# *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.<br><br>APPTF.<br>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.<br><br>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<br><br>APPTF.<br><br>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<br><br>APPTF. | 4A | Oxygen, Dissolved | 2018 | L | 0.087 |
| VAP-J17E_ZZZ02A02 / Unsegmented portion in J17E watershed / Unsegmented portion of J17E watershed<br><br>HUC: 02080207<br><br>APPTF | 4A | Oxygen, Dissolved | 2018 | L | 0.051 |

| Appomattox River<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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) **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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. | 4A | Chlorophyll-a | 2008 | 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 | Chlorophyll-a | 2008 | 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 | Chlorophyll-a | 2008 | 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 | Chlorophyll-a | 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 | Chlorophyll-a | 2008 | 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 | Chlorophyll-a | 2008 | L | 1.182 |
| JMSTFu | | | | | |

# *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<br>**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.<br>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 |

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| 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 |

## *James River Basin*

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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 |

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

## *James River Basin*

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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 |

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

## *James River Basin*

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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 |

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

## *James River Basin*

| | | | | | |
|---|---|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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) **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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.<br>JMSTFl | 4A | Chlorophyll-a | 2008 | L | 0.633 |
| VAP-G03E_JMS01A00 / James River / The mainstem of the James River from the confluence with the Appomattox River downstream to Powell Creek.<br>JMSTFl | 4A | Chlorophyll-a | 2008 | L | 10.194 |
| VAP-G03E_JMS01B10 / James River / The mainstem of the James River from the confluence with Powell Creek downstream to Queen Creek.<br>JMSTFl | 4A | Chlorophyll-a | 2008 | L | 3.485 |
| VAP-G04E_JMS01A02 / James River / The James River from the confluence with Queens Creek downstream to Buoy 74 at Brandon Point<br>JMSTFl | 4A | Chlorophyll-a | 2008 | L | 7.756 |
| 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.<br>JMSTFl | 4A | Chlorophyll-a | 2008 | L | 3.756 |

| James River<br>**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.<br><br>JMSTFu | 5A | PCB in Water Column | 2012 | H, 2yr | 2.790 |
| VAP-G02E_JMS02B18 / James River / The James River from 5 miles above City Point at Hopewell to the downstream extent of JMSTFu.<br><br>JMSTFu | 5A | PCB in Water Column | 2012 | H, 2yr | 1.182 |

| James River<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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 |

JMSTFI

| Bailey Creek (tidal), Cattail Creek (tidal)<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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) **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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 |

JMSTFI

| James River<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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) **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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:* 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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:* 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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)<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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. **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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 |

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<br>**Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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. **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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. **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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. **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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] **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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. | X-5A | Benthic-Macroinvertebrate Bioassessments | 2010 | L | 0.59 |

| X-trib to North Fork Cunningham Creek<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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:* 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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) **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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:* 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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.<br><br>State Scenic River | 5A | Chlordane | 2010 | L | 2.94 |
| 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.<br><br>State Scenic River | 5A | Chlordane | 2010 | L | 0.94 |

| James River<br>**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.<br><br>State Scenic River | 5A | DDE | 2010 | L | 2.94 |
| 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.<br><br>State Scenic River | 5A | DDE | 2010 | L | 0.94 |

| James River<br>**Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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.<br><br>State Scenic River | 5A | DDT | 2010 | L | 2.94 |
| 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.<br><br>State Scenic River | 5A | DDT | 2010 | L | 0.94 |

| James River<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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)<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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

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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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

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

## *James River Basin*

***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

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

## *James River Basin*

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<br>**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

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

## *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<br>**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 |

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

## *James River Basin*

downstream to just below the Lexington Avenue Bridge (JU21).

| Jackson River<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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). | 5A | Escherichia coli | 2010 | H, 2yr | 0.81 |

| Catawba Creek<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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 **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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 **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**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) **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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<br>**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<br>**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<br>**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 |

## *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 |

| | | | | | |
|---|---|---|---|---|---|
| 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 |

| | | | | | |
|---|---|---|---|---|---|
| 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 |

| | | | | | |
|---|---|---|---|---|---|
| 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). | A | 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). | A | 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 |
| JMSTFI | | | | | |
| VAP-G04E_ZZZ01B14 / Unsegmented estuaries in G04 / Unsegmented portion of watershed JL12 | A | Oxygen, Dissolved | 2018 | L | 0.231 |
| JMSTFI | | | | | |
| VAP-G04E_ZZZ01C14 / Unsegmented estuaries in G04 / Unsegmented portion of watershed JL13 | A | Oxygen, Dissolved | 2018 | L | 0.348 |
| JMSTFI | | | | | |

| James River Tidal Freshwater (Lower) Estuary<br>**Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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

JMSTFI

| 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<br>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<br>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<br>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<br>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<br>VAP-G02E_XMT01A08 / UT to James River / Shirley Plantation Cove | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.137 |
| JMSTFu<br>VAP-G02E_XQW01A08 / James River, UT / Tidal pools on Farrar Island | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.395 |
| JMSTFu<br>VAP-G02E_ZZZ02A14 / Unsegmented estuaries in G02 / Unsegmented portion of JL05 within PWS | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.066 |
| JMSTFu<br>VAP-G02E_ZZZ02B14 / Unsegmented estuaries in G02 / Unsegmented portion of JL06 within PWS | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.057 |
| JMSTFu<br>VAP-G02E_ZZZ02C14 / Unsegmented estuaries in G02 / Unsegmented portion of JL04 within PWS | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.027 |
| JMSTFu<br>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) **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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 |

| | | | | | |
|---|---|---|---|---|---|
| 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) **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| 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) | | | |