acres) arm is originally 2002 303(d) Listed for excursions of the Class IV Water Quality Standard (WQS) dissolved oxygen minimum criterion of 4.0 mg/l. The impairment is categorized as natural (4C) as there are no excursions of the Claytor Lake criterion for chlorophyll a (25 µg/L) or total phosphorus (20 µg/L algaecides applied) from stations 9-NEW089.34 or 9-NEW087.14 (Lacustrine zone).
Virginia's Lake Nutrient Criteria (9 VAC 25-260-187) states the nutrient criteria apply only in the epilimnion for lacustrine waters during thermal stratification for control of nutrient enrichment. Guidance Memo No. 09-2005 "Monitoring and Assessment of Lakes and Reservoirs" outlines criteria for evaluating dissolved oxygen during periods of thermal stratification. Data from station 9-PKC000.00 finds the waters not supporting the Aquatic Life Use in the epilimnion from dissolved oxygen exceedances of the minimum 4.0 mg/l criterion.

9-PKC000.00 (Mouth of Peak Cr.)- The 2018 integrated Report (IR) finds 212 of 723 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. The 2016 integrated Report (IR) finds 116 of 791 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. 2014 data report 123 of 725 DO measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. 2012 DO measurements find 93 of 673 measurements in excess of the 4.0 mg/l minimum criterion. The 2010 assessment reports 69 epilimnion DO measurements exceeding the 4.0 mg/l minimum from 633 measurements. 2008 results find 131 exceed from 618 total observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17L_PKC01A10 / Claytor Lake (Peak Creek) / Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation.	4C	Oxygen, Dissolved			216.86

Claytor Lake - Peak Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**216.86**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N16R-01-BAC** **Big Macks Creek**

Cause Location: Big Macks Creek mainstem from its confluence with the New River upstream to the Camp Powhatan Dam (NE42).

City / County: Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

9-BMK001.11 (Rt. 693 Bridge, Julia Simpkins Rd.) There are no additional data beyond the 2014 Integrated Report (IR). This 2014 initial 303(d) Listing is a result of escherichia coli (E.coli) exceeding the 235 cfu/100 ml instantaneous criterion in 2 of 12 samples. Values in excess of the criterion are 250 and 575 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N16R_BMK01A02 / Big Macks Creek / Big Macks Creek mainstem from its confluence with the New River upstream to the Camp Powhatan Dam Class IV sec. 2c (NE42).	5A	Escherichia coli	2014	H, 2yr	3.78

Big Macks Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.78**

Sources:

- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N17R-01-BAC** **Peak Creek and Tract Fork**

Cause Location: The bacteria impairment extends from the mouth of Hogan Creek downstream to the backwaters of Claytor Lake. And Tract Fork mainstem from its confluence with Peak Creek upstream to the mouth of Pondlick Branch.

City / County: Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Peak Creek Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed. ID 7824] and SWCB approval on 12/02/2004. These waters are 1996 303(d) Listed originally for fecal coliform bacteria for 3.49 miles (4.65 mi. pre-NHD) and extended upstream in subsequent assessment cycles for a total 6.49 miles. The Recreational Use remains impaired. Tract Fork is a 2012 nested impairment within the overall Bacteria TMDL watershed. The TMDL Study can be viewed at http://www.deq.virginia.gov. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-PKC011.11 (Commerce St. Bridge) 2 of 11 escherichia coli (E.coli) observations exceed the WQS instantaneous criterion of 235 cfu/100 ml within the 2016 data window. Excessive values range are 325 and 350 cfu/100 ml. There are no additional E.coli data within the 2014 data window or beyond the 2008 IR. None of the 3 remaining samples within the 2012 data window exceed the instantaneous criterion. Data within the 2008 and 2010 data windows find 2 of 10 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion with exceeding values the same as in 2008. Both exceedances are 500 and 640 cfu/100 ml. E.coli results in 2006 find 2 of 7 samples in excess of the 235 cfu/100 ml criterion; exceedances are the same as in 2008.

9-PKC009.29 (Near Radio Tower) There are no additional data beyond the 2008 IR. One exceeding value occurs within the 2012 data window at 500 cfu/100 ml of the remaining 3 observations. E.coli data within the 2010 data window reveal 12 exceeding values from 21 samples. The 2008 IR finds E.coli exceeds the instantaneous criterion in 12 of 23 samples. Exceeding values for both 2010 and 2008 data windows range from 240 cfu/100 ml. to 10,000. E.coli exceeds the instantaneous criterion in 11 of 18 samples in 2006 with the same range of exceedance.

9-PKC007.80 (Rt. 99 bridge) 11 of 25 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 275 to greater than 2,000 cfu/100 ml.

9-TCK000.50 (Rt. 674 Bridge)- Escherichia coli (E.coli) data within the 2012 and 2014 data windows reveal 7 of 12 samples in excess of the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 250 to 880 cfu/100 ml. There are no additional bacteria data within the 2016 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Escherichia coli	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Escherichia coli	2006	L	1.66
VAW-N17R_PKC03A00 / Peak Creek / This portion of Peak Creek extends from the mouth of Tract Fork to downstream of the Washington Ave. Bridge (~0.20 miles) (NE46).	4A	Escherichia coli	2006	L	0.51
VAW-N17R_PKC03A06 / Peak Creek / This portion of Peak Creek extends from the Magnox, Inc. outfall on downstream to the mouth of Tract Fork (NE44).	4A	Escherichia coli	2006	L	0.39
VAW-N17R_PKC04A00 / Peak Creek / The segment extends from the mouth of Hogan Creek downstream to just above the Magnox. Inc.	4A	Escherichia coli	2006	L	2.10

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

outfall on Peak Creek (NE44).

VAW-N17R_TCK01A00 / Tract Fork / Tract Fork mainstem from its confluence with Peak Creek upstream to the mouth of Pondlick Branch (NE45).	A	Escherichia coli	2012	L	1.24

Peak Creek and Tract Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.73**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Sanitary Sewer Overflows (Collection System Failures)
Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N17R-01-BEN** **Peak Creek**

Cause Location: Benthic impaired waters begin downstream of the Washington Ave. Bridge (~0.20 miles) on downstream to the inundation of Peak Creek in Claytor Lake.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/30/2004 [Fed ID 7823/7822] and SWCB approval on 12/02/2004. The TMDL finds cooper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The TMDL allocations require reductions in zinc and copper from non-point sources.

9-PKC009.29 (Near Radio Tower) Bio 'IM' There are no additional data beyond the 2014 data window. Two 2011 Virginia Stream Condition Index (VSCI) surveys within the 2014 and 2016 data windows produce spring and fall scores of 31.6 and 37.4. 2011 samples show low diversity of taxa and several pollution tolerant taxa dominating the samples. Filter, collector and scraper feeding type taxa were the dominant functional feeding groups. There are no additional data within the 2010 or 2012 data windows. The 2008 IR reports 4 Virginia Stream Condition Index (VSCI) surveys (2002, 2003 & 2006) have an average score of 47.9. The spring 2003 sample had high diversity and numbers of mayflies compared to other samples collected in this assessment period. High flows in 2003 potentially contributed to these higher numbers. The samples with low scores show low diversity of taxa and several pollution tolerant taxa dominating the samples. Filter, collector and scraper feeding taxa were the dominant functional feeding groups. Habitat in this reach has been impacted by loss of riparian vegetation and in stream cover, and increased sedimentation.

9-PKC007.80 (Rt. 99 Bridge) Bio 'IM' 4 Virginia Stream Condition Index (VSCI) surveys (2011 & 2014) within the 2016 and 2018 data windows produce an average score of 48.4. 2014 data window report impairment from 2 2011 surveys. The VSCI scores are spring 33.8 and fall 58.3. Benthic community data show several pollution tolerant taxa were dominant. Mayflies typically had low abundance and other sensitive taxa such as stoneflies and caddisflies were very rare in samples. Habitat in this reach has been impacted by the loss of riparian vegetation. There are no additional data within either the 2010 or 2012 data windows. The 2008 data window reports 4 VSCI surveys (2002, 2003 & 2006) with an average score of 47.6. These collections reveal several pollution tolerant taxa are dominant. Habitat in this reach has been impacted by the loss of riparian vegetation.

9-PKC005.95 (Upstream of I-81 crossing)- A 2004 Probabilistic site. Two VSCI surveys, spring (62.5) and fall (58.4) result in an average score of 60.5. near the lower limit for reference conditions. Impacts from sediment deposition were noted during the spring survey. Other habitat parameters scored in the optimal to sub-optimal range. Approximately 5% of the land cover upstream of this station is urban. The TMDL study found the impairment cause to be heavy metals in sediments and storm runoff. Both samples at this station were dominated by organisms tolerant of nutrient enrichment. Since this station is within a known impaired segment and VSCI scores are near the Impaired/Non-impaired cutoff, best professional judgment designates the station as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.66

Peak Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.49**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

Contaminated Sediments	Industrial/Commercial Site Stormwater Discharge (Permitted)	Sediment Resuspension (Contaminated Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N17R-01-CU** **Peak Creek**

Cause Location: Impairment begins downstream of the Washington Ave. Bridge (~0.20 miles) on downstream to the inundation of Peak Creek in Claytor Lake.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Copper / 4A

The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed ID 7823/7822] and SWCB approval on 12/02/2004.

The TMDL finds copper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The likelihood of dissolved metals reaching acute levels of toxicity in the water column during low-flow and storm events was assessed. The impact of point source discharges of Cu and Zn during low flow was analyzed and determined that the concentrations of Cu and Zn would not likely approach the acute criteria for aquatic life (i.e., 13 ug/l and 120 ug/l for Cu and Zn, respectively). It was anticipated that acidic runoff from historic industrial sites may leach significant levels of dissolved Cu and Zn to the stream during storm events. The weight of evidence at this time, including site observations and collected data, points to soils at or from the Allied Signal site as the main source of contamination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Copper	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Copper	2006	L	1.66

Peak Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:			**3.49**

Sources:

- Contaminated Sediments
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Sediment Resuspension (Contaminated Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N17R-01-ZN** **Peak Creek**

Cause Location: Impairment begins downstream of the Washington Ave. Bridge (~0.20 miles) on downstream to the inundation of Peak Creek in Claytor Lake.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Zinc / 4A

The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed ID 7823/7822] and SWCB approval on 12/02/2004.

The TMDL finds copper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The likelihood of dissolved metals reaching acute levels of toxicity in the water column during low-flow and storm events was assessed. The impact of point source discharges of Cu and Zn during low flow was analyzed and determined that the concentrations of Cu and Zn would not likely approach the acute criteria for aquatic life (i.e., 13 ug/l and 120 ug/l for Cu and Zn, respectively). It was anticipated that acidic runoff from historic industrial sites may leach significant levels of dissolved Cu and Zn to the stream during storm events. The weight of evidence at this time, including site observations and collected data, points to soils at or from the Allied Signal site as the main source of contamination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Zinc	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Zinc	2006	L	1.66

Peak Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Zinc - Total Impaired Size by Water Type:			**3.49**

Sources:

- Contaminated Sediments
- Industrial/Commercial Site Stormwater Discharge (Permitted)
- Sediment Resuspension (Contaminated Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N18R-01-BAC** **Crab Creek**

Cause Location: The upstream limit is the Crab Creek headwaters on the Ironto Quad. The downstream limit is at the Crab Creek mouth on the New River about 1.5 mi upstream of the Rt. 114 Bridge and downstream of Radford, Virginia (Riner, Blacksburg and Radford North Quads).

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Crab Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/10/2004 [Fed ID 18594/23405] and SWCB approved 12/02/2004 (formerly VAW-N18R-01). The waters are initially 303(d) Listed with the 2002 Assessment for fecal coliform (FC) bacteria causing non-support of the Recreational Use for 12.36 miles. The TMDL Study and allocations can be viewed at http://www.deq.virginia.gov. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-CBC009.81 (Rt. 111 Bridge) There are no additional data beyond the 2010 IR where the 2010 data window finds 4 of 15 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 250 to greater than 2000 cfu/100 ml. Three non-exceeding E.coli observations remain within the 2012 data window. The 2008 assessment finds 6 of 18 E.coli samples exceed the instantaneous criterion and 6 of 15 exceed in 2006. The range of exceeding values is from 400 to greater than 2000 cfu/100 ml in 2008 and 2006.

9-CBC006.35 (Rt. 661 Bridge) Both the 2010 and 2012 data windows find 4 of 12 E.coli samples exceeding the instantaneous criterion. The range of exceedance is from 380 to 950 cfu/100 ml. E.coli data within the 2008 data window are 3 of 6 exceeding values. The 2006 assessment reports E.coli exceeds the WQS instantaneous criterion of 235 cfu/100 ml in 8 of 16 observations. Exceeding values range from 250 to >800 cfu/100 ml. This station is located upstream of the former Christiansburg outfall.

9-CBC004.38 (Rt. 660 Bridge) There are no additional data beyond the 2010 data window. Five of 15 remaining escherichia coli (E.coli) observations in 2012 exceed the 235 cfu/100 ml instantaneous criterion ranging from 250 to 1200 cfu/100 ml. Data within the 2010 data window find exceedances ranging from 250 to 1200 cfu/100 ml in 14 of 35 observations. E.coli exceeds the 235 cfu/100 ml WQS instantaneous criterion in 16 of 33 observations within the 2008 data window. Exceeding values range from 280 to greater than 800 cfu/100 ml. 2006 E.coli results find 22 of 40 observations in excess of the instantaneous criterion and the same range of exceedance.

9-CBC001.00 (Route 663 Bridge near Walton) There are no additional data beyond the 2014 IR where 6 of 24 E.coli observations exceed the instantaneous criterion ranging from 250 to greater than 2000 cfu/100 ml. There were no additional data within the 2010 and 2012 data windows. Two of 15 remaining E.coli observations in 2012 exceed the instantaneous criterion at 250 and 1300 cfu/100 ml. 2010 values exceeding the instantaneous criterion range from 250 to 1300 cfu/100 ml in 10 of 35 samples. Nine of 27 E.coli samples exceed the instantaneous criterion ranging from 260 to greater than 800 cfu/100 ml in 2008. The 2006 Integrated Report (IR) finds 9 of 23 E.coli samples exceed the instantaneous criterion. The range of exceeding values is the same as in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CBC01A00 / Crab Creek / This section of the mainstem Crab Creek extends from its mouth on the New River on upstream of the Walton community (NE58).	4A	Escherichia coli	2004	L	2.15
VAW-N18R_CBC02A00 / Crab Creek / These mainstem waters of Crab Creek extend from upstream of the Walton community to upstream of the Vicker community. The end of the WQS public water supply (PWS) designation (NE58).	4A	Escherichia coli	2004	L	1.18
VAW-N18R_CBC03A00 / Crab Creek / These waters are the Crab Creek mainstem from upstream of the Vicker community on upstream to the former Christiansburg STP outfall on Crab Creek (NE58).	4A	Escherichia coli	2004	L	1.10

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

VAW-N18R_CBC04A00 / Crab Creek / These mainstem waters extend from the former Christiansburg STP outfall upstream to Crab Creek's headwaters (NE58).	A	Escherichia coli	2004	L	7.93

Crab Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**12.36**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N18R-01-BEN** **Crab Creek**

Cause Location: The upstream limit is the Crab Creek headwaters on the Ironto Quad. The downstream limit is at the Crab Creek mouth on the New River about 1.5 mi upstream of the Rt. 114 Bridge and downstream of Radford, Virginia (Riner, Blacksburg and Radford North Quads).

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The 1996 303(d) Listing of the Crab Creek General Standard (Benthic) Total Maximum Daily Load (TMDL) Study is U.S. EPA approved 8/10/2004 [Sediment- Fed ID 18595/23406]. The SWCB approved the TMDL on 12/02/2004 (formerly VAW-N18R-01). The TMDL identifies sediment to be the primary stressor, with organic matter and nutrient enrichment as additional stressors. The waters remain impaired for the aquatic life use for 12.36 miles.

Natural seasonal effects are noted at the sites below. Pollution tolerant families are dominant in both seasons, the midge family Chironomidae in spring and the caddisfly family Hydropsychidae in fall. Beginning in spring 2002, Toms Creek was determined to be a more suitable ecoregion reference site because of similarity in size and watershed characteristics than the previous reference site (Sinking Creek, 9-SNK012.06). Agricultural and urban NPS runoff impact Crab Creek. Habitat impacts to this reach result in fine sediment deposition causing stream substrates to become embedded from bank erosion, altered hydrology, and degraded riparian buffers due to residences, roads, and railroad tracks. An apparent nutrient rich environment all contribute to the benthic impairment.

9-CBC007.55- Bio 'IN' with 1 sample collected in 2013 to evaluate effect of tributary stream restoration. VSCI score of 37.2

9-CBC006.35- Bio 'IM'; No additional data beyond the 2010 data window. Two 2008 Virginia Stream Condition Index (VSCI) surveys with an average score of 39.36 are within the 2012 and 2014 data windows. Three VSCI surveys (2003 & 2008) result in an average VSCI score of 43.33 are within the 2010 data window. Moderately pollution tolerant to pollution tolerant organisms (oligochaetes, chironomidae, hydropsychidae, and elmidae) are dominant in both seasons. Habitat impacts to this reach result in fine sediment deposition that causes stream substrates to become embedded, altered hydrology, and degraded riparian buffers due to roads. The 2008 IR reports 5 RBP II surveys scoring- 2000 spring 47.83, fall- 34.78; 2002 spring- 52.17, fall- 59.09 and 2003 spring- 65.22. Seasonal 5 year Spring score 55.07 and Fall score 46.94.

9-CBC004.38- Bio 'IM'; No additional data beyond the 2010 data window. Two 2008 VSCI surveys lie within the 2012 and 2014 data window with an average score of 53.0. Three VSCI surveys (2003 & 2008) with an average score of 52.28 are produced within the 2010 data window. There is some difference in the biological condition scores between seasons. Fall samples showed an increase of %mayflies over the spring samples. Agricultural and urban NPS runoff impact Crab Creek. Habitat impacts to this reach result in fine sediment deposition that causes stream substrates to become embedded, bank erosion from altered hydrology, and degraded riparian buffers due to pastures and railroad tracks. Five RBP II surveys scoring- 2000 spring- 39.13, fall- 34.78; 2002 spring- 65.22, fall- 59.09 and 2003 spring- 69.57. Seasonal 5 year Spring score 57.97; Fall score 46.94 are reported in the 2008 IR.

9-CBC001.00- No additional data beyond the 2014 data window. Bio 'IM' The 2012 and 2014 data windows find an average score of 55.0 from 2 surveys (2008). The 2010 IR finds impairment remains from 3 VSCI surveys (2003 & 2008) with an average score of 60.0. The moderately pollution tolerant midge family Chironomidae is dominant in both seasons. Impacts to the benthos and stream habitat are the same as noted at 9-CBC004.38. The 2008 IR reports 3 VSCI surveys (2002-2003) with an average score of 58.43. Pollution tolerant families are dominant in spring and fall, the midge family Chironomidae in spring and the caddisfly family Hydropsychidae in fall. Impacts to the benthic community and stream habitat are the same as noted at 9-CBC004.38.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CBC01A00 / Crab Creek / This section of the mainstem Crab Creek extends from its mouth on the New River on upstream of the Walton community (NE58).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	2.15
VAW-N18R_CBC02A00 / Crab Creek / These mainstem waters of	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.18

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Crab Creek extend from upstream of the Walton community to upstream of the Vicker community. The end of the WQS public water supply (PWS) designation (NE58).

VAW-N18R_CBC03A00 / Crab Creek / These waters are the Crab Creek mainstem from upstream of the Vicker community on upstream to the former Christiansburg STP outfall on Crab Creek (NE58).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	1.10
VAW-N18R_CBC04A00 / Crab Creek / These mainstem waters extend from the former Christiansburg STP outfall upstream to Crab Creek's headwaters (NE58).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	7.93

Crab Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.36**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Post-development Erosion and Sedimentation
Sediment Resuspension (Clean Sediment)	Sediment Resuspension (Contaminated Sediment)	Streambank Modifications/destabilization	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N18R-02-BAC** **Connellys Run**

Cause Location: Bacteria impairment begins near the headwaters of Connellys Run at an unnamed tributary (37°07'04" / 80°32'16") downstream to its mouth on the New River.

City / County: Radford City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Fecal coliform (FC) bacteria excursions of the former WQS 400 cfu/100 ml instantaneous criterion cause non-support of the Recreational Use for 2.85 miles. The impairment for the 2004 303(d) Listed water remains. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-CNL000.01 (Bissett Park Bridge, Radford) There are no additional data since the 2014 IR where escherichia coli (E.coli) data exceed the 235 cfu/100 ml instantaneous criterion in 5 of 24 samples. Excessive values range from 790 to greater than 2000 cfu/100 ml. 2012 and 2010 E.coli data exceed the 235 cfu/100 ml instantaneous criterion in 4 of 12 samples. Excessive values range from 260 to 1260 cfu/100 ml. The 2006 assessment finds FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in 3 of 11 observations. The range of excursions is from 500 to 1900 cfu/100 ml. The initial 2004 303(d) Listing is based on FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in 3 of 9 observations with the range of exceedance the same as 2006.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CNL01A02 / Connellys Run / Connellys Run from an unnamed tributary @37°07'23" / 80°33'21"; 1.57 miles upstream of the Connellys Run mouth downstream to its confluence on the New River (NE57).	5A	Escherichia coli	2010	H, 2yr	1.60
VAW-N18R_CNL02A02 / Connellys Run / Connellys Run from near Rt. 611 @37°07'04" / 80°32'16"; 2.76 miles upstream of Connellys Run mouth downstream to the confluence of an unnamed tributary @37°07'23" / 80°33'21"; 1.57 miles upstream of the Connellys Run mouth on the New River (NE57).	5A	Escherichia coli	2010	H, 2yr	1.25

Connellys Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.85**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N18R-03-BAC** **Plum Creek**

Cause Location: The upstream limit is the headwaters of Plum Creek extending downstream to its mouth on the New River.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This 2004 303(d) Listed water extends for 4.72 miles on Plum Creek. The original Listing basis is 2 of 9 fecal coliform observations exceeding the former 400 cfu/100 ml instantaneous criterion. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-PLM000.60 (Rt. 11 just above the mouth of Plum Creek) No new data since the 2014 data window where Escherichia coli (E.coli) exceeds the WQS 235 cfu/100 ml instantaneous criterion in 7 of 24 observations. Values in excess of the instantaneous criterion range from 240 to 1600 cfu/100 ml. Both the 2012 and 2010 assessments find E.coli exceeds the WQS 235 cfu/100 ml instantaneous criterion in 4 of 12 observations. Values in excess of the instantaneous criterion range from 240 to 1020 cfu/100 ml. Fecal coliform (FC) exceeds the former WQS 400 cfu/100 ml instantaneous criterion in 2 of 11 observations in 2006 and 2008. Values in excess of the former standard are 1100 and 1500 cfu/100 ml.

9PLM-2-NCNR (Plum Cr. Rd. Bridge Off Rt. 11) The 2012 assessment finds full support from E.coli results where no exceedances are recorded from 11 samples. This station is located near the headwaters of Plum Cr. The maximum E.coli result is 225 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_PLM01A00 / Plum Creek / Plum Creek mainstem from its confluence with the New River upstream to the second Rt. 11 crossing of Plum Creek; end of the WQS public water supply (PWS) designation @37°07'44" / 80°30'22"(NE57).	5A	Escherichia coli	2010	H, 2yr	1.83
VAW-N18R_PLM02A02 / Plum Creek / Plum Creek mainstem from the second Rt. 11 crossing of Plum Creek; end of the WQS public water supply (PWS) designation @37°07'44" / 80°30'22" upstream to its headwaters (NE57).	5A	Escherichia coli	2010	H, 2yr	2.89

Plum Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.72**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N19R-01-BAC** **Little River (Upper)**

Cause Location: The bacteria impaired waters begin in the headwaters of Little River and extend downstream to the mouth of the West Fork of Little River (Check, Endicott and Floyd Quads).

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The original 2004 fecal coliform (FC) bacteria 303(d) Listing is extended downstream and upstream based on escherichia coli (E.coli) bacteria collections within the 2006 data window. The waters are impaired for 34.67 miles for failure to support the Recreational Use. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LRV069.88 (Rt. 641 Bridge) There are no additional data beyond the 2008 Integrated Report (IR) where 4 of 12 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion within the 2008 and 2010 data windows. Values in excess of the criterion range from 500 to 1500 cfu/100 ml. The 2006 IR reports 3 of 9 E.coli observations exceed the instantaneous criterion. Values in excess of the criterion range from 350 to 1500 cfu/100 ml.

9-LRV065.57 (Rt. 639 Bridge) 7 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 266 to 805 cfu/100 ml. The 2012 data window finds E.coli exceeds the instantaneous criterion in 7 of 15 samples. Exceeding values range from 350 to 1800 cfu/100 ml. Both the 2008 and 2010 data windows find escherichia coli (E.coli) exceeds the instantaneous criterion in 4 of 11 samples. Exceeding values range from 430 to 800 cfu/100 ml.

9-LRV056.74 (Rt. 221 Bridge) There are no additional data beyond the 2008 IR where 4 of 12 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion. Maximum values exceeding the criterion range from 400 cfu/100 ml to greater than 2000. The 2006 assessment finds 3 of 9 E.coli observations exceed the instantaneous criterion with the same range of exceedance as 2008. The original 2004 303(d) Listing is based on exceedance of the former fecal coliform bacteria 400 cfu/100 ml instantaneous criterion where 2 observations exceed from 11 samples. 2004 IR FC values exceeding the standard are 500 and 1400 cfu/100 ml.

9-LRV044.49 (Rt. 615 Bridge) There are no additional data beyond the 2014 data window. Escherichia coli (E.coli) exceedances are found in 4 of 12 observations. Exceeding values range from 1650 to greater than 2000 cfu/100 ml within the 2014 data window. There are no additional data within the 2010 and 2012 data windows. The 2008 IR reports E.coli exceedances are found in 3 of 11 observations. Exceeding values range from 380 to greater than 2000 cfu/100 ml. Two of 8 E.coli exceedances are found in 2006 at 380 and 450 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_LRV01A00 / Little River / Little River mainstem waters from the West Fork Little River confluence upstream to the mouth of Oldfield Creek (NE49).	4A	Escherichia coli	2006	L	8.73
VAW-N19R_LRV02A00 / Little River / Little River mainstem waters from the mouth of Oldfield Creek upstream to the mouth of Beaverdam Creek (NE49).	4A	Escherichia coli	2006	L	7.59
VAW-N19R_LRV03A00 / Little River / Little River mainstem waters from the mouth of Beaverdam Creek upstream to near its headwaters (NE48).	4A	Escherichia coli	2006	L	18.35

Little River (Upper)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**34.67**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N19R-01-TEMP** **Little River**

Cause Location: Little River mainstem waters from the mouth of the West Fork Little River upstream to the mouth of Payne Creek.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The 303(d) Listed natural trout water temperature impairment is extended both upstream and downstream in 2008 from the original impairment defined by station 9-LRV056.74 in 2002. The upstream extension is based on station 9-LRV065.57. And the downstream extension on station 9-LRV044.49. Total non-support of the Aquatic Life Use is 34.67 miles.

9-LRV065.57- (Rt. 639 Bridge) The Class VI 20°C criterion is exceeded within the 2018 data window at 23.4°C (6/22/15) and 22.3°C (9/2/15). The 2012 data window reports temperature exceedances in 2 of 19 measurements. Excursions are 20.4 °C on 6/29/2005 and 23.7°C on 8/5/2010. Temperature exceedances are found in 2 of 12 measurements in 2008 and 2010. Each are in excess of the WQS Class VI natural trout water criterion of 20°C. Excursions are both at 20.4 °C on 8/02/2004 and 6/29/2005.

9-LRV056.74- (Rt. 221 Bridge) Temperature data within the 2014 data window are insufficient to de-list these waters (0/4 samples). The temperature impairment remains. The 2008 IR reports temperature exceedances of the natural trout water criterion occur in 2 of 12 measurements. The excursions occur on 8/02/2004 at 21.4 °C and 6/29/2005 at 21.3°C within the 2008 data window. The 2006 Integrated Report (IR) records 2 of 12 temperature measurements exceeding the criterion with excursions in May of 2000 (at 21.2°C) and August of 2004 (at 21.4 °C). Two of 11 measurements exceed in 2004. The exceedances occur in July 1998 (at 25.7°C) and May of 2000 (at 21.2°C). The 2002 assessment found temperature exceeds in 3 of 16 measurements occurring in July 1997 and 1998 (2) and 1 in May of 2000.

9-LRV044.49- (Rt. 615 Bridge) There are no additional data beyond the 2014 data window. Three temperature measurements exceed the 20°C natural trout criterion at 26.2°C (7/21/2011), 20.5°C (9/13/2011) and 23.9°C (8/29/2012) from 12 measurements within the 2014 data window. There were no additional data within the 2010 and 2012 data windows. The 2008 IR reports 2 temperature measurements exceed the Class VI 20 °C natural trout criterion at 23.3 °C (8/02/2004) and 22.8°C (6/29/2005) from 12 measurements.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_LRV01A00 / Little River / Little River mainstem waters from the West Fork Little River confluence upstream to the mouth of Oldfield Creek (NE49).	4A	Temperature, water	2008	L	8.73
VAW-N19R_LRV02A00 / Little River / Little River mainstem waters from the mouth of Oldfield Creek upstream to the mouth of Beaverdam Creek (NE49).	4A	Temperature, water	2002	L	7.59
VAW-N19R_LRV03A00 / Little River / Little River mainstem waters from the mouth of Beaverdam Creek upstream to near its headwaters (NE48).	4A	Temperature, water	2008	L	18.35

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**34.67**

Sources:

Loss of Riparian Habitat Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N19R-02-BAC** **Meadow Run**

Cause Location: Meadow Run (MDR) from its headwaters downstream to its confluence with Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Recreational Use remains impaired for 4.00 miles for the original 2006 303(d) Listing. The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

9-MDR000.34 (Rt. 641 Bridge) There are no additional data beyond the 2012 Integrated Report (IR) where 9 of 15 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 400 to 1200 cfu/100 ml. The 2008 and 2010 IRs report 4 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 630 to greater than 2000 cfu/100 ml. The 2006 range of exceedance is the same from 3 of 9 E.coli observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_MDR01A04 / Meadow Run / Meadow Run from its headwaters downstream to its confluence with Little River (NE48).	4A	Escherichia coli	2006	L	4.00

Meadow Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.00**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N19R-02-BEN** **Meadow Run**

Cause Location: Meadow Run (MDR) from its headwaters downstream to its confluence with Little River.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Little River Benthic (Sediment Fed ID: 41517) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The original 2008 assessment finds the Aquatic Life Use impaired for 4.00 miles from the results of Virginia Stream Condition Index (VSCI) surveys.

9-MDR003.60 (Off Rt. 610) Bio 'IM' There are no additional data beyond the 2008 IR where 2 2001 VSCI surveys with an average score of 45.8 are reported. The benthic community was considerably better in the fall (score 60.6) although taxa richness and percentage of stoneflies-caddisflies (Hydropsychidae) were still low. The station is located downstream and adjacent to residences with mowed lawns, a driveway and a horse pasture that impact bank vegetation and the riparian zone in this reach. The stream substrate is impacted by sediment deposition.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_MDR01A04 / Meadow Run / Meadow Run from its headwaters downstream to its confluence with Little River (NE48).	4A	Benthic-Macroinvertebrate Bioassessments	2008	L	4.00

Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.00**

Sources:

Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N19R-03-BAC** **Pine Creek**

Cause Location: Pine Creek mainstem from its mouth on Little River upstream to the impounding structure of a pond.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The waters remain impaired for non-support of the Recreational Use. Bacteria exceedances cause the 2006 303(d) Listing for 3.91 miles.

9-PNC000.69 (Rt. 682 Bridge) There are no additional data beyond the 2008 IR where escherichia coli (E.coli) exceed the 235 cfu/100 ml instantaneous criterion in 3 of 11 samples in 2008. Excursions range from 380 to 1000 cfu/100 ml. 2006 E.coli exceedances are 3 of 8 with the same range of exceedance found in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_PNC01A06 / Pine Creek / Pine Creek mainstem from its mouth on Little River upstream to just above the intersection of Sandy Flats Road (Rt. 690) (NE49).	4A	Escherichia coli	2006	L	3.91

Pine Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.91**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N19R-03-TEMP** **Pine Creek**

Cause Location: Pine Creek mainstem from its mouth on Little River upstream to the impounding structure of a pond.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The Aquatic Life Use is not supported due to temperature exceedances of the WQS Class VI natural trout water criterion. The impairment extends 3.91 miles.

9-PNC000.69- There are no additional data beyond the 2008 IR. Two of 12 temperature measurements exceed the natural trout water criterion of 20°C. Each excursion is 20.5 °C on 8/02/2004 and 21.3°C on 6/29/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_PNC01A06 / Pine Creek / Pine Creek mainstem from its mouth on Little River upstream to just above the intersection of Sandy Flats Road (Rt. 690) (NE49).	4A	Temperature, water	2008	L	3.91

Pine Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.91**

Sources:

Loss of Riparian Habitat Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N20R-01-BAC** **Dodd Creek and West Fork Dodd Creek**

Cause Location: Dodd Creek: The upper limit extends from the junction of Routes 710 and 714 downstream to the Dodd Creek mouth on the West Fork Little River (Woolwine and Floyd Quads).
West Fork Dodd Creek and unnamed tributary XDC: Mainstem extends from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located at 36°52'33" / 80°19'43".
West Fork Little River: West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Dodd Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/11/2002 [Fed ID 9456/23407] and State Water Control Board (SWCB) approved on 6/17/2004 (formerly VAW-N20R-01). The Bacteria Implementation Plan (IP) received SWCB approval on 6/27/2007. The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and SWCB approved on 3/25/2013. The Bacteria TMDLs can be viewed at http://www.deq.virginia.gov. The waters were originally 1998 303(d) listed based on the former fecal coliform (FC) WQS instantaneous criterion of 1000 cfu/100 ml and 200 geometric mean (8.90 miles). Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. Additional bacteria sampling above and below the 1998 303(d) Dodd Creek Impaired waters have extended the original size. Tributary additions include the West Fork of Dodd Creek (7.04 miles) and an unnamed tributary (XDC) in 2002 to the West Fork (0.53 miles).

Dodd Creek:
9DDD-1-NCNR- Citizen Lv. 2 data for escherichia coli (E.coli) find a 'High' probability of adverse conditions from 5 exceedances of 8 samples. Excessive values range from 350 to 1400 cfu/100 ml in excess of the 235 cfu/100 ml instantaneous criterion. There are no additional data beyond the 2012 Integrated Report (IR).

9-DDD004.64 (Route 720 Bridge above Floyd STP) There are no additional data beyond the 2008 IR where E.coli exceeds the instantaneous criterion in 2 of 9 observations at 280 and 1200 cfu/100 ml. The 2004 IR reports 3 of 11 FC samples exceed the former WQS 400 cfu/100 ml instantaneous criterion.

9-DDD002.62- (Route 696 Bridge below Floyd STP) There are no additional data beyond the 2014 assessment. Twenty-one of 36 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. Values in excess of the criterion range from 250 cfu/100 ml to greater than 2000. 2012 data find 21 of 33 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 250 cfu/100 ml to greater than 2000. E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 15 of 21 samples within the 2010 data window. Excessive values range from 250 cfu/100 ml to greater than 2000. Six of 9 E.coli samples exceed the instantaneous criterion in 2008. Values in excess range from 250 cfu/100 ml to greater than 2000.

9-DDD001.00- (Route 8 Bridge below Floyd STP) There are no additional data beyond the 2014 Integrated Report (IR) where E.coli was found to exceed the instantaneous criterion in 16 of 36 samples. Exceedances range from 250 to greater than 2000 cfu/100 ml. E.coli exceeds the instantaneous criterion in 13 of 33 samples in 2012. Exceedances range from 250 to greater than 2000 cfu/100 ml. 2010 data find E.coli exceeds the instantaneous criterion in 9 of 21 samples. Exceedances range from 350 to greater than 2000 cfu/100 ml. 2008 exceedances of the E.coli instantaneous criterion are 2 of 9 samples ranging from 350 and 1900 cfu/100 ml.

9-DDD008.20- No additional data beyond 2004 Integrated Report (IR). The 2004 IR reports FC exceedances of the former 400 cfu/100 ml WQS instantaneous criterion occur in 3 of 3 observations (max. 1700); 1 FC geometric mean calculation results in the exceedance of the former 200 cfu/100 ml standard. No E.coli samples collected.

West Fork Dodd Creek:
9-DDW004.02 (Rt. 714 Bridge) No additional data beyond the 2004 IR that reports FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion occur in 4 of 4 observations (max. 9200). Additionally the former FC geometric mean exceeds in 1 calculation.

9-DDW000.02- (Rt. 8 Bridge) 20of 36 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion ranging from 250 to 1800 cfu/100 ml within the 2014 data window. 2012 E.coli data finds 12 of 24 samples exceeding the

instantaneous criterion. Values in excess of the criterion range from 250 to 1800 cfu/100 ml. The 2010 assessment finds 7 of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 250 to 1600 cfu/100 ml.

Unnamed Tributary XDC: (The unnamed tributary portion extends from just upstream of the Rt. 8 crossing (36°52'18"/080°20'03") downstream to its confluence with the West Fork Dodd Creek (36°52'33"/080°19'43" - Floyd Quad.) 9-XDC000.48 (Rt. 807 Bridge) No additional data beyond the 2004 IR. FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion occur in 4 of 4 observations (max. 6400). Additionally the former WQS geometric mean exceeds in 1 calculation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD01A00 / Dodd Creek / Dodd Creek mainstem waters from its mouth on the West Fork of Little River upstream to the Floyd/Floyd County PSA outfall on Dodd Creek (NE51).	4A	Escherichia coli	2008	L	3.84
VAW-N20R_DDD02A00 / Dodd Creek / Dodd Creek mainstem waters from the Floyd/Floyd County PSA outfall on Dodd Creek upstream to the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge (NE51).	4A	Escherichia coli	2008	L	2.60
VAW-N20R_DDW01A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Escherichia coli	2010	L	1.31

Dodd Creek and West Fork Dodd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.75**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD03A02 / Dodd Creek / Dodd Creek mainstem from the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge on upstream near the junction of Routes 710 and 714 near the Blue Ridge Parkway (NE51).	4A	Fecal Coliform	1998	L	2.46
VAW-N20R_DDW02A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from the confluence of an unnamed tributary (XDC) upstream to its headwaters. The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Fecal Coliform	1998	L	5.73
VAW-N20R_XDC01A02 / West Fork Dodd Creek, UT (XDC) / An unnamed tributary (XDC) to the West Fork Dodd Creek from its confluence upstream to its headwaters. The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Fecal Coliform	2002	L	0.53

Dodd Creek and West Fork Dodd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**8.72**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N20R-01-TEMP** **West Fork Dodd Creek**

Cause Location: West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43".

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

9-DDW000.02 (Rt. 807 Bridge) There are no additional data beyond the 2014 data window. 2014 data reveal 5 of 36 temperature measurements in excess of the WQS Class VI 20°C criterion. Temperature exceedances in addition to those within the 2012 IR are 24.6°C on 7/21/2011 and 22.2°C on 8/29/2012. 2012 Class VI temperature exceedances are found in 3 of 24 measurements occurring on 7/18/2007 at 20.9°C: 9/11/2007 at 22.3°C and 24.3°C on 8/5/2010. Temperature exceedances within the 2010 data window are found in 2 of 12 measurements that occur on 7/18/2007 at 20.9°C and 9/11/2007 at 22.3°C. 2002 IR reports temperature exceeds the 20° natural trout criterion in 2 of 2 measurements. Exceeding values are 23.3°C on 7/28/99 and 20.1°C on 6/28/00. The 2002 Temperature 303(d) Listing remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDW01A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Temperature, water	2002	L	1.31

West Fork Dodd Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.31**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N20R-02-TEMP** **Dodd Creek**

Cause Location: Dodd Creek from it's confluence with the West Fork Little River upstream to the mouth of the West Fork of Dodd Creek

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4A

There are no additional Dodd Creek data beyond the 2014 assessment. The 2012 assessment finds the Aquatic Life Use is impaired for 8.90 miles due to temperature exceedances of these Class V (21°C) stockable trout waters criterion. The impairment is extended upstream 2.19 miles with citizen data from station 9DDD-1-NCNR in the 2010 assessment. The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

Dodd Creek (Lower): Length 3.84 miles.
9-DDD002.62- (Route 696 Bridge below Floyd STP) There are no additional data beyond the 2014 data window. The 2014 Integrated Report (IR) finds the 21°C stockable trout water criterion exceeds in 4 of 36 measurements at 21.7°C on 9/11/2007; 23.9°C on 8/5/2010; 23.9°C on 7/21/2011 and 21.6°C on 8/29/2012. The 21°C Class V criterion exceeds in 4 of 33 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; 21.7°C on 9/11/2007 and 23.9°C on 8/5/2010 within the 2012 data window. The 2010 IR finds 3 of 21 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; and 21.7°C on 9/11/2007. 2008 results report 2 of 9 measurements at 22.2°C on 8/10/2005 and 21.6°C on 8/14/2006.

9-DDD001.00- (Route 8 Bridge below Floyd STP) There are no additional data beyond the 2014 data window. The 2014 Integrated Report (IR) finds the stockable trout water criterion exceeds in 4 of 36 measurements at 21.1°C on 9/11/2007; 23.7°C on 8/5/2010; 24.4°C on 7/21/2011 and 21.9°C on 8/29/2012. The 2012 IR reports the Class V criterion exceeds in 4 of 33 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; 21.1°C on 9/11/2007 and 23.7°C on 8/5/2010. The 2010 assessment finds the stockable trout water criterion exceeds in 3 of 21 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; and 21.1°C on 9/11/2007. The 2008 IR found 2 of 9 temperature measurements exceed the Class V criterion at 22.0 on 8/10/2005 and 22.1°C on 8/14/2006.

Dodd Creek (Upper) Length 5.06 miles.
9DDD-1-NCNR (Rt. 710 Bridge) There are no additional data beyond the 2012 IR where Citizen Level 3 data finds 3 of 14 temperature measurements exceed the Class V criterion of 21°C. Excessive values are 25°C on 6/8/2008; 22.5°C on 8/10/2008; and 22.5°C on 9/14/2008. The 2010 data window reveals 3 of 8 temperature measurements exceeding the criterion on the same dates in 2010. These data extended the temperature impairment upstream 2.19 miles in 2010.

Single measurement exceedances of the Class V criterion occur upstream in 2008 and 2010. There are no additional data reported for Station 9-DDD004.64 (Rt. 720 Bridge above Floyd STP) where 1 temperature exceedance from 9 measurements is found at 22.4°C on 8/10/2005 within the 2008, 2010 and 2012 data windows.

Historically stations 9-DDD006.27 (Rt. 8 Bridge), 9-DDD004.75 (Rt. 720 Bridge) and 9-DDD004.64 (Route 720 Bridge above Floyd STP) have recorded temperature excursions upstream albeit in drought conditions. 9-DDD006.27 21.6°C on 7/28/99 - 1 of 2 temperature measurements exceed the 21°C criterion. 9-DDD004.75 records 1 excursion at 21.9°C on 7/28/99. The extension of the impairment to the mouth of the West Fork of Dodd Creek is in recognition of these data and temperature exceedances on the West Fork of Dodd Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD01A00 / Dodd Creek / Dodd Creek mainstem waters from its mouth on the West Fork of Little River upstream to the Floyd/Floyd County PSA outfall on Dodd Creek (NE51).	4A	Temperature, water	2008	L	3.84
VAW-N20R_DDD02A00 / Dodd Creek / Dodd Creek mainstem waters from the Floyd/Floyd County PSA outfall on Dodd Creek upstream to the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge (NE51).	4A	Temperature, water	2008	L	2.60

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

VAW-N20R_DDD03A02 / Dodd Creek / Dodd Creek mainstem from the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge on upstream near the junction of Routes 710 and 714 near the Blue Ridge Parkway (NE51).	A	Temperature, water	2010	L	2.46

Dodd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**8.90**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N20R-03-TEMP** **West Fork Little River**

Cause Location: West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The initial 2018 listing for exceedances of the Class VI (20°C) Natural Trout Waters criterion applies to 4.53 miles of the West Fork Little River. The West Fork Little River Aquatic Life Use impairment is nested in the Little River Temperature (Fed ID: 41518) TMDL Study.

West Fork Little River: Length 4.53 miles.
9-LWF004.55 (Rt. 8 Bridge North of Floyd) - The 2018 data window finds 4 of 12 temperature measurements exceeding the Class VI Natural Trout Waters 20°C criterion. Excursions are found on the following sampling dates and temperature measurements: 6/22/15 at 23.4°C, 7/23/15 at 21.2°C, 8/20/15 at 21.3°C, and 9/2/15 at 21.9°C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_LWF01A00 / West Fork Little River / West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).	4A	Temperature, water	2018	L	4.53

West Fork Little River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N20R-04-BEN** **Dodd Creek, Unnamed Tributary (XEM)**

Cause Location: Unnamed tributary XEM from its mouth on Unnamed tributary XEL upstream to its headwaters (NE51).

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This initial 0.71 mile 2018 data window Aquatic Life Use listing is based on Virginia Stream Condition Index scores collected as part of a special study.

9-XEM000.36 (Unnamed tributary (XEL) to Dodd Cr., UT)- 2 2016 VSCI scores define the Aquatic Life Use Impairment: Spring 39.0, Fall 63.9. This stream originates downslope of the Floyd County landfill (landfill was built on top of the original stream channel). Approximately 0.18 miles upstream of the sample station (9-XEM000.36), the stream surfaces from a spring box and is impacted by growths of iron bacteria and Sphaerotilus (sewage fungus). The spring 2016 sediment discharge appears to be affecting the benthic community. Certain stonefly taxa are tolerant of iron precipitate and can thrive in streams moderately impacted by landfills and mines.

9-XEM000.30 (Unnamed tributary (XEL) to Dodd Cr., UT) - 3 VSCI spring surveys (2011-2012, 2016) report an average score of 58.2. The stream surfaces from the Floyd landfill in a spring box and is impacted by growths of iron bacteria and sphaerotilus (sewage fungus). The stream substrate was too impacted by bacterial growth to sample for benthic macroinvertebrates; A May 2011 habitat survey shows most parameters are in the optimal range. Sediment deposition was the only parameter found to be in the marginal range. During the 2012 habitat survey, scores for sediment deposition and several other parameters had declined, some were due to lower stream flow. The 2011 sample is dominated by mayflies, stoneflies and other generally pollution-sensitive taxa. The dominant mayfly taxa, Ephemerellidae (50% of all organisms) is somewhat tolerant of excessive sediment and several stonefly taxa present are known to be tolerant of iron precipitate and organic enrichment. The June 2012 sample finds the number of mayflies very low but stoneflies (51%) are numerous.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_XEM01A08 / Unnamed Tributary (XEM) / Unnamed tributary XEM from its mouth on Unnamed tributary XEL upstream to its headwaters (NE51).	5A	Benthic-Macroinvertebrate Bioassessments	2018	L	0.71

Dodd Creek, Unnamed Tributary (XEM)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.71**

Sources:

Upstream Source

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New River Basin

***Cause Group Code:* N21R-01-BAC** **Little River (Lower)**

Cause Location: The upper limit begins at the confluence of Dodd Creek (N19R) extending downstream to the Little River mouth on the New River (N21R).

City / County: Floyd Co. Montgomery Co. Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. Exceedances of the former WQS fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml required the initial 2002 bacteria 303(d) Listing based on data from the United States Geological Survey (USGS) station 03170000. Two of 14 observations exceed the former instantaneous criterion. Application of the revised 400 cfu/100 ml instantaneous criterion would result in 4 of 14 exceedances above the former criterion ranging from 420 to 14,900 cfu/100 ml. Due to the previous 2002 1.39 mile riverine 303(d) Listing from Meadow Creek confluence downstream to the backwaters of Little River Reservoir and 2004 bacteria results from 9-LRV000.34 the riverine impairment is extended 0.49 miles downstream. The 2012 Integrated Report (IR) extends the upper limit to the confluence of Dodd Creek incorporating the West Fork of Little River. The West Fork of Little River is nested within the overall Little River Bacteria TMDL. The impounded waters (60.44 acres) of Little River Reservoir are now bacteria impaired and were incorporated with the 2008 IR.

The 2004 IR establishes a 13.41 mile bacteria impairment at 9-LRV032.72 where 3 of 8 fecal coliform bacteria observations exceed the former WQS 400 cfu/100 ml instantaneous criterion within the 2004 data window. Exceedances range from 600 to 1100 cfu/100 ml. The 2004 303(d) List describes the impaired extent from the end of Rt. 706 downstream to the confluence of Sidney Creek. This 2004 portion of Little River is separate from the original 2002 bacteria 303(d) Listing because of hydrology and the lack of bacteria data between the 2 initial listings on the mainstem of Little River.

Additional bacteria sample collection within the 2008 and 2010 data windows define the entire 44.22 mile impairment below. Future assessment and 303(d) Listings replace fecal coliform with escherichia coli (E.coli) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

West Fork Little River (Nested):
9-LWF004.55 (Rt 8 Bridge, North of Floyd)- There are no additional data beyond the 2012 Integrated Report (IR) where 5 of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 280 to greater than 2000 cfu/100 ml.

Little River:
9-LRV044.49 (Rt. 615 Bridge) There are no additional data beyond the 2008 IR. E.coli exceedances are found in 3 of 11 observations within the 2008 and 2010 data windows. Exceeding values greater than the instantaneous criterion of 235 cfu/100 ml range from 380 to greater than 2000 cfu/100 ml. Two exceedances from 8 E.coli observations exceed the instantaneous criterion in 2006. Exceeding values are 380 and 450 cfu/100 ml.

9-LRV032.72 (Rt. 617 Bridge) There are no additional data beyond the 2006 IR where 4 of 11 FC observations exceed the former WQS 400 cfu/100 ml instantaneous criterion. Exceedances range from 600 to 3,300 cfu/100 ml. The same total observations and exceedances are found within the 2008 data window. The remaining FC data within the 2010 data window find 1 of 3 samples in excess of the former instantaneous criterion at 3300 cfu/100 ml. There are no Escherichia coli (E.coli) data to assess.

9-LRV016.68 (Rt. 787 Bridge) 1 E.coli sample out of 12 within the 2018 data window exceeds the 235 cfu/100 ml instantaneous criterion at 512 cfu/100 ml. The 2012 and 2014 assessment find 2 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 380 and 1200 cfu/100 ml. Data within the 2010 data window find 1 of 2 FC samples exceed the former WQS instantaneous criterion of 400 cfu/100 ml at greater than 8000 cfu/100 ml. There are no Escherichia coli (E.coli) data to assess. Two of 10 FC samples exceed the instantaneous criterion within both the 2006 and 2008 data windows. Each excursion is 900 and greater than 8000 cfu/100 ml. There are no additional beyond the 2006 IR. The same total observations and exceedances are found within the 2008 data window.

9-LRV012.58 (Rt. 787 pull off) The 2016 data window finds 3 of 12 escherichia coli (E.coli) samples in exceedance of the 235 cfu/100 ml instantaneous standard. Exceedances range from 275 to 1075 cfu/100 ml.

9-LRV009.11 (Route 693 Bridge at Graysontown) The 2018 data window finds 11 of 36 E.coli samples in exceedance of the

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235 cfu/100 ml instantaneous criterion. Ten of 36 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in the 2016 IR data window. 2016 exceedances range from 400 to greater than 2000 cfu/100 ml. The 2014 data window finds 5 of 24 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion ranging from 400 to greater than 2000 cfu/100 ml. Two of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 400 and 1000 cfu/100 ml in 2012. Data within the 2010 data window find 1 of 3 samples in excess of the former WQS instantaneous criterion of 400 cfu/100 ml at 500 cfu/100 ml. Data within both the 2006 and 2008 IRs reveal FC exceeds the instantaneous criterion in 2 of 11 samples at 500 and 600 cfu/100 ml. The same total observations and exceedances are found within the 2008 data window. Note: USGS 03170000 (Little R. at Graysontown) an original 2002 listing station is at the same location.

9-LRV000.44 (Above Little River Dam) There are no additional data beyond the 2010 IR where E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 2 of 7 observations. Exceeding values are 420 and 1000 cfu/100 ml.

9-LRV000.34 (Route 605 Bridge- below Little River Dam) Both 2012 and 2010 E.coli data exceed the 235 cfu/100 ml instantaneous criterion in 3 of 12 samples. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. Data within the 2008 data window find 4 of 14 FC samples in excess of the former 400 cfu/100 ml criterion. The range of exceedance is from 500 cfu/100 ml to 7300. The same 4 exceeding values are found in the 2006 IR from 20 FC observations. No additional data is available beyond the 2012 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_LWF01A00 / West Fork Little River / West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).	4A	Escherichia coli	2012	L	4.53
VAW-N21L_LRV01A02 / Little River Reservoir / Little River Reservoir from its impounding structure upstream to its backwaters.	4A	Escherichia coli	2008	L	60.44
VAW-N21R_LRV01A00 / Little River / The mainstem waters of Little River from its mouth on the New River upstream to the Little River Reservoir Dam (NE56).	4A	Escherichia coli	2010	L	0.49
VAW-N21R_LRV03A00 / Little River / Mainstem Little River from the backwaters of Little River Reservoir upstream to the end of the designated PWS section from the Radford City intake (NE56).	4A	Escherichia coli	2012	L	0.69
VAW-N21R_LRV04A00 / Little River / Mainstem Little River from the PWS designated end upstream to the mouth of Meadow Creek (NE56).	4A	Escherichia coli	2012	L	0.70
VAW-N21R_LRV05A00 / Little River / The Little River mainstem waters from the mouth of Meadow Creek upstream to the mouth of Big Indian Creek (NE55).	4A	Escherichia coli	2012	L	12.33
VAW-N21R_LRV06A00 / Little River / The Little River mainstem from the mouth of Big Indian Creek upstream to the WQS designated natural trout water section (NE53).	4A	Escherichia coli	2006	L	8.37
VAW-N21R_LRV07A00 / Little River / Little River mainstem from the WQS designated natural trout waters upstream to the mouth of the West Fork of Little River (NE52).	4A	Escherichia coli	2006	L	3.70

Little River (Lower) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**60.44**	**30.81**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_LRV06A04 / Little River / Little River from the Brush Creek mouth downstream to the confluence of Sidney Creek (NE53).	4A	Fecal Coliform	2004	L	8.79

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VAW-N21R_LRV06A14 / Little River / Little River from the end of Rt. 706 downstream to the confluence of Brush Creek (NE52).	A	Fecal Coliform	2004	L	4.62

Little River (Lower)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**13.41**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N21R-02-BAC** **Meadow Creek**

Cause Location: The Meadow Creek mainstem from the Mill Creek confluence downstream to the Meadow Creek mouth on Little River (Radford South Quad).

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.
Fecal coliform (FC) excursions of the former 1000 cfu/100 ml instantaneous criterion found in 2002 results in the initial 303(d) Listing of these waters for 4.49 miles. Exceedances are found in 3 of 4 observations and 1 geometric mean calculation exceedance is recorded in excess of the former 2002 criterion of 200 cfu/100 ml. Additional sample collections within the 2004 IR data window also produce exceedances of the former 400 cfu/100 ml instantaneous criterion in 7 of 12 observations with 1 geometric mean excursion of the former criterion. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-MDW004.62- There are no new data. The 2014, 2012 and 2010 data windows produce 6 exceeding values from 12 observations of the escherichia coli (E.coli) 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 280 to greater than 2000 cfu/100 ml. The 2006 IR finds FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion in 6 of 11 observations. The range of exceeding values is from 700 to greater than 8000 cfu/100 ml. FC exceedances and total observations within the 2008 data window are the same.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_MDW01A00 / Meadow Creek / The Meadow Creek mainstem from its confluence with Little River upstream to the mouth of Mill Creek on Meadow Creek (NE56).	4A	Escherichia coli	2010	L	4.64

Meadow Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.64**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N21R-03-BAC** **Mill Creek, Poplar Branch, Mill Creek UTs (XDE & XDF)**

Cause Location: The upper limit begins at the headwaters of Mill Creek on the Riner Quad and extends downstream to the Mill Creek confluence with Meadow Creek at the Rt. 600 Bridge on the Radford South Quad (7.04 miles). This impairment also includes Poplar Branch and its tributaries form its mouth on Mill Creek to its headwaters as well as to unnamed tributaries to Mill Creek (XDE & XDF).

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The Mill Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/05/2002 [Fed ID 9453/19986] and State Water Control Board (SWCB) approved 6/17/2004 (formerly VAW-N21R-03). And the Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and SWCB approved 3/25/2013. The Mill Creek Bacteria Implementation Plan (IP) received SWCB approval on 6/27/2007; Little River 3/25/2013. The 1996/2002/2004 impaired waters now extend to the headwaters of Mill Creek (7.60 miles). 2002 tributary additions include Poplar Branch and 2 unnamed tributaries. The waters are impaired for a total of 15.92 miles.

The waters are originally 303(d) Listed based on the former fecal coliform (FC) WQS instantaneous criterion of 1000 cfu/100 ml and 200 geometric mean. The 2004 Integrated Report (IR) records exceedances of both the former FC 400 cfu/100 ml instantaneous criterion and geometric mean criterion of 200 cfu/100 ml. Listed below are the monitored sites showing fecal coliform instantaneous excursions/total sample collections; (maximum) and geometric mean calculation exceedances/total calculations where applicable. Instantaneous Escherichia coli (E. coli) single observations from the 2008 Integrated Report are listed next (value). Each exceed the WQS instantaneous criterion of 235 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-MLC005.44- There are no new data since the 2014 data window. Fourteen of 24 samples exceed the Escherichia coli (E.coli) instantaneous water quality standard of 235 cfu/100 ml. In 2014, 18 of 36 total observations exceed the instantaneous criterion. Those values in excess of the 235 cfu/100 ml instantaneous criterion range from 250 to greater than 2000 cfu/100 ml. The 2012 data window produces 11 of 24 escherichia coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion. The exceeding values range from 280 to 600 cfu/100 ml. E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 4 of 12 samples in 2010. The exceeding values range from 250 to 580 cfu/100 ml.

9-MLC002.59 (Rt. 669 Bridge)- There are no new data since the 2014 data window. E.coli exceedances of the 235 cfu/100 ml instantaneous criterion are found in 23 of 36 observations in 2014 and 16 of 24 observations in 2016 (there are no new observations in the 2016 data window). Values in excess of the instantaneous criterion range from 280 to greater 2000 cfu/100 ml. The 2012 assessment reports 14 of 24 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion ranging from 280 to greater than 2000 cfu/100 ml. Seven of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in 2010. Values in excess range from 580 to greater than 2000 cfu/100 ml.

9-MLC001.53 (Rt. 693, Childress)- There are no new data since the 2014 data window. Fourteen of 36 escherichia coli (E.coli) observations exceed the 235 cfu/100 ml instantaneous criterion in 2014. Exceedances range from 250 to greater than 2000 cfu/100 ml. 2012 E.coli excursions of the 235 cfu/10 ml instantaneous criterion are found in 8 of 24 samples. Exceeding values range from 250 to 1100 cfu/100 ml. 2010 E.coli excursions are found in 3 of 12 samples. Exceeding values range from 300 to 1100 cfu/100 ml.

Data below reflect the 2004, 2006 and 2008 IR data windows as there were no additional data beyond the 2006 IR in the 2008 assessment. Two ambient fixed sites 9-MLC005.44 and 9-MLC001.53 are included with the non-fixed sites below.

2004 IR results:
Mill Creek
9-MLC000.17 (Rt. 600 Bridge) - 3/5; (3900); 1/1 geomean; E.coli- 1/1 (800).
9-MLC001.31 (Rt. 693 Bridge) - 3/5; (2300); 1/1 geomean; E.coli- 1/1 (800) .
9-MLC001.53 (Rt. 693, Childress) - 3/6; (2300).
9-MLC002.74 (Private Road off Rt. 616) - 4/5; (>8000); 1/1 geomean; E.coli- 1/1 (800).
9-MLC005.44 (Rt. 8 Bridge-above Riner STP)- 18/25; (2500); E.coli- 1/1 (800).
9-MLC006.00 (Private road Rt. 616)- 2/5; (>8000); 0/1 geomean; E.coli- 1/1 (>800).

Poplar Branch

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9-PPL000.01 (Private Road at mouth)- 1/1; (>8000).
9-PPL001.27 (Rt. 616 Bridge)- 2/2 (2800).

Mill Creek Unnamed Tributaries
9-XDE000.95 (Rt. 678 Bridge)- 4/5; (>8000); 1/1 geomean; E.coli- 1/1 (>800).
9-XDF000.11 (Private road Rt. 669)- 4/5;(2600); 1/1 geomean; E.coli- 1/1 (>800).

2006 IR results for 2006 stations within the data window:
Mill Creek
9-MLC005.44- 2006 FC exceeds the instantaneous criterion in 10 of 15 observations. Exceeding values range from 600 to 2000 cfu/100 ml. 2008 FC exceeds in 8 of 11 samples.
9-MLC002.74- 2006 FC exceeds the WQS 400 cfu/100 ml instantaneous criterion in 10 of 12 observations. The maximum exceedance is greater than 8000 and the minimum is 500 cfu/100 ml. 2008 FC exceeds in 9 of 11 observations.
9-MLC001.53- 2006 FC excursions are found in 5 of 8 samples with a maximum of 2300 cfu/100 ml. 2008 5 of 8 FC samples exceed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_MLC01A00 / Mill Creek / Mill Creek mainstem waters from its mouth on Meadow Creek upstream to the Montgomery County PSA Riner STP outfall (NE56).	4A	Escherichia coli	2010	L	5.49
VAW-N21R_MLC02A00 / Mill Creek / Mill Creek mainstem waters from the Montgomery County PSA Riner STP outfall upstream to its headwaters (NE56).	4A	Escherichia coli	2010	L	2.11

Mill Creek, Poplar Branch, Mill Creek UTs (XDE & XDF)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**7.60**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_PPL01A02 / Poplar Branch & Tributaries / Poplar Branch mainstem and tributaries from its confluence with Mill Creek upstream to its headwaters (NE56).	4A	Fecal Coliform	2002	L	4.62
VAW-N21R_XDE01A02 / Mill Creek, UT (XDE) / An unnamed tributary (XDE) to Mill Creek from its mouth upstream. The stream is located in the headwaters of Mill Creek flowing to VAW-N21R_MLC02A00 (NE56).	4A	Fecal Coliform	2002	L	1.75
VAW-N21R_XDF01A02 / Mill Creek, UT (XDF) / An unnamed tributary (XDF) to Mill Creek from its mouth upstream. The stream is located in the headwaters of Mill Creek flowing to VAW-N21R_MLC01A00 (NE56).	4A	Fecal Coliform	2002	L	1.95

Mill Creek, Poplar Branch, Mill Creek UTs (XDE & XDF)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**8.32**

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New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N21R-05-BAC** **Brush Creek**

Cause Location: Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 downstream to the Brush Creek mouth on Little River.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.
The 2004 Recreational Use impairment continues for 5.94 miles originally due to fecal coliform (FC) bacteria exceedances of the former instantaneous criterion of 400 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-BSH000.05 (Rt. 617 Bridge) 4 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 473 to greater than 1100 cfu/100 ml. The 2012 Integrated Report (IR) found 6 of 11 escherichia coli (E.coli) observations exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 250 to greater than 2000 cfu/100 ml. These waters were initially Listed for fecal coliform (FC) in 2004 with 3 of 8 FC samples exceeding the former WQS instantaneous criterion of 400 cfu/10 ml. The 2010 data window finds 2 of 2 samples exceeding the former instantaneous criterion at 800 and 1100 cfu/100 ml. The 2004, 2006 and 2008 data windows find 5 of 10 FC samples exceeding the former instantaneous criterion. The maximum exceedance range is from 700 to 1300 cfu/100 ml. There were no E.coli data to assess at that time.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BSH01A04 / Brush Creek / Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 downstream to the Brush Creek mouth on Little River (NE52).	4A	Escherichia coli	2012	L	5.94

Brush Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.94**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

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New River Basin

***Cause Group Code:* N21R-06-BAC** **Laurel Creek**

Cause Location: Laurel Creek mainstem from its headwaters NW of the Routes 608 and 673 intersection downstream to its confluence with Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

Fecal coliform (FC) bacteria exceedances cause this initial 2004 303(d) Listed water to not support the Recreational Use for 3.44 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LLL000.05- There are no additional data beyond the 2012 Integrated Report (IR) where 5 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. The range of exceeding values is 380 to 1200 cfu/10 ml. FC data within the 2010 data window find 1 of 2 samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml. Both the 2006 and 2008 Integrated Reports (IR) find FC exceeds the former WQS 400 cfu/100 ml instantaneous criterion in 5 of 10 samples. The exceedances range from 600 to 2800 cfu/100 ml. FC data within the 2010 data window find 1 of 2 samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_LLL01A04 / Laurel Creek / Laurel Creek from its headwaters (Class VI) NW of Rts. 608 and 673 intersection downstream to its confluence with Little River (NE52).	4A	Escherichia coli	2012	L	3.44

Laurel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.44**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N21R-07-BAC** **Big Indian Creek**

Cause Location: Big Indian Creek from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The 2010 Integrated Report initially 303(d) Lists these waters.

9-BIC000.14 (Rt. 787 Bridge)- There is no additional bacteria data collected within the 2018 or 2016 data windows. 2014 data window reveals 10 of 24 escherichia coli (E.coli) observations in excess of the 235 cfu/100 ml instantaneous criterion. Excursions range from 300 to 950 cfu/100 ml. There are no additional data within the 2012 data window. The 2010 initial Listing is based on E.coli exceedances from 4 of 12 samples in excess of the instantaneous criterion with excursions ranging from 350 to 950 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BIC01A02 / Big Indian Creek / Big Indian Creek mainstem from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River (NE54).	4A	Escherichia coli	2010	L	7.83

Big Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.83**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N21R-07-TEMP** **Big Indian Creek**

Cause Location: Big Indian Creek from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. These waters were initially 303(d) Listed with the 2004 assessment and subsequently delisted with the 2010 assessment. The waters return to an impaired status with the 2014 assessment. Big Indian Creek is addressed by the Little River Temperature TMDL and is category 4A.

9-BIC000.14- (Rt. 787 Bridge, Indian Valley Rd.) No new data was collected within the 2018 data window. The 2016 data windows finds no new temperature exceedances. The 2014 data window records 3 of 24 temperature measurements in excess of the Class V stockable trout water criterion of 21°C. Exceedances occur on 7/18/2007 at 21.7°C; 7/21/2011 at 24.1°C and 8/29/2012 at 21.6°C. The 2012 data window reveals 1 exceeding value at 21.7°C on 7/18/2007 from 12 measurements with no additional data. The waters were delisted based on data within the 2010 window where 1 exceedance (7/18/2007) is recorded from 15 measurements. The temperature original 2004 303(d) Listing continued through the 2008 Cycle. 2006 and 2008 IRs record 2 of 11 exceedances each. The excursions are 23.9 °C on 7/11/01 and 23.2 °C on 7/10/02 during some of the driest years on record. The original 303(d) Listing in 2004 is based on 2 of 8 temperature measurements exceeding the 21°C criterion as recorded for 2006 and 2008 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BIC01A02 / Big Indian Creek / Big Indian Creek mainstem from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River (NE54).	4A	Temperature, water	2004	L	7.83

Big Indian Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**7.83**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-02-BAC** **Stroubles Creek**

Cause Location: The upstream end is at the Duck Pond dam on the southwest end of the VPI&SU campus on the Blacksburg Quad. The downstream end is at the Slate Branch mouth on Stroubles Creek.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Fecal coliform (FC) bacteria exceedances of the former 1000 cfu/100 ml WQS instantaneous criterion in 2002 cause impairment of the Recreational Use. Three of 23 observations exceed the former criterion at station 9-STE002.41 Rt. 705 Bridge (Coal Hollow Road). The 2004 IR at 9-STE002.41 records 4 exceedances from 35 samples in excess of the current 400 cfu/100 ml WQS instantaneous criterion. Escherichia coli (E.coli) bacteria replaced fecal coliform (FC) in 2006 as the indicator as required by Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 2008 results find E.coli exceedances at 9-STE002.41 are 3 of 31 samples and resulted in 2.11 miles delisted with the 2008 IR. This 2.11 mile delisted portion (partial - length) returned with the 2010 303(d) Listing.

9-STE002.41- (Rt. 705 Bridge- Coal Hollow Road) The 2018 and 2016 data windows find 11 of 36 escherichia coli (E.coli) samples that exceed the 235 cfu/100 ml instantaneous criterion. Twelve of 36 samples exceeded that criterion in 2014. Values in excess of the instantaneous criterion range from 250 to greater than 2000 cfu/100 ml within the 2014 and 2016 data windows. The 2012 data window finds 8 of 36 observations exceeding the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 280 to greater than 2000 cfu/100 ml. 2010 E.coli samples find 8 exceed the 235 cfu/100 ml instantaneous criterion from a total of 32 samples with the same range of exceedance.

9-STE007.29 (Rt. 657 Bridge below old B'Burg STP) There is no new data within the 2016 data window. Escherichia coli (E. coli) samples find 8 exceed the 235 cfu/100 ml instantaneous criterion from a total of 24 samples. Exceeding values range from 280 to greater than 2000 cfu/100 ml within the 2014 data window. The 2012 IR reports 8 E.coli samples exceed the instantaneous criterion from a total of 33. Exceeding values range from 280 to greater than 2000 cfu/100 ml. 2010 results find 8 exceed from a total of 32 samples with the same range of exceedance as 2012. 2008 E.coli results exceed in 5 of 25 samples. The 2008 exceedance range is from 300 to greater than 2000 cfu/100 ml. 2006 E.coli samples reveal 5 exceed the instantaneous criterion from a total of 16. Exceeding values range from 490 to greater than 5000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_STE03A00 / Stroubles Creek / These mainstem waters extend from the Slate Branch mouth on Stroubles Creek upstream to the mouth of Walls Branch (NE59).	5A	Escherichia coli	2010	H, 2yr	2.11
VAW-N22R_STE04A00 / Stroubles Creek / These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus (NE59).	5A	Escherichia coli	2006	H, 2yr	5.08

Stroubles Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.19**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-02-BEN** **Stroubles Creek**

Cause Location: These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Stroubles Creek General Standard (Benthic- Sediment) Total Maximum Daily Load (TMDL) is U.S. EPA approved on 1/28/2004 [Fed ID: 21904]. The SWCB approved the Study on 6/17/2004. The Benthic (Sediment) Implementation Plan (IP) is SWCB approved (9/27/2006) (formerly VAW-N22R-02). The 1996 original 303(d) Listed waters remain impaired for contravention of the General Standard (Benthic).

9-STE007.29 - (Rt. 657 Bridge below old Blacksburg STP) The 2018 data window includes 6 VSCI scores averaging 54.6 (2012, 2015-2016). The Spring 2016 score indicated improvement from Spring 2015 and the Fall 2016 score maintained a Non-Impaired status. While overall the VSCI scores indicate an impaired community, the scores improved during this assessment period. The 2014 assessment found 9 Virginia Stream Condition Index (VSCI) surveys (2007-2010 & 2012) are 'IM' with an average score of 46.82. Impairment is found from 9 surveys (2006 - 2010) with an average score of 46.82 in 2012. The 2010 assessment found impairment from 7 VSCI surveys (2003 & 2006 - 2008) with an average score of 45.6. An average score of 45.6 is also found in 2008 from 6 VSCI surveys (2001 - 2003 & 2006).

The moderately pollution tolerant caddisfly family Hydropsychidae and fly family Chironomidae were the second most common macroinvertebrates during these surveys. This community indicates the benthic community is exposed to moderate level of pollution, possibly a nutrient source that provides the Hydropsychidae the opportunity to be second most dominant. Thus, this stream reach shows evidence of year long pollution. Habitat condition at this station is suboptimal, impacted by sediment and poor riparian vegetation zones. The mostly open canopy allows for increased water temperatures and primary production resulting in large mats of algae and bacteria on the stream substrate during the summer and fall.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_STE04A00 / Stroubles Creek / These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus (NE59).	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	5.08

Stroubles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.08**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-03-BAC** **Back Creek**

Cause Location: The waters extend from 0.70 miles below the Rt. 636 Bridge crossing downstream to Back Creek's mouth on the New River.

City / County: Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The 1996 303(d) Listed Back Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/21/2004 [Fed ID 24564] and SWCB approval on 12/02/2004. The Bacteria/Benthic Implementation Plan (IP) is SWCB approved 7/31/2008 (formerly VAW-N22R-03). 1996 fecal coliform (FC) exceedances are found in 7 of 7 observations at 9-BCK009.47; 2002 records 17 of 23 samples exceeding the former fecal coliform bacteria instantaneous criterion of 1000 cfu/100 ml. The 2004 Integrated Report (IR) records 19 of 21 samples exceeding the former WQS fecal coliform bacteria instantaneous criterion of 400 cfu/100 ml at 9-BCK009.47. The excursions range from 900 to >8000 cfu/100 ml. Escherichia coli (E.coli) bacteria replaced fecal coliform in 2006 as the indicator as required by Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The waters remain impaired for 17.53 miles with the 2014 and 2016 Assessments.

9-BCK015.98 (Rt. 636 Bridge, Black Hollow Road) 6 of 7 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Prior to 2018, there are no additional data beyond the 2012 assessment where escherichia coli (E.coli) samples exceeded the WQS instantaneous criterion of 235 cfu/100 ml in 24 of 36 total samples. Values in excess of the criterion range from 300 to greater than 2000 cfu/100 ml. 2010 E.coli samples exceed the instantaneous criterion in 25 of 35 samples. Values in excess of the criterion range from 300 to greater than 2000 cfu/100 ml. The 2008 assessment finds E.coli exceeds the instantaneous criterion in 19 of 26 samples. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. In 2006 E.coli samples exceed the instantaneous criterion in 11 of 14 samples with the same exceedance range.

9-BCK009.47 (Rt. 100 Bridge) There are no additional data beyond the 2012 Integrated Report (IR) where E.coli exceeds the 235 cfu/100 ml criterion in 34 of 36 samples. The range of exceedance is from 320 to greater than 2000 cfu/100 ml. 2010 E. coli exceedances of the instantaneous criterion are found in 39 of 42 samples. The range of exceeding values is from 310 cfu/100 ml to 18,000. E.coli exceeds the instantaneous criterion in 32 of 35 samples in 2008. The range of exceeding values is from 310 cfu/100 ml to 18,000. Two of 2 geometric mean calculations exceed the 126 cfu/100 ml criterion based on the former WQS frequency of collection.. The 2006 assessment found E.coli exceeds the instantaneous criterion in 20 of 21 samples with the same exceedance range.

9-BCK000.74 (Rt. 600 Bridge) There are no additional data beyond the 2012 IR where 20 of 36 E.coli exceedances occur ranging from 250 to greater than 2000 cfu/100 ml. E.coli exceedances are found in 29 of 43 samples within the 2010 data window. Exceedances range from 250 cfu/100 ml to 9000. The 2008 assessment finds E.coli exceeds the instantaneous criterion in 23 of 36 samples with exceedances ranging from 290 cfu/100 ml to greater than 2000. Three of 3 geometric mean calculations exceed the 126 cfu/100 ml criterion based on the former WQS frequency of collection. The exceedance range in 2006 is the same as 2008 where E.coli exceeds in 15 of 22 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_BCK01A00 / Back Creek / Back Creek mainstem waters from the mouth of Shuffle Branch downstream to Back Creek's mouth on the New River (NE61).	4A	Escherichia coli	2006	L	5.76
VAW-N22R_BCK02A08 / Back Creek / Back Creek from 0.70 miles downstream of the Rt. 636 crossing on downstream to the confluence of Shuffle Branch (NE61).	4A	Escherichia coli	2006	L	11.77

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.53**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-03-BEN** **Back Creek**

Cause Location: The waters extend from 0.70 miles below the Rt. 636 Bridge crossing downstream to Back Creek's mouth on the New River.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The 2002 303(d) Listed Back Creek General Standard (Benthic- Sediment) Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/21/2004 [Fed ID 24565]. The SWCB approved the Study on 12/02/2004. The Benthic/Bacteria Implementation Plan (IP) is SWCB approved 7/31/2008.

The TMDL identifies sediment as the primary stressor for the aquatic life use (benthic) impairment. The 2002 severe RBP II score of 37.50 produces the initial 17.53 mile listing of the benthic impairment. The 2008 assessment finds via station 9-BCK000.74 that a single Virginia Stream Condition Index (VSCI) score indicates full support. A potential delisting could occur for the lower end of Back Creek should additional surveys produce scores at 60 or above in succeeding assessment cycles.

9-BCK015.98- (Rt. 636 Bridge, Black Hollow Road) The 2018 data window finds Bio 'IM' from 6 VSCI scores. The addition of 2016 spring and fall data results in a VSCI averaging 44.7. Bio 'IM' 4 Virginia Stream Condition Index (VSCI) surveys (2011-2012) within the 2016 and 2014 data windows produce an average score of 42.9. And 2 2006 VSCI surveys with an average score of 42.8 are reported within previous Integrated Reports (IR). The habitat surveys indicate the stream is impacted by sediment deposition, riparian vegetation removal, channel alteration (straightening of the stream), and destabilized stream banks. Additionally, the water in Back Creek is often turbid from cattle disturbance of stream banks and in-stream sediments. These impacts result in stream substrate and water that limits colonization of benthic macroinvertebrates and fish.

9-BCK009.47 (Rt. 100 Bridge) Bio- 'IM'; The 2012 Integrated Report (IR) reveals 4 VSCI surveys (2006 & 2010) with an average score of 41.0 The remaining 2 surveys within the 2014 and 2016 data windows produce an average score of 32.6. The benthic community is dominated by taxa that are tolerant of nutrient/organic enrichment. Late summer of 2006 a fish kill occurred that was the probable cause for the decline in the benthic community for the Fall sample. The community recovered between Fall of 2006 and Spring of 2010, however a decline is noted in the Fall 2010 score. NPS pollution from agricultural sources upstream from Rt. 100 has impacted the stream. Habitat at this site has been impacted by the agricultural land use in the watershed, resulting in sedimentation and excessive algal growth on the substrate. The 2008 and 2010 assessments report 3 VSCI surveys (2003 & 2006) with an average score of 41.0 as well.

9-BCK000.74- (Rt. 600 Bridge) Bio- 'FS' There are no additional surveys beyond the 2006 IR. One fall 2003 VSCI survey scoring 67.2. This AU would be a candidate for delisting should additional surveys find scores above 60. The reach appears to have habitat that would suit a diverse benthic community and was surveyed to determine if it was a recovery zone from upstream impairments. However, this station had a low abundance of sensitive EPTs. The high dominance of Elmidae (53.3%) is possibly due to slight nutrient enrichment and the subsequent abundance of periphyton, which is the predominant food of riffle beetles. This station is slightly impacted by sediment deposition. The banks and riparian zones are impacted by altered hydrology and human activities. However, the substrate size, frequency of riffles, flow, velocity, and channel gradient have a positive effect on the benthic community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_BCK01A00 / Back Creek / Back Creek mainstem waters from the mouth of Shuffle Branch downstream to Back Creek's mouth on the New River (NE61).	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	5.76
VAW-N22R_BCK02A08 / Back Creek / Back Creek from 0.70 miles downstream of the Rt. 636 crossing on downstream to the confluence of Shuffle Branch (NE61).	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	11.77

Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**17.53**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

Channelization	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-04-BAC** **Toms Creek**

Cause Location: Toms Creek from the mouth of Big Run upstream to its headwaters.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This initial 2014 Listing is a result of bacteria data showing impairment of the Recreational Use.

9-TOM012.78- (Lower bike path off Deerfield Drive) 3 of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. Exceeding values range from 275 to 950 cfu/100 ml.
Note: Level 2 Citizen data indicates the impairment extends downstream to the Toms Creek confluence with the New River. There was no additional data collected since the 2014 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_TOM03A08 / Toms Creek / Toms Creek from the mouth of Big Run upstream to its headwaters (NE60).	5A	Escherichia coli	2014	H, 2yr	6.13

Toms Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.13**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-04-TEMP** **Toms Creek**

Cause Location: Toms Creek mainstem waters just below the Poverty Creek confluence upstream to its headwaters.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The initial 2008 5.71 mile impairment is extends upstream 6.13 miles (2012) and downstream 4.56 miles (2014) with data provided by the National Committee for the New River (NCNR). The Aquatic Life Use is impaired for a total of 16.40 miles based on the initial 2008 temperature exceedances and 2012/2014 Citizen temperature measurements of the Class V 21°C stockable trout water criterion.

9TOM-1-NCNR (Off Glade Rd. at Heritage Park Trail Lv. 3) 7 temperature measurements exceed the Class V 21°C criterion ranging from at 21.5°C to 26.1°C from 32 measurements within the 2016 and 2014 data windows. Excursions occur during the summer months Lv. 3 [IM]. Two temperature measurements exceed the Class V 21°C criterion at 24.5°C on 7/19/2010 and 24.0°C on 8/19/2010 from 10 measurements for 2012.

9-TOM005.32- (Rt. 725 Bridge upstream of Poverty Creek) Both the 2010 and 2008 IRs find 2 temperature measurements exceed the Class V 21°C criterion from 13 observations. Exceedances occur on 8/15/2005 at 24.4°C and 21.4 °C on 8/15/2006. There are no additional data beyond the 2008 Integrated Report (IR).

9TOM-2-NCNR (Poverty Creek Rd. Bridge Lv. 3) The 2016 data window finds 3 of 11 temperature measurements exceed the Class V 21°C criterion. Excessive values range from 22 to 24.5°C and occur in the summer months. The 2012 Integrated Report (IR) finds 3 temperature exceedances of the Class V 21°C criterion occur on 6/16/2010 at 22°C; 7/19/2010 at 24.0°C and 8/16/2010 at 24.5°C from 11 measurements for 2012.

9TOM-3-NCNR (Mt. Zion Road Bridge Lv. 3) 7 temperature measurements exceed the Class V 21°C criterion ranging from at 22.0°C to 24.7°C from 33 measurements within the 2016 data window. Excursions occur during the summer months.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_TOM01A00 / Toms Creek / These mainstem waters extend from just below the Poverty Creek confluence downstream to the Toms Creek mouth on the New River. These waters are within the WQS five mile public water supply (PWS) designation (NE60).	5C	Temperature, water	2014	L	4.56
VAW-N22R_TOM02A00 / Toms Creek / Toms Creek mainstem waters just below the Poverty Creek confluence upstream to the mouth of Big Run. These waters are not within the WQS public water supply (PWS) designation (NE60).	5C	Temperature, water	2008	L	5.71
VAW-N22R_TOM03A08 / Toms Creek / Toms Creek from the mouth of Big Run upstream to its headwaters (NE60).	5C	Temperature, water	2012	L	6.13

Toms Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**16.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-05-BAC** **New River**

Cause Location: New River mainstem from the Radford Army Arsenal Plant upstream intake/Pepper's Ferry Region POTW outfall downstream to the confluence with Back Creek (NE62).

City / County: Montgomery Co. Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The initial 2016 303(d) Listing of these waters is a result of escherichia coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion in 3 of 23 samples. All 3 exceeding samples were found to have E.coli concentrations of 250 cfu/100 ml. These waters are not meeting the Recreational Use.

9-NEW066.90 (New River at Whitethorne) The 2018 data window shows 6 of 24 Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion. Exceedances range from 241 to 383 cfu/100 ml. The 2016 data window found excursions in 3 of 23 samples. Exceeding values were all 250 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_NEW02A00 / New River / New River mainstem from the Radford Army Arsenal Plant downstream intake near Whitethorne downstream to the confluence of Back Creek (NE62).	5A	Escherichia coli	2016	L	2.86
VAW-N22R_NEW02B14 / New River / New River mainstem from the mouth of Toms Creek downstream to the RAAP downstream intake (NE62).	5A	Escherichia coli	2016	L	0.51
VAW-N22R_NEW03A00 / New River / New River mainstem from the confluence of Stroubles Creek downstream to the mouth of Toms Creek (NE59).	5A	Escherichia coli	2016	L	4.09
VAW-N22R_NEW04A00 / New River / New River mainstem from the Radford Army Arsenal Plant upstream intake/Pepper's Ferry Region POTW outfall downstream to the confluence of Stroubles Creek (NE59).	5A	Escherichia coli	2016	L	2.32

New River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.78**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N22R-06-BEN** **Unnamed Tributaries XEJ and XEH to Slate Branch**

Cause Location: Unnamed Tributary XEH from its mouth on Slate Branch upstream to its headwaters. And Unnamed Tributary XEJ from its mouth on Unnamed Tributary XEH upstream to its headwaters.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 assessment finds the Aquatic Life Use via the General Standard (Benthic) is impaired for a total of 2.51 miles. Unnamed Tributary to Slate Branch- XEH for 1.68 miles and Unnamed Tributary XEJ to XEH for 0.83 miles. There are no additional data for 9-XEH000.75 and 9-XEJ000.10 beyond the 2008 Integrated Report (IR). 9-XEH000.01 is a new station assessed in 2016.

9-XEH000.75- (Downstream of Villages Development at NRV Mall) There are no additional data beyond the 2008 IR. Bio 'IM' 2 2006 Virginia Stream Condition Index (VSCI) surveys with an average score of 23.1. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream near the New River Valley Mall complex. A crayfish/macro invertebrate kill in January 2006 impacted the stream with the source occurring somewhere above this station. The most noticeable difference between this site and the reference station is the low abundance of organisms collected in the spring sample compared to the reference site. The abundance increased in the fall and is comparable to the reference site (Falling Branch).

9-XEH000.01 (Near Huckleberry Trail, Downstream of XEJ) - This stream was originally sampled at a location upstream (9-XEH000.75). The 2016 and 2018 data windows find 4 VSCI scores average 52.0 (2013-2014). The headwaters of Slate Branch are developed with residential and commercial properties as well as Rt. 460 and Peppers Ferry Road. Storm water runoff from these areas may have an impact on water quality at the sampling station which is about 1 mile downstream of the New River Valley Mall. Habitat scores at this station were relatively good considering the proximity to developed lands upstream and appear favorable for macroinvertebrates. Specific conductance was high at this site during all surveys. Periphyton and algal growth was always thick even during the fall surveys which may be an indication of excessive nutrients.

9-XEJ000.10- (North of NRV Mall) There are no additional data beyond the 2008 IR. Bio 'IM' 2 2006 VSCI surveys with an average score of 23.8. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream and north of the New River Valley Mall and above the Huckleberry Tail crossing. The main source of impact appears to be recent development and urban land use resulting in altered hydrology, excessive storm water runoff, sediment deposition, bank erosion, and riparian vegetation removal.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_XEH01A08 / Slate Branch, UT (XEH) / Unnamed tributary XEH from its mouth on Slate Branch upstream to its headwaters (NE59).	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	1.68
VAW-N22R_XEJ01A08 / Unnamed Trib. XEJ to XEH / Unnamed Tributary XEJ from its mouth on Unnamed Tributary XEH upstream to its headwaters (NE59).	5A	Benthic-Macroinvertebrate Bioassessments	2008	M	0.83

Unnamed Tributaries XEJ and XEH to Slate Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.51**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N23R-01-BAC** **Sinking Creek**

Cause Location: Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of Gravel Hill Branch.

City / County: Craig Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The initial 21.03 mile 2010 303(d) Listing of these waters is due to bacteria excursions of the WQS instantaneous criterion for escherichia coli (E.coli).

9-SNK012.06 (Rt. 42 Bridge)- 1 exceedance of the E.coli instantaneous criterion (235 cfu/100 ml) occurs within the 2016 and 2018 data windows at 600 cfu/100 ml (2013). The 2010 IR found 3 of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The exceedance range is from 250 to greater than 2000 cfu/100 ml.

9-SNK005.38 (Rt. 778 Bridge)- There are no new data beyond the 2014 data window. E.coli excursions of the 235 cfu/100 ml instantaneous criterion occur in 4 of 23 observations within the 2014 data window. Values in excess of the instantaneous criterion range from 275 to 600 cfu/100 ml. E.coli excursions of the instantaneous criterion occur in 2 of 11 observations within the 2010 and 2012 data windows. Values in excess of the instantaneous criterion are 480 and 600 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N23R_SNK01B10 / Sinking Creek / Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of an unnamed tributary near the Rt. 700 crossing (NE65).	5A	Escherichia coli	2010	H, 2yr	3.03
VAW-N23R_SNK01C14 / Sinking Creek / Sinking Creek from just downstream of the Rt. 700 Bridge upstream to the junction of routes 601 & 604 - 6th Order Boundary (NE65)	5A	Escherichia coli	2010	H, 2yr	2.74
VAW-N23R_SNK02A00 / Sinking Creek / Sinking Creek from the junction of routes 601 & 604 upstream to the mouth of Gravel Hill Branch- 6th Order Boundary (NE64).	5A	Escherichia coli	2010	H, 2yr	15.26

Sinking Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**21.03**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N25R-01-BAC** **Walker Creek**

Cause Location: Walker Creek from the Route 52 crossing downstream to the confluence with Kimberling Creek and Town Creek from the headwaters downstream to the confluence with Crab Orchard Creek.

City / County: Bland Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 9-WLK060.32 had a 20% and 9-WLK044.06 has 16% exceedance of the E. coli water quality standard and station 9-TNC000.53 had a 52% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N25R_TNC01A10 / Town Creek / From headwaters to Crab Orchard confluence at Town of Bland, WQS Section 1, u.	4A	Escherichia coli	2010	L	4.40
VAS-N25R_WLK04A00 / Walker Creek / Walker Creek mainstem from the Kimberling Creek confluence at the Giles/Bland County line, upstream to the Helveys Mill Creek confluence near Point Pleasant, WQS Section 1k.	4A	Escherichia coli	2006	L	14.48
VAS-N25R_WLK04A12 / Walker Creek / Walker Creek mainstem from the Crab Orchard Creek confluence, upstream to the Rt. 52 crossing north of Walker Mountain, WQS Section 1k.	4A	Escherichia coli	2006	L	8.46
VAS-N25R_WLK04B12 / Walker Creek / Walker Creek mainstem from the Helveys Mill Creek confluence, near Point Pleasant, upstream to the Crab Orchard Creek confluence, south of Bland, WQS Section 1k.	4A	Escherichia coli	2006	L	10.59

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Walker Creek			
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**37.93**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N25R_WLK04A00 / Walker Creek / Walker Creek mainstem from the Kimberling Creek confluence at the Giles/Bland County line, upstream to the Helveys Mill Creek confluence near Point Pleasant, WQS Section 1k.	4A	Fecal Coliform	2006	L	14.48
VAS-N25R_WLK04B12 / Walker Creek / Walker Creek mainstem from the Helveys Mill Creek confluence, near Point Pleasant, upstream to the Crab Orchard Creek confluence, south of Bland, WQS Section 1k.	4A	Fecal Coliform	2006	L	10.59

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Walker Creek			
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**25.07**

Sources:

- Grazing in Riparian or Shoreline Zones
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N26R-01-BAC** **East Wilderness Creek, Nobusiness Creek and Kimberling Creek**

Cause Location: This segment includes the mainstem of Nobusiness Creek from the Kimberling Creek confluence upstream 6.4 miles, East Wilderness Creek from the confluence with Wolfpen Branch upstream 3.2 miles, and Kimberling Creek from the Nobusiness Creek confluence to the confluence with Walker Creek.

City / County: Bland Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

AWQM station 9-EWL000.06 had 17% of the samples exceed the E.coli water quality standard. Station 9-NBS000.70 had a 63% exceedance of the E. coli water quality standard. The AWQM station located at 9-KBL007.29 had a 17% exceedance and station 9-KBL001.67 had a 13% exceedence of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_EWL01A10 / East Wilderness Creek / A Wolfpen Branch tributary near Shady Grove Church from Wolf Creek Mountain to the north, WQS Section 1.	4A	Escherichia coli	2010	L	3.51
VAS-N26R_KBL01A00 / Kimberling Creek / Lower mainstem from Walker Creek confluence upstream to Bland Correctional Farm raw water withdrawal in WQS Section 1.	4A	Escherichia coli	2016	L	2.53
VAS-N26R_KBL02A00 / Kimberling Creek / Middle segment of mainstem, from Bland Correctional Farm water intake upstream to Nobusiness Creek, south of Holly Brook, WQS Section 1e, u.	4A	Escherichia coli	2014	L	6.83
VAS-N26R_NBS01B04 / Nobusiness Creek / Nobusiness Creek from Kimberling Creek confluence to upstream of Panther Den Branch in WQS Section 1, DGIF ***.	4A	Escherichia coli	2010	L	6.72

East Wilderness Creek, Nobusiness Creek and Kimberling Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**19.59**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_KBL02A00 / Kimberling Creek / Middle segment of mainstem, from Bland Correctional Farm water intake upstream to Nobusiness Creek, south of Holly Brook, WQS Section 1e, u.	4A	Fecal Coliform	2002	L	6.83

East Wilderness Creek, Nobusiness Creek and Kimberling Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**6.83**

Sources:

Grazing in Riparian or Shoreline Zones — Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N26R-03-TEMP** **Nobusiness Creek**

Cause Location: This segment includes from the Kimberling Creek confluence to upstream of Panther Den Branch.

City / County: Bland Co. Giles Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

AWQM station 9-NBS000.70 had a 13% exceedance of the WQS for temperature in Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_NBS01B04 / Nobusiness Creek / Nobusiness Creek from Kimberling Creek confluence to upstream of Panther Den Branch in WQS Section 1, DGIF ***.	5A	Temperature, water	2018	L	6.72

Nobusiness Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**6.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N27R-01-BAC** **Little Walker Creek**

Cause Location: Little Walker Creek mainstem from its confluence with Walker Creek upstream to the mouth of Spur Branch.

City / County: Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The initial 2004 303(d) Listing of these waters is the result of fecal coliform (FC) bacteria exceedances (2 exceeding from 18 observations) causing a 17.48 mile impairment. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LWK000.77 (Rt. 100 Bridge) Escherichia coli (E.coli) exceed the 235 cfu/100 ml instantaneous criterion in 8 of 34 and 5 of 22 samples within the 2018 and 2016 data windows, respectively. Exceedance range is 337 to greater than 2000 cfu/100 ml. The 2014 data window found 3 of 11 samples in exceedance of the instantaneous criterion. Values exceeding the criterion range from 275 to greater than 2000 cfu/100 ml. The 2008 through 2012 assessments find E.coli exceed the instantaneous criterion in 5 of 12 samples. Values exceeding the criterion range from 320 to 500 cfu/100 ml. Four of 9 excursions are reported in 2006 with the range of exceedance from 350 to 500 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N27R_LWK01A00 / Little Walker Creek / Little Walker Creek mainstem from its confluence with Walker Creek upstream to the mouth of Spur Branch (NE72).	5A	Escherichia coli	2006	H, 2yr	17.48

Little Walker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.48**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N29R-01-PCB** **New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.**

Cause Location: The impairment begins at the I-77 bridge crossing the New River and extends downstream to the VA/WVA State Line and includes the tributaries Peak Creek and Reed Creek as described below.

City / County: Giles Co. Montgomery Co. Pulaski Co. Radford City Wythe Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A PCB in Water Column / 5A

The Virginia Department of Health (VDH) issued a fish consumption advisory on August 6, 2001 for polychlorinated biphenyls (PCBs) for the lower portion of the New River (Rt. 114 Bridge downstream to the VA/WVA State Line - 52.0 miles) based on fish tissue collections from Carp. An Advisory extension to Claytor dam was issued 8/06/2003 (11.47 miles) recommends that no carp be consumed in these waters and no more than 2 meals per month of flathead and channel catfish. The VDH PCB Fish Consumption Advisory was further extended upstream on the New River (13 miles) to the I-77 Bridge to include the lower portions of Peak Creek (4.02 miles), Reed Creek (16.35 miles) and Claytor Lake (4,287 acres) on 12/02/2004. The VDH advises consumption should not exceed 2 meals per month for carp and smallmouth bass. Stony Creek is a 2010 Integrated Report (IR) addition to the original 2002 303(d) Listing. An unnamed tributary (XAG) is an addition with the 2016 IR. The VDH level of concern is 50 parts per billion (ppb) in fish tissue.

Water column data from 2010 thru 2016 are listed below where excursions of the WQS water column criterion of 640 pg/L are contravened causing an Observed Effect (OE) or 303(d) Listing for 'PCBs in Water Column'. Water column data collection is in support of TMDL development for PCBs in the New River drainage. Sample collections are made in both wet weather (WW) and dry weather (DW) conditions.

2012 & 2014 Fish tissue and water column data follow reporting exceedances of the WQS based 20 ppb fish tissue value (TV) (VDH Lower Level of Concern 50 ppb). And excursions of the WQS water column criterion of 640 pg/L. Fish tissue data are in addition to previous years collections. Fish tissue data are reviewed by the VDH in making an advisory determination. A complete listing of fish tissue collection sites and associated fish tissue data are available at http://www.deq.virginia.gov. A more detailed presentation of the data can also be found using an interactive mapping application at http://www.deq.virginia.gov. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov.

9-RDC009.00 (Near Rt. 619 at Grahams Forge) 2012 2 species analyzed - Carp exceeds WQS TV of 20 ppb (5 fish composite [62.6 - 69.4 cm] at 68.24 ppb. Remaining species analyzed Smallmouth Bass (5 fish composite [21.8 - 26.6 cm] at 3.04 ppb. 2014 2 species analyzed - Carp composites exceed WQS TV of 20 ppb (4 fish composite [67.9 - 76.5 cm] at 75.67 ppb and (5 fish composite [64.5 - 69.8] at 85.77. Remaining species analyzed Smallmouth Bass (5 fish composite [23.1 - 30.3 cm] at 2.46 ppb.

9-NEW107.51 (New River near Allisonia) 2014 fish tissue WQS TV of 20 ppb: Three species analyzed - Channel Catfish exceeds WQS TV of 20 ppb; 3 fish composite [61.2 - 69.5 cm] at 23.02 ppb; Smallmouth Bass (3 fish composite [40.1 - 49.6 cm]) at 2.45 ppb; Carp exceeds (5 fish composite [56.5 - 70.4 cm]) at 45.12 ppb; and Carp (5 fish composite [55.3 - 71.3 cm] at 8.79 ppb.

9-NEW098.32 (Rt. 672 Bridge, Lighthouse) 2012 4 species analyzed - Channel Catfish exceeds WQS TV of 20 ppb; (2 fish composite [70.5 - 71.5 cm] at 65.15 ppb. Remaining species analyzed Largemouth Bass (5 fish composite [34.5 - 43.1]) at 7.76 ppb; Spotted Bass (5 fish composite [34.2 - 38.2 cm]) at 11.00 ppb; and Carp (3 fish composite [45.8 - 56.5]) at 6.04 ppb.

9-PKC009.53 (Upstream of XAG confluence) 2014 water column DW 197.02 pg/L- 'FS'; WW 799.75 pg/L- 'OE'.

9-XAG000.01 (Mouth of X-Trib XAG near former Allied Site) 2014- Water column PCB WQS criterion of 640 pg/L: DW 1,458.87 pg/L (7/31/2014); WW 1,754.02 pg/L (10/15/2014).

9-XFQ000.77 (Off Pierce Ave. near Calfee Park) 2014 water column PCB WQS criterion of 640 pg/L: DW 194.99 pg/L- 'FS'; WW 686.76 pg/L- 'OE'.

9-PKC007.82 (Route 99 Bridge) 2012 3 species analyzed - Stoneroller exceeds WQS criterion of 20 ppb (15 fish comp. [14.3 - 16.0 cm] at 33.18 ppb. Remaining species analyzed Rock Bass (5 fish comp. [16.7 - 18.6 cm]); at 10.49 ppb) and Redbreast Sunfish (5 fish comp. [14.3 - 18.1 cm]; at 3.01 ppb).

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2013 PCB water column excursions are DW 1,193.64 pg/L; WW 2,436.73 pg/L and 2014 1 sample 'FS DW 389.51 pg/L and 1 excursion of the WQS 640 pg/L criterion at WW 1,252.42 pg/L.

9-PKC004.65 (Rt. 100 Bridge) 2012 4 species analyzed. Channel catfish exceeds WQS criterion of 20 ppb (2 fish composite [63.1 - 69.0 cm] at 33.15 ppb. Remaining species analyzed Largemouth Bass (5 fish composite [33.4 - 40.8 cm]; at 2.68 ppb), Carp 2 sizes (4 fish composite [54.6 - 62.0 cm]; at 2.32 ppb) and (4 fish composite [54.6 - 62.0 cm]; at 9.16 ppb) and Smallmouth Bass (3 fish composite [35.3 - 42.6 cm]; at 6.90 ppb).

One 2014 water column sample exceeds the WQS criterion of 640 pg/L at 1,075.73 pg/L.

9-NEW088.86 (New River Claytor Lake at Dam) 2012 6 species analyzed - Flathead Catfish exceeds WQS criterion of 20 ppb (2 fish composite [83.0 - 87.5 cm]) at 86.67 ppb. Remaining species analyzed Carp (4 fish composite [56.5 - 67.0 cm] at 2.05 ppb; Channel Catfish (1 fish [58.8 cm]) at 7.43 ppb; Largemouth Bass (5 fish composite [32.5 - 34.5 cm] at 0.36 ppb; Smallmouth Bass (4 fish composite [27.0 - 32.2 cm] at 0.88 ppb; Spotted Bass (3 fish composite [28.8 - 36.8 cm] at 0.00 ppb.

9-NEW085.94 (New River downstream of Claytor Dam) 2012 2 species analyzed - Flathead Catfish exceeds WQS criterion of 20 ppb (5 fish composite [57.5 - 70.3 cm]) at 33.74 ppb. Remaining species analyzed Carp (5 fish composite [62.6 - 81.0 cm] at 11.27 ppb.

9-NEW081.72- (Route 11 Bridge - at Radford) 2010 water column PCB WQS criterion of 640 pg/L: DW 320 pg/L - 'FS'; WW exceeds at 4,739- 'OE'. 2011 water column WW 243.70 pg/L - 'FS'. 2013 water column WW exceeds at 647.88 pg/L- 'OE'.

9-NEW079.19 (New River below Radford University) 2012 1 species 2 exceeding composites analyzed - Carp exceeds WQS criterion of 20 ppb (2 fish composite [67.5 - 76.5 cm] at 53.28 ppb and Carp exceeding (2 fish composite [76.8 - 83.6 cm] at 94.85 ppb.

9-NEW066.90 (New River at Whitethorne) 2012 1 species analyzed exceeds WQS criterion of 20 ppb Carp (1 fish [72.0 cm] at 125.58 ppb.

9-LWK000.77 (Rt. 100 Bridge) 2011 PCB water column WW 642.4 pg/L- 'OE'; 2014 water column DW 39.79 pg/L- 'FS'.

9-WLK004.34 (Route 622 Bridge - Giles Co.) Water column samples find 2 excursions of the WQS criterion of 640 pg/L. 2010 WW at 1,706 pg/L and 2011 WW at 648.8 pg/L. And a third sample 2014 DW at 60.12 pg/L 'FS'.

9-NEW050.70 (New River near Pembroke) 2012 3 species analyzed Carp exceeds WQS criterion of 20 ppb (2 fish composite [67.5 - 71.6 cm] at 419.87 ppb and Channel Catfish (1 fish [58.1 cm]) at 23.26 ppb. Remaining species analyzed Flathead Catfish (1 fish [51.4 cm] at 9.60 ppb.

9-SNC000.20- 2004 fish tissue finds with application of the new WQS TV for PCB (20 ppb) the addition of 3 species exceeding the new TV criterion. Rock Bass (10 fish composite [size 16-20 cm] at 25.21, Smallmouth Bass (3 fish composite [size 28.6 - 30.5 cm] at 22.13 and White sucker (1 fish [38.4 cm] at -0.08 ppb. Stony Creek is therefore a 2010 addition based on the new WQS PCB tissue value of 20 ppb.

9-NEW038.71 (New River below Celeanse) 2012 2 species analyzed - Each of the following exceed the WQS criterion of 20 ppb. Carp (2 fish composite [68.1 - 69.0 cm] at 355.63 ppb and Flathead Catfish (1 fish [56.0 cm] at 25.39 ppb. 2010 water column PCB DW- 129 pg/L- 'FS; Wet 784 pg/L- 'OE' and 2011 water column PCB Wet- 222 pg/L- 'FS'

9-WFC003.69 (Route 724 Bridge at Gage) 2014 water column DW 114.7 pg/L- 'FS'; WW 1,527.45 pg/L- 'OE'.

9-WFC000.20 (Route 61 Bridge) 2011 water column WW 1,220.1 pg/L- 'OE'; 2013 water column WW 201.31 pg/L- 'FS'. 2014 water column WW 163.39 pg/L- 'FS'; DW 117.93 pg/L- 'FS'.

9-NEW030.15 (Route 460 Bridge at Glen Lyn) 2012 1 species analyzed - Each of the following exceed the WQS criterion of 20 ppb. Carp 1 (1 fish [85.0 cm] at 234.01 ppb; Carp 2 (2 fish composite [72.5 - 74.8 cm]) at 448.15 ppb.

9-NEW031.00 (Above Glen Lyn) 2010 water column PCB DW- 66 pg/L 'FS'; WW- 841 pg/L 'OE'.

9-NEW028.95 (New River below Glen Lyn) 2010 water column PCB DW 177.5 pg/L- 'FS'; WW- 709.9 pg/L 'OE'. 2011 water column PCB DW- 110.4 pg/L 'FS'; WW- 399.6 pg/l 'FS'. 2013 water column WW 284.08 pg/L- 'FS'; NA 116.76 pg/L- 'FS'.

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2014 water column WW 529.48 pg/L- 'FS'; DW 121.59 pg/L- 'FS'.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_NEW01A02 / New River / Mainstem, north of Barren Springs, from Reed Creek confluence downstream to Big Reed Island Creek confluence, WQS Section 2.	5A	PCB in Fish Tissue	2006	H	5.71
VAS-N11R_RDC01B00 / Reed Creek / Lower mainstem from Muskrat Branch confluence downstream to Rt. 52 bridge south of Max Meadows, WQS Section 2.	5A	PCB in Fish Tissue	2016	H	5.85
VAS-N11R_RDC01B06 / Reed Creek / Lower mainstem from Rt. 52 bridge downstream to Miller Creek confluence south of Max Meadows, WQS Section 2.	5A	PCB in Fish Tissue	2006	H	0.60
VAS-N11R_RDC02B02 / Reed Creek / Reed Creek from Miller Creek confluence at Max Meadows downstream to the Glade Creek confluence, near Boiling Spring, WQS Section 2g.	5A	PCB in Fish Tissue	2006	H	6.08
VAS-N11R_RDC03B04 / Reed Creek / From New River confluence near Lone Ash, upstream to the Glade Creek confluence near Boiling Spring, WQS Section 2.	5A	PCB in Fish Tissue	2006	H	9.87
VAW-N16L_NEW01A02 / Claytor Lake (New River) / Claytor Lake from its impounding structure upstream to the Claytor State Park Cabins.	5A	PCB in Fish Tissue	2006	H	######
VAW-N16L_NEW01B14 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the former Burlington Industries water intake.	5A	PCB in Fish Tissue	2006	H	602.03
VAW-N16L_NEW02A02 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the confluence of Peak Creek	5A	PCB in Fish Tissue	2006	H	278.51
VAW-N16L_NEW03A02 / Claytor Lake (New River) / Claytor Lake from the confluence of Peak Creek upstream to the end of the WQS public water supply (PWS) designation. The segment ends five miles upstream of the former Burlington Industries intake.	5A	PCB in Fish Tissue	2006	H	671.89
VAW-N16L_NEW04A02 / Claytor Lake (New River) / Claytor Lake from the end of the Burlington WQS public water supply (PWS) designation upstream to the Pulaski County PSA intake.	5A	PCB in Fish Tissue	2006	H	447.80
VAW-N16L_NEW05A02 / Claytor Lake (New River) / Claytor Lake from the Pulaski County PSA intake upstream to the end of the WQS public water supply (PWS) designation. Five miles upstream from the Pulaski County PSA intake.	5A	PCB in Fish Tissue	2006	H	660.27
VAW-N16L_NEW06A02 / Claytor Lake (New River) / Claytor Lake from the upstream end of the Pulaski County PSA WQS public water supply (PWS) designation upstream to the backwaters of Claytor Lake at Allisonia.	5A	PCB in Fish Tissue	2006	H	152.13
VAW-N16R_NEW01A00 / New River / This section of the New River extends from the mouth of Big Reed Island Creek downstream to the backwaters of Claytor Lake Class IV sec. 2c (NE43).	5A	PCB in Fish Tissue	2006	H	0.61
VAW-N17L_PKC01A10 / Claytor Lake (Peak Creek) / Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation.	5A	PCB in Fish Tissue	2002	H	216.86
VAW-N17L_PKC02A10 / Claytor Lake (Peak Creek) / Peak Creek from the end of the WQS public water supply (PWS) designation	5A	PCB in Fish Tissue	2002	H	78.16

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

upstream to its backwaters.

VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	5A	PCB in Fish Tissue	2002	H	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	5A	PCB in Fish Tissue	2002	H	1.66
VAW-N17R_PKC03A00 / Peak Creek / This portion of Peak Creek extends from the mouth of Tract Fork to downstream of the Washington Ave. Bridge (~0.20 miles) (NE46).	5A	PCB in Fish Tissue	2006	H	0.51
VAW-N18R_NEW01A00 / New River / New River mainstem from the Watershed boundary, Crab Creek mouth, upstream to approximately one mile downstream of the Rt. 11 Bridge; end of the WQS public water supply (PWS) section (NE57).	5A	PCB in Fish Tissue	2006	H	3.33
VAW-N18R_NEW02A00 / New River / New River mainstem from approximately one mile downstream of the Rt. 11 Bridge upstream to the Radford City intake (NE57).	5A	PCB in Fish Tissue	2006	H	3.72
VAW-N18R_NEW03A00 / New River / New River mainstem from the City of Radford water intake upstream to the confluence of Little River (NE57).	5A	PCB in Fish Tissue	2006	H	2.14
VAW-N18R_NEW04A00 / New River / New River mainstem waters from the mouth of Little River upstream to Claytor Dam (NE57).	5A	PCB in Fish Tissue	2006	H	0.60
VAW-N22R_NEW01A00 / New River / The New River mainstem from the confluence of Back Creek downstream to the Watershed Boundary at the Montgomery / Giles County Line (NE62).	5A	PCB in Fish Tissue	2002	H	3.44
VAW-N22R_NEW02A00 / New River / New River mainstem from the Radford Army Arsenal Plant downstream intake near Whitethorne downstream to the confluence of Back Creek (NE62).	5A	PCB in Fish Tissue	2002	H	2.86
VAW-N22R_NEW02B14 / New River / New River mainstem from the mouth of Toms Creek downstream to the RAAP downstream intake (NE62).	5A	PCB in Fish Tissue	2002	H	0.51
VAW-N22R_NEW03A00 / New River / New River mainstem from the confluence of Stroubles Creek downstream to the mouth of Toms Creek (NE59).	5A	PCB in Fish Tissue	2002	H	4.09
VAW-N22R_NEW04A00 / New River / New River mainstem from the Radford Army Arsenal Plant upstream intake/Pepper's Ferry Region POTW outfall downstream to the confluence of Stroubles Creek (NE59).	5A	PCB in Fish Tissue	2002	H	2.32
VAW-N22R_NEW05A00 / New River / New River mainstem from the Blacksburg /Christiansburg /VPI Authority intake at Rt. 114 downstream to the Radford Army Arsenal Plant upstream intake / Pepper's Ferry Regional POTW outfall (NE59).	5A	PCB in Fish Tissue	2002	H	1.76
VAW-N22R_NEW06A00 / New River / New River mainstem from the Watershed Boundary at the Crab Creek confluence downstream to the Blacksburg /Christiansburg /VPI Authority intake (NE59).	5A	PCB in Fish Tissue	2006	H	1.72
VAW-N23R_NEW01A00 / New River / New River mainstem from the Giles/Montgomery County Line downstream to the confluence of Sinking Creek (NE63).	5A	PCB in Fish Tissue	2002	H	5.47
VAW-N24R_NEW01A00 / New River / New River mainstem from the confluence of Stony Creek upstream to the mouth of Walker Creek	5A	PCB in Fish Tissue	2002	H	3.87

on the New River (NE74).					
VAW-N24R_NEW02A00 / New River / New River mainstem waters from the mouth of Walker Creek upstream to the confluence of Little Stony Creek with the New River (NE74).	5A	PCB in Fish Tissue	2002	H	2.00
VAW-N24R_NEW03A00 / New River / New River mainstem waters from the confluence of Little Stony Creek upstream to mouth of Sinking Creek on the New River. (NE74)	5A	PCB in Fish Tissue	2002	H	3.87
VAW-N28R_SNC01A00 / Stony Creek / Stony Creek mainstem waters from its mouth on the New River upstream to Chemical Lime Company's outfall on Stony Creek (NE75).	5A	PCB in Fish Tissue	2010	H	1.36
VAW-N28R_SNC02A00 / Stony Creek / Stony Creek mainstem waters from the Chemical Lime Company outfall on Stony Creek upstream to the Kimballton Branch confluence on Stony Creek (NE75).	5A	PCB in Fish Tissue	2010	H	0.63
VAW-N28R_SNC03A00 / Stony Creek / Stony Creek mainstem waters from the confluence of Kimballton Branch upstream to the mouth of Laurel Branch (NE75).	5A	PCB in Fish Tissue	2010	H	1.69
VAW-N28R_SNC04A00 / Stony Creek / Stony Creek mainstem from the confluence of Laurel Branch upstream to the mouth of Pine Swamp Branch (NE75).	5A	PCB in Fish Tissue	2010	H	4.69
VAW-N29R_NEW01A02 / New River / New River mainstem from the backwaters of Bluestone Reservoir, Route 460, to the confluence of Rich Creek.	5A	PCB in Fish Tissue	2002	H	3.20
VAW-N29R_NEW02A02 / New River / New River mainstem from the mouth of Rich Creek upstream to the confluence of Wolf Creek.	5A	PCB in Fish Tissue	2002	H	3.55
VAW-N29R_NEW03A02 / New River / New River mainstem from the confluence of Wolf Creek upstream to the Celanese Acetate Plant outfalls.	5A	PCB in Fish Tissue	2002	H	2.79
VAW-N29R_NEW04A02 / New River / New River mainstem from the Celeanse Acetate Plant outfalls upstream to the watershed boundary at the confluence of Stony Creek.	5A	PCB in Fish Tissue	2002	H	5.78
VAW-N35R_NEW01A00 / New River / New River mainstem from the Rt. 460 Bridge at Glen Lyn downstream to the Virginia/West Virginia State Line.	5A	PCB in Fish Tissue	2002	H	6.92

New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		**4,304.56**	**105.03**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	5A	PCB in Water Column	2016	H	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	5A	PCB in Water Column	2016	H	1.66
VAW-N17R_XAG01A02 / Peak Creek, UT (XAG) / An unnamed tributary to Peak Creek not within WQS designated public water	5A	PCB in Water Column	2016	H	3.20

New River Basin

supply (PWS) sections. The unnamed tributary mouth is located @37°02'47" / 80°46'03" (NE46).

VAW-N25R_WLK01A00 / Walker Creek / Walker Creek mainstem waters from its mouth on the New River upstream to the Cecil Branch confluence at the Rt. 100 crossing (NE73).	5A	PCB in Water Column	2014	H	8.39

New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:			**15.08**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N30R-01-BAC** **Wolf Creek and Tributaries**

Cause Location: This segment extends from the Burkes Garden Creek confluence downstream between the confluence with Clear Fork and Wilderness Creek and Little Creek, a Wolf Creek tributary upstream to the Tazewell County Sportsmen Club impoundment.

City / County: Bland Co. Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

The AWQM station located at 9-WFC039.16 had a 65% exceedance of the E.coli water quality standard. Station 9-WFC050.16 had a 78% exceedance, 9-WFC032.47 had 34%, and station 9-WFC024.57 had a 22% exceedance. Station 9-LTL001.22 had a 50% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_LTL02A10 / Little Creek / A Wolf Creek tributary upstream to Tazewell County Sportsmen Club impoundment in WQS Section 1.	4A	Escherichia coli	2014	H	1.89
VAS-N30R_WFC01A00 / Wolf Creek / Mainstem from unnamed tributary downstream of Carter Branch at Grapefield downstream to the Hunting Camp Creek confluence north of Bastian, WQS Section 1.	4A	Escherichia coli	2006	H	9.11
VAS-N30R_WFC01A04 / Wolf Creek / From Burkes Garden Creek confluence downstream to unnamed tributary downstream of Carter Branch at Grapefield, WQS Section 1, DGIF ***.	4A	Escherichia coli	2006	H	7.97
VAS-N30R_WFC01A06 / Wolf Creek, headwaters / Upper segment of Wolf Creek inside Burkes Garden from Snyder Branch confluence downstream to Little Creek confluence (37.1484/-81.2483), WQS Section 1.	4A	Escherichia coli	2006	H	3.80
VAS-N30R_WFC01B06 / Wolf Creek / Mainstem from the Hunting Camp Creek confluence downstream to Wilderness Creek confluence at South Gap, WQS Section 1.	4A	Escherichia coli	2006	H	6.39
VAS-N32R_WFC01A10 / Wolf Creek / Wolf Creek between confluence with Clear Fork at Rocky Gap and Wilderness Creek at South Gap, WQS Section 1, u, parallel to I-77 at Rocky Gap	4A	Escherichia coli	2010	H	1.89

Wolf Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**31.05**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_WFC01A00 / Wolf Creek / Mainstem from unnamed tributary downstream of Carter Branch at Grapefield downstream to the Hunting Camp Creek confluence north of Bastian, WQS Section 1.	4A	Fecal Coliform	2002	H	9.11

Wolf Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.11**

Fact Sheets for
Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N30R-01-BEN** **Little Creek**

Cause Location: This segment includes the mainstem from the confluence with Wolf Creek upstream to the Tazewell County Sportsmen's' Club impoundment.

City / County: Bland Co. Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic station 9-LTL001.22 was impaired based on VSCI scores of 58 in 2011 and 52 and 64 in 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_LTL02A10 / Little Creek / A Wolf Creek tributary upstream to Tazewell County Sportsmen Club impoundment in WQS Section 1.	5A	Benthic-Macroinvertebrate Bioassessments	2010	M	1.89

Little Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.89**

Sources:

Grazing in Riparian or Shoreline Zones

Loss of Riparian Habitat

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N31R-01-BAC** **Hunting Camp Creek**

Cause Location: This segment extends from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50.

City / County: Bland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 9-HCC001.40 had a 18% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N31R_HCC01A00 / Hunting Camp Creek / Segment is from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50, WQS Section 1, DGIF ***.	4A	Escherichia coli	2006	L	8.93

Hunting Camp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**8.93**

Sources:

- Crop Production (Crop Land or Dry Land)
- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N32R-01-BAC** **Wolf Creek**

Cause Location: Wolf Creek mainstem waters from the mouth of Clear Fork Creek downstream to the confluence of Wolf Creek with the New River.

City / County: Bland Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The originally listed 2004 portion of the overall extent described above began near the intersection of Routes 61 and 724 at the confluence of an unnamed tributary extending downstream to the mouth of Wolf Creek on the New River. A total of 5.60 miles. A bacteria TMDL was completed in 2015: E.coli TMDL Development for Wolf Creek and Tributaries in Giles, Bland, and Tazewell Counties, VA [Approved: EPA 7/27/16, SWCB 6/27/16; TMDL ID: 66175].

The 2006 Integrated Report (IR) extends the 2004 303(d) Listed fecal coliform (FC) bacteria impairment 16.71 miles upstream. The total bacteria impairment is 22.31 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-WFC017.31 (Bridge #6065 on Rt. 644 off Rt. 61) 6 out of 36 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2016 data window. Exceedances range from 250 to greater than 2000 cfu/100 ml. Five exceeding values are found from 24 escherichia coli (E.coli) observations in 2014. The range of exceedance is from 250 to greater than 2000 cfu/100 ml. Two of 15 E.coli samples exceed the 235 cfu/100 ml criterion at 300 and 450 cfu/100 ml within the 2012 data window. The 2010 and 2008 assessments find 2 of 12 E.coli samples exceed the 235 cfu/100 ml criterion at 420 and 1000 cfu/100 ml. Two of 9 E.coli samples exceed the criterion with the same exceedances in 2006.

9-WFC011.05- (Rt. 676 Bridge at Boxely) The 2016 data window finds 2 of 36 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion (400 cfu/ and >2000 cfu/100 ml). One exceeding value of greater than 2000 cfu/100 ml exceeds the 235 cfu/100 ml instantaneous criterion from 12 observations within the 2014 data window. There were no additional data within the 2012 data window. Both the 2008 and 2010 assessments find E.coli bacteria exceed the instantaneous criterion in 2 of 10 samples. Exceeding values are both at 700 cfu/100 ml.

9-WFC005.61 (Rt. 673 Bridge at Penvir) 4 of 35 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml in the 2016 data window. Excursions range from 250 to 625 cfu/100 ml. The 2014 data window found 2 of 12 samples in exceedance of the 235 cfu/100 ml instantaneous criterion. Excessive values are 300 and 625 cfu/100 ml. There were no additional data within the 2012 data window. E.coli exceedances are found in 5 of 12 samples in 2008 and 2010. Values in excess of the 235 cfu/100 ml criterion range from 250 to greater than 2000. E.coli exceedances are found in 3 of 9 samples and the same range of exceedance as in 2008.

9-WFC000.20 (Rt. 61 Bridge) E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in 5 of 48 samples within the 2018 data window. The 2016 data window finds 3 of 48 samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions range from 275 to 425 cfu/100 ml. Two of 24 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 2014. The 2012 assessment finds 1 of 14 E.coli samples exceeding the instantaneous criterion of 235 cfu/100 ml at 1200. E.coli exceeds the instantaneous criterion in 3 of 12 samples in 2008 and 2010. Each excursion of the criterion is 520, 900 and 1200 cfu/100 ml. E.coli excursions in 2006 are 2 of 9 samples with each excursion of the criterion at 520 and 900 cfu/100 ml. The 2004 Integrated Report (IR) finds FC exceedances of the 400 cfu/100 ml instantaneous criterion in 2 of 18 samples resulting in a 2004 impairment listing that remains. Exceeding values are 700 and 1500 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N32R_WFC01A00 / Wolf Creek / Wolf Creek mainstem from its mouth on the New River upstream to the former Narrows STP outfall on Wolf Creek. Mill Creek confluence (NE81)	4A	Escherichia coli	2006	L	0.39
VAW-N32R_WFC02A00 / Wolf Creek / Wolf Creek mainstem from the mouth of Mill Creek former Narrows STP outfall upstream to an unnamed bridge crossing Wolf Creek (NE81).	4A	Escherichia coli	2006	L	5.22
VAW-N32R_WFC03A00 / Wolf Creek / Wolf Creek mainstem	4A	Escherichia coli	2006	L	8.80

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

waters from an unnamed bridge upstream to Bland/Giles County Line (NE81).

VAW-N32R_WFC04A00 / Wolf Creek / Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek (NE81).	A	Escherichia coli	2006	L	7.91

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**22.32**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N32R-01-TEMP** **Wolf Creek**

Cause Location: Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek.

City / County: Bland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5C

The Aquatic Life Use impairment for temperature returns with the 2014 Integrated Report (IR).

9-WFC017.31 (Bridge #6065 on Rt. 644 off Rt. 61) No additional data collected since the 2016 data window. The 2016 data window finds 4 of 36 exceedances of the 21°C Class V - Stockable Trout Waters criterion. One exceedance occurs at 22.9°C (7/23/13) in addition to the exceedances within the 2014 data window. Three of 24 temperature measurements exceed the WQS Class V - Stockable Trout water criterion of 21°C in 2014. Values in excess of the criterion are 24.7°C (7/12/2011), 23.0°C (6/25/2012) and 21.2°C (8/21/2012). These waters were delisted with the 2012 IR as temperature excursions of the WQS Class V criterion of 21°C are 0 of 15 measurements or an exceedance rate of 0.0% at station 9-WFC017.31. Originally listed in 2008 these waters should have been listed in 2006 with 2 of 9 exceeding values and a TMDL Schedule of 2018. Two of 12 temperature measurements exceed the Class V stockable trout water 21°C criterion within the 2008 and 2010 data windows. Exceeding values are 21.1°C on 8/4/2003 and 21.9°C on 8/30/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N32R_WFC04A00 / Wolf Creek / Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek (NE81).	5C	Temperature, water	2014	M	7.91

Wolf Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**7.91**

Sources:

Natural Sources Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N33R-01-BAC** **Dry Fork**

Cause Location: This segment includes Dry Fork south of East River Mountain at the West Virginia state line, downstream to North Gap (excluding the headwaters).

City / County: Bland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The AWQM station located at 9-DYF000.07 had 16% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N33R_DYF01A12 / Dry Fork / Dry Fork south of East River Mountain, the WV state line, downstream to North Gap, excluding headwaters, WQS Section 1.	5A	Escherichia coli	2012	L	5.24

Dry Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.24**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N33R-01-TEMP** **Dry Fork**

Cause Location: This segment includes Dry Fork downstream to north Gap, excluding the headwaters.

City / County: Bland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature, water / 5A

The AWQM station located at 9-DYF000.07 has a 17% exceedance of the temperature.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N33R_DYF01A12 / Dry Fork / Dry Fork south of East River Mountain, the WV state line, downstream to North Gap, excluding headwaters, WQS Section 1.	5A	Temperature, water	2012	M	5.24

Dry Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			**5.24**

Sources:

Grazing in Riparian or Shoreline Zones	Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N34R-01-BAC** **Rich Creek**

Cause Location: The impaired waters begin just downstream of Peterstown, West Virginia at the mouth of Brush Creek on Rich Creek and extends to the Rich Creek confluence on the New River (Peterstown, WVA Quad).

City / County: Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The 2002 2.85 mile fecal coliform (FC) bacteria impairment remains. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-RHC000.08 (Rt. 806 Bridge) No additional data collected since the 2016 data window. 2014 and 2016 data windows escherichia coli exceedances occur in 14 of 35 observations. Exceedances range from 275 to 1575 cfu/100 ml. E.coli exceed the 235 cfu/100 ml instantaneous criterion in 14 of 32 samples within the 2012 data window. Exceedances range from 350 to 1010 cfu/100 ml. The 2010 assessment finds E.coli exceed the instantaneous criterion in 10 of 21 samples. Exceedances range from 400 to 1010 cfu/100 ml. E.coli exceed the instantaneous criterion in 3 of 9 samples in 2008 ranging from 400 to 900 cfu/100 ml. Data within the 2006 data window exceed the former FC 400 cfu/100 ml instantaneous criterion in 5 of 9 samples with an exceedance range of 1000 to 2800 cfu/100 ml. The 2004 IR reports FC exceeds the former instantaneous criterion in 10 of 18 samples. Exceeding values range from 500 to 2800 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N34R_RHC01A00 / Rich Creek / Rich Creek mainstem from its mouth on the New River upstream to the Rt. 219 crossing at the Virginia/West Virginia State Line.	5A	Escherichia coli	2008	H, 2yr	2.85

Rich Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.85**

Sources:

- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N35R-01-BAC** **Adair Run**

Cause Location: The Adair Run impairment begins at the Virginia / West Virginia State Line and extends downstream to the Adair Run confluence with the New River.

City / County: Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

The 2004 303(d) Listed 0.37 mile bacteria impaired waters find the Recreational Use is not supported. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-ADR000.13 (Rt. 648 Bridge) There are no additional data beyond the 2014 data window. The 2014 assessment finds E.coli exceed the 235 cfu/100 ml WQS instantaneous criterion in 5 of 32 samples Values in excess of the criterion range from 325 to 1650 cfu/100 ml. There are no additional data within the 2012 data window. The 2010 assessment finds escherichia coli exceed the 235 cfu/100 ml WQS instantaneous criterion in 3 of 20 samples Values in excess of the criterion are 450, 1050 and 1200 cfu/100 ml. The 2004 IR reports fecal coliform exceeds the former 400 cfu/100 ml instantaneous criterion in 6 of 26 observations. Exceeding values range from 500 to 4200 cfu/100 ml. FC exceeds the former instantaneous criterion in 6 of 20 observations within the 2006 data window. Exceeding values range from 500 to 4200 cfu/100 ml. FC data within the 2008 data window find 4 of 14 samples exceeding the former instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N35R_ADR01A00 / Adair Run / Adair Run mainstem from its mouth on the New River upstream to the Virginia/West Virginia State Line.	5A	Escherichia coli	2010	H, 2yr	0.37

Adair Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.37**

Sources:

- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N36R-01-BAC** **Bluestone River and Big Branch**

Cause Location: This segment extends from Route 460 bridge downstream to the West Virginia political boundary and includes Big Branch from the headwaters downstream to the confluence with the Bluestone River. It also includes Mud Fork, a Bluestone River tributary at Falls Mills (does not include privately owned reservoir).

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A Fecal Coliform / 4A

Station 9-BST066.80 had a 37% exceedance of the E.coli water quality standard. The AWQM station located at 9-BST062.47 had a 77% exceedance of the E.coli water quality standard, station 9-BST073.32 had a 37% exceedance. Stations 9-BIG000.12 had a 88% exceedance and 9-MFK01A06 had a 36% of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills, section 1g, u.	4A	Escherichia coli	2004	L	6.23
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence, section 1g, u.	4A	Escherichia coli	2006	L	1.72
VAS-N36R_BST05A02 / Bluestone River / From Town of Bluefield PWS intake, upstream to Rt. 460 bridge near Shannandale, WQS Section 1h, u.	4A	Escherichia coli	2006	L	5.05
VAS-N36R_MFK01A06 / Mud Fork / Bluestone tributary at Falls Mills, north of Stony Ridge upstream to SR 608 bridge, WQS Section 1g. Does not include privately owned reservoir.	4A	Escherichia coli	2018	L	2.98
VAS-N37R_BIG01A10 / Big Branch / Bluestone tributary south of Abbs Valley Ridge, from headwaters in WQS Section 1g, parallel SR 698.	4A	Escherichia coli	2010	L	3.33
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u.	4A	Escherichia coli	2006	L	0.62

Bluestone River and Big Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.93**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence, section 1g, u.	4A	Fecal Coliform	2002	L	1.72
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u.	4A	Fecal Coliform	2002	L	0.62

Bluestone River and Big Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.34**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

Sources:

Rural (Residential Areas)	Sewage Discharges in Unsewered Areas	Silviculture Activities	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N36R-01-BEN** **Bluestone River**

Cause Location: This segment extends from the Wright's Valley Creek confluence downstream to the West Virginia political boundary.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

Biological station 9-BST066.80 was impaired based on the VSCI scores of 49 and 53 in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills, section 1g, u.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	6.23
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u.	4A	Benthic-Macroinvertebrate Bioassessments	2002	L	0.62

Bluestone River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.85**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills, section 1g, u.	4A	Sedimentation/Siltation	2010	L	6.23
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u.	4A	Sedimentation/Siltation	2010	L	0.62

Bluestone River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**6.85**

Sources:

Crop Production (Crop Land or Dry Land)

Silviculture Activities

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N36R-01-CDANE** **Bluestone River**

Cause Location: This segment includes the mainstem from the confluence with Big Branch downstream to West Virginia political boundary; may be found on the Bramwell quad sheet.

City / County: Tazewell Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Chlordane / 5A

The fish tissue and sediment sampling stations at 9-BST069.46 and 9-BST066.94 had total chlordane levels detected in the sediment in 2002 above DEQ's screening value.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u.	5A	Chlordane	2004	L	0.62

Bluestone River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			**0.62**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N36R-01-PCB** **Bluestone River**

Cause Location: This segment begins at the Route 460 bridge downstream to the West Virginia political boundary. It also includes a segment of Beaverpond Creek that flows from West Virginia into Virginia, sometimes under city buildings and streets and into the Bluestone River and Brush Fork from the west Virginia state line to the confluence with the Bluestone River in Falls Mills.

City / County: Tazewell Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A PCB in Water Column / 5A

In April 2004 a Special Study was conducted by DEQ and USGS. An SPMD deployed at station 9-BPB000.02 indicated Total PCBs in the water column at 3700 pg/l and 1300 pg/l in 2005. SPMDs deployed at stations 9-BST066.18, 9-BST068.98 and 9-BST072.65 indicated PCB values of 1800 pg/l, 800 pg/l and 230 pg/l. Fish tissue and sediment stations 9-BST0666.94 and 9-BST069.46 found PCB in exceedance of DEQ's screening values in white suckers. Station 9-BST069.46 also had sediment samples that exceeded the ER_M for PCBs. SPMD sampling in 2004 indicated PCB was 3500 pg/l at station 9-BFK003.14.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills, section 1g, u.	5A	PCB in Fish Tissue	2002	H, 2yr	6.23
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence, section 1g, u.	5A	PCB in Fish Tissue	2002	H, 2yr	1.72
VAS-N36R_BST05A02 / Bluestone River / From Town of Bluefield PWS intake, upstream to Rt. 460 bridge near Shannandale, WQS Section 1h, u.	5A	PCB in Fish Tissue	2002	H, 2yr	5.05
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u.	5A	PCB in Fish Tissue	2002	H, 2yr	0.62

Bluestone River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			**13.62**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BFK01A06 / Brush Fork / Bluestone tributary from WV state line downstream to Bluestone River at Falls Mills parallel to SR 643, WQS Section 1g.	5A	PCB in Water Column	2010	H, 2yr	1.48
VAS-N36R_BPB01A06 / Beaverpond Creek / Bluestone tributary from WV state line, sometimes under town buildings and streets in Bluefield, downstream to Bluestone confluence, WQS Section 1g.	5A	PCB in Water Column	2012	H, 2yr	2.99

Bluestone River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Water Column - Total Impaired Size by Water Type:			**4.47**

Sources:

Inappropriate Waste Disposal	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N37R-01-BAC** **Laurel Fork**

Cause Location: This segment includes from the headwaters on Yokel Ridge (parallel to the WV state line) to the WV state line at rive mile 1.35.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 4A

The AWQM station located at 9-LRR001.39 had a 83% exceedance of the E.coli water quality standard. Station 9-LRR012.30 had a 11% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR01A94 / Laurel Fork / Laurel Fork mainstem from the Curran Branch confluence at Boissevain, to WV state line east of Pocahontas, WQS Section 1.	4A	Escherichia coli	2006	L	4.70
VAS-N37R_LRR02A02 / Laurel Fork / Upstream of the Curran Branch confluence at Boissevain to headwaters on Yokel Ridge (parallel WV state line), WQS Section 1.	4A	Escherichia coli	2016	L	8.30

Laurel Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**13.00**

Sources:

Sanitary Sewer Overflows (Collection System Failures)

Septage Disposal

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N37R-01-BEN** **Laurel Fork**

Cause Location: This segment includes the Laurel Fork mainstem from the Curran Branch confluence, river mile 5.90, to the West Virginia line at river mile 1.35 and from the Curran Branch confluence at Boissevain to the headwaters.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 4A Sedimentation/Siltation / 4A

The biological station at 9-LRR001.39 found that the segment was impaired based on the VSCI. Probabilistic monitoring station at 9-LRR012.30 was impaired based on VSCI scores of 38 and 44 in 2014 and 56 and 56 and 54 in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR01A94 / Laurel Fork / Laurel Fork mainstem from the Curran Branch confluence at Boissevain, to WV state line east of Pocahontas, WQS Section 1.	4A	Benthic-Macroinvertebrate Bioassessments	1996	L	4.70

Laurel Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.70**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR01A94 / Laurel Fork / Laurel Fork mainstem from the Curran Branch confluence at Boissevain, to WV state line east of Pocahontas, WQS Section 1.	4A	Sedimentation/Siltation	2010	L	4.70

Laurel Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sedimentation/Siltation - Total Impaired Size by Water Type:			**4.70**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

Silviculture Activities

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N37R-02-BEN** **Laurel Fork**

Cause Location: Upstream of the Curran Branch confluence at Boissevain to headwaters (parallel to the West Virginia state line), WQS Section 1.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

Probabilistic monitoring station at 9-LRR012.30 was impaired based on VSCI scores in 2014 and 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR02A02 / Laurel Fork / Upstream of the Curran Branch confluence at Boissevain to headwaters on Yokel Ridge (parallel WV state line), WQS Section 1.	5C	Benthic-Macroinvertebrate Bioassessments	2014	L	8.30

Laurel Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.30**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2018

New River Basin

***Cause Group Code:* N37R-02-DO** **Laurel Fork**

Cause Location: This segment extends from upstream of the Curran Branch confluence at Boissevain to the headwaters.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5C

Additional investigation is recommended.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR02A02 / Laurel Fork / Upstream of the Curran Branch confluence at Boissevain to headwaters on Yokel Ridge (parallel WV state line), WQS Section 1.	5C	Oxygen, Dissolved	2010	L	8.30

Laurel Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.30**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed