Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E01R-01-BEN** **Thumb Run, East Branch**

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 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Thumb Run, East Branch	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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E01R-02-BEN** **Unnamed Tributary to Thumb Run, West Branch**

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 score which indicates an impaired macroinvertebrate community.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E02R-01-BEN** **Great Run**

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

Three biological monitoring events, at station 3-GRT001.70, in 2011, and 2012 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Great Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.19**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E03R-01-TEMP** **Hughes River**

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: Instantaneous temperature criterion for stockable trout waters excursions (2 of 6 samples - 33.3%) from station 3-HUE007.31, at the lower crossing of Route 707.

Hughes River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.20**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E04R-01-TEMP** **Hazel River**

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 Route 707 bridge.

City / County: Rappahannock Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

Instantaneous temperature criterion excursions (3 of 11 samples - 27.3%) from station 3-HAZ034.96, at Route 607.

Hazel River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.63**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E05R-01-BEN** **Thornton River**

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 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Thornton River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.86**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E08R-01-BEN** **Marsh Run**

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

A total of two biological monitoring events in 2009 at station 3-MAH004.18 at Route 668 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Marsh Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.01**

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E09R-01-BEN** **Mountain Run**

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: Two biological monitoring events in 2003 and one of two biological monitoring events in 2004 at station 3-MTN003.31 (downstream of Route 672) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these four samples (2010 Assessment). Two biological monitoring events in 2006 at station 3-MTN018.83 (downstream of the Route 15/29 bypass) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E09R-01-PCB** **Mountain Run**

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

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.

Additionally, exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in one species of fish (6 total samples) collected in 2013 at monitoring station 3-MTN005.79 (American eel) and in two species of fish (4 total samples) collected in 2013 at monitoring station 3-MTN005.79 (American eel and yellow bullhead catfish).

Mountain Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**19.90**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E09R-02-BEN** **Jonas Run**

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

A total of two biological monitoring events in 2009 at station 3-JOA001.60, at Route 684, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E09R-02-PCB** **Mountain Run**

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

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 2013 at monitoring station 3-MTN022.21 in three total samples of three species of fish collected (white sucker, American eel, and yellow bullhead catfish).

Mountain Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**4.63**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E10R-01-BEN** **Sumerduck Run**

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 six biological monitoring events in 2009, 2013, and 2014 at station 3-SMR004.81, at Route 632, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Sumerduck Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.85**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E10R-04-BAC** **Sumerduck Run**

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%) from station 3-SMR004.81 at Route 632.

Sumerduck Run **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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E11R-01-BEN** **Conway River**

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 3 biological monitoring events in 2007 and 2008 at station 3-CON002.26 located at Route 230 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Conway River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.98**

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E12R-01-BEN** **Rippin Run**

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

A total of two biological monitoring events in 2010 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E13R-01-BEN** **Beautiful Run**

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 four biological monitoring events in 2010 and 2011 at station 3-BFL002.90, at Route 616, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Beautiful Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.50**

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E14R-01-TEMP** **Robinson River**

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

Instantaneous temperature criterion excursions (4 of 10 samples - 40.0%) from station 3-ROB024.06, at Route 649.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E14R-02-TEMP** **Rose River**

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: Instantaneous temperature criterion excursions (3 of 28 samples - 10.7%) from station 3-ROE000.75, at a private road.

Rose River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**2.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E17R-01-BEN** **Brook Run**

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

One biological monitoring events in 2009 at station 3-BRK002.64 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E18R-01-HG** **Rapidan River**

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) collected in 2006 at monitoring station 3-RAP006.53 (American eel, rock bass, smallmouth bass).

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E19L-01-HG** **Motts Run Reservoir**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E19R-01-BAC** **Horsepen Run**

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%) from station 3-HOR000.50 at Route 655 (Holly Corner Road).

Horsepen Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.70**

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E19R-02-BAC** **Mine Run**

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%) from station 3-MIN002.14 at Route 620 (Spotswood Furnace Road).

Mine Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**4.01**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E20E-03-PCB** **Rappahannock River**

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.

Rappahannock River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**128.946**		**9.24**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E20R-01-BEN** **Falls Run**

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

A total of two biological monitoring events in 2009 at station 3-FAL000.13 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Falls Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.35**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E20R-02-BEN** **Hazel Run**

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

A total of two biological monitoring events in 2009 at station 3-HAL002.72, upstream of Route 1, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Hazel Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E20R-03-BEN** **Little Falls Run**

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 VSCI score which indicates an impaired macroinvertebrate community

Little Falls Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.92**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E20R-03-PH** **Massaponax Creek**

Location: 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.

City / County: Spotsylvania Co.

Use(s): Aquatic Life

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

2012 Assessment: Excursions below the lower limit of the pH criterion range (3 of 27 samples - 11.1%) from station 3-MAP007.97 at Route 1.

Massaponax Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.19**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E20R-04-PH** **Deep Run**

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 below the lower limit of the pH criterion range (28 of 50 samples - 56.0%) at NPS's water quality monitoring station (3DEP-06-NPS) at Lee Drive.

Deep Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.56**

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E20R-05-PH** **Unnamed tributary to Massaponax Creek**

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 below the lower limit of the pH criterion range (2 of 11 samples - 18.2%) at station 3-XFE001.05, at Spotsylvania County Parkway.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-01-BEN** **Muddy Creek**

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 score that indicates an impaired macroinvertebrate community.

Muddy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-02-BEN** **Ware Creek**

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 MACS score which indicates an impaired macroinvertebrate community.

Ware Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.06**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-02-PH** **Ware Creek**

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 below 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 below 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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-03-BAC** **Gingoteague Creek**

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%) from station 3-GIN002.64 at Route 625.

Gingoteague Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-03-BEN** **Gingoteague Creek**

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 MACS score which indicates an impaired macroinvertebrate community.

Gingoteague Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.49**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-03-PH** **Gingoteague Creek**

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 below the lower limit of the pH criterion range (2 of 12 samples - 16.7%) at station 3-GIN002.64, at Route 625.

Gingoteague Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-04-BEN** **Mill Creek**

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 8-MTA012.09 (upstream of Route 646) resulted in a MACS score which indicates an impaired macroinvertebrate community.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.59**

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E21R-05-BEN** **White Oak Run**

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 score which indicates an impaired macroinvertebrate community.

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

Rappahannock River Basin

***Cause Group Code:* E21R-05-PH** **Mount Creek**

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 below the lower limit of the pH criterion range (9 of 11 samples - 81.8%) at station 3-MTC001.94 at Route 17.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-07-BAC** **Mill Creek**

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

2012 Assessment: E. coli bacteria criterion excursions (4 of 20 samples - 20.0%) from station 3-MIC0001.66 at Route 17.

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.58**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-07-PH** **Mill Creek**

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): Aquatic Life

Cause(s) /
VA Category: pH / 5C

2012 Assessment: Excursions below the lower limit of the pH criterion range (3 of 20 samples - 15.0%) at station 3-MIC001.66 at Route 17.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.58**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-08-PH** **Goldenvale Creek**

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 below the lower limit of the pH criterion range (8 of 10 samples - 80.0%) at station 3-GLL001.98, at Route 17.

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

Rappahannock River Basin

***Cause Group Code:* E21R-09-PH** **Hugh Run**

Location: Segment begins at the headwaters of Hugh Run and continues downstream until the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5C

2014 Assessment: Excursions below the lower limit of the pH criterion range (2 of 2 samples - 100.0%) at station 3-HUH001.19, approximately 0.24 rivermiles upstream from the Port Conway Road bridge crossing.

Hugh Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.45**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-10-BAC** **Jetts Creek**

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

2014 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) from station 3-JET003.49 at Route 625.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-10-PH** **White Oak Run**

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 below the lower limit of the pH criterion range (2 of 12 samples - 16.7%) at station 3-WHT000.35, at Route 601.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-11-BAC** **Portobago Creek**

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%) from station 3-PBC003.09 at Route 17.

Portobago Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.00**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E21R-11-DO** **Portobago Creek**

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): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

2014 Assessment: Excursions below the lower limit of the DO criterion range (3 of 12 samples - 25.0%) at station 3-PBC003.09 at Route 17.

Portobago Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22E-01-EBEN** **Rappahannock River**

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.

The segment remains impaired in the 2016 cycle.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22E-02-EBEN** **Rappahannock River**

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 2016 cycle.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22E-03-BAC** **Peedee Creek**

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.

Peedee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.150**		

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E22E-05-BAC** **Rappahannock River**

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.

Rappahannock River		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation	Enterococcus - Total Impaired Size by Water Type:	**1.344**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22E-08-CHLR** **Rappahannock River**

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.

Rappahannock River **Aquatic Life**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Chloride - Total Impaired Size by Water Type:	**5.133**		

Rappahannock River **Wildlife**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Chloride - Total Impaired Size by Water Type:	**5.133**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-02-DO** **Farmers Hall Creek**

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).

Farmers Hall Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-02-PH** **Farmers Hall Creek**

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

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

Rappahannock River Basin

***Cause Group Code:* E22R-03-MIREX** **Occupacia Creek and Tributaries**

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.

Occupacia Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mirex - Total Impaired Size by Water Type:			**149.38**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-04-BAC** **Elmwood Creek and Tributary XHY**

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 are 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

Elmwood Creek and Tributary XHY	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**9.07**

Sources:

Agriculture	Source Unknown

Rappahannock River Basin

***Cause Group Code:* E22R-04-DO** **Elmwood Creek and Tributary XHY**

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 are 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

Elmwood Creek and Tributary XHY		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-04-PH** **Elmwood Creek and Tributary XHY**

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 are 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

Elmwood Creek and Tributary XHY		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	pH - Total Impaired Size by Water Type:			**9.07**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-05-BAC** **Baylors Creek**

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

Baylors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**5.89**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-05-PH** **Baylors Creek**

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

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-06-BAC** **Peedee Creek**

Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co.

Use(s): Recreation

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

During the 2008 cycle, Peedee Creek was assessed as not supporting of the Recreation Use due to E. coli exceedances at the Route 640 bridge (3-PEE004.46).

During the 2016 cycle, the exceedance rate at station 3-PEE004.46 remained impairing (4/36); however, monitoring at stations 3-PEE004.11, 3-PEE004.96, and 3-PEE006.57 is acceptable.

Peedee Creek **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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-06-DO** **Peedee Creek**

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 2016 cycles.
7/12 at 3-PEE004.11
21/48 at 3-PEE004.46
7/12 at 3-PEE004.96
0/12 (FS) at 3-PEE006.57

Peedee Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-06-PH** **Peedee Creek**

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 2016 cycles.
1/12 (FS) at 3-PEE004.11
4/48 (FS) at 3-PEE004.46
3/12 at 3-PEE004.96
3/12 at 3-PEE006.57

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-08-BAC** **Stillwater Creek**

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).

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-08-DO** **Stillwater Creek**

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).

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

Rappahannock River Basin

***Cause Group Code:* E22R-08-PH** **Stillwater Creek**

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).

Stillwater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.52**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-09-BAC** **XHW - UT to Peedee Creek, UT (XHV)**

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.

XHW - UT to Peedee Creek, UT (XHV)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			**0.47**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-10-PH** **Mill Swamp**

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.

Mill Swamp		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	pH - Total Impaired Size by Water Type:			**0.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-11-DO** **Smoots Mill Run, UT**

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.

Smoots Mill Run, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E22R-11-PH** **Smoots Mill Run, UT**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E23L-01-HG** **Chandlers Millpond**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E23R-04-DO** **Hoskins Creek**

Location: Headwaters to tidal limit

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Hoskins Creek was assessed as impaired of the Aquatic Life Use during the 2014 cycle due to a dissolved oxygen exceedance rate of 4/16 at 3-HOK007.25. Monitoring at the other stations was acceptable.

Hoskins Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**13.16**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E23R-07-BEN** **Ruin Branch**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E23R-12-DO** **Mussell Swamp**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E23R-16-BEN** **Church Swamp**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E23R-20-DO** **Scates Millstream**

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.

Scates Millstream **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E23R-20-PH** **Scates Millstream**

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.

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

Rappahannock River Basin

***Cause Group Code:* E24E-02-EBTOX** **Totuskey Creek**

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. The TMDL is due in 2018.

Totuskey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sediment Bioassays for Estuarine and Marine Water - Total Impaired Size by Water Type:	**1.068**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24E-05-PH** **Little Totuskey Creek**

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.

Little Totuskey Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	pH - Total Impaired Size by Water Type:	**0.055**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24R-01-DO** **Bookers Mill Stream**

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

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24R-03-PH** **Muddy Gut**

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.

Muddy Gut **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.63**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24R-05-PH** **Branham Mill Swamp**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24R-06-DO** **Richardson Creek and Tributaries**

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

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24R-06-PH** **Richardson Creek and Tributaries**

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

Richardson Creek and Tributaries		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
	pH - Total Impaired Size by Water Type:			**17.21**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24R-08-PH** **XHL - Bookers Mill Stream, UT**

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.

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E24R-09-DO** **Marshy Swamp**

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.

Marshy Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E25R-02-DO** **Lagrange Creek**

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.

Lagrange Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E25R-04-DO** **South Branch Lagrange Creek**

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.

South Branch Lagrange Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.40**

Sources:

Source Unknown

Rappahannock River Basin

***Cause Group Code:* E25R-17-DO** **Masons Mill Swamp**

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).

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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E26E-04-EBEN** **Corrotoman River**

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 2016 cycle.

Corrotoman River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**6.954**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E26E-24-BAC** **Whiting Creek**

Location: Tidal Whiting Creek as described in VDH Shellfish Condemnation 030-051C, 10/3/2005

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.

Whiting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	**0.195**		

Sources:

Source Unknown

Fact Sheets for Impaired (Category 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E26R-03-DO** **Norris Prong**

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.

Norris Prong **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
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 5) Waters in 2016

Rappahannock River Basin

***Cause Group Code:* E26R-04-DO** **Browns Creek**

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.

Browns Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.58**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed