# Virginia Department of Environmental Quality
# Appendix 4 - Fact Sheets for
# Impaired (Category 4 or 5) Waters in 2024

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: The recreation use is assessed as impaired based on E. coli data from DEQ station 1APIA001.80 at Route 671 (Harpers Ferry Rd). There were two or more STV exceedances in at least one 90-day period with <10 samples.

The Piney Run bacteria TMDL (Eq ID POL0023) was approved by the EPA on 07/06/2004 (Fed ID 21109). The SWCB approved the TMDL on 12/02/2004.

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

Piney Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of four biological monitoring events in 2015 and 2016 at DEQ station 1ADUT000.62 at Route 674 and a total of three biological monitoring events in 2015 and 2016 at DEQ station 1ADUT002.72 at Route 673 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Dutchman Creek

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available from DEQ station 1ACAX004.57 at Route 663 for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples.

The Catoctin Creek bacteria TMDL (Eq ID POL0169) was approved by the EPA on 05/31/2002 (Fed ID 18118). The SWCB approved the TMDL on 06/17/2004. A bacteria TMDL Implementation Plan for the Catoctin Creek watershed (ID 96) was approved by the EPA on 01/10/2005.

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

Catoctin Creek

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

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

## Potomac and Shenandoah River Basins

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

Cause Location: Begins at the confluence of the North and South Fork Catoctin Creek and continues downstream until the confluence with Milltown Creek, approximately 1.3 rivermiles downstream of Route 673.

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2017 and 2018 at DEQ station 1ACAX008.61 at Route 673 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A02R_CAX02A08 / Catoctin Creek / Segment begins at the confluence of the North and South Fork Catoctin Creek and continues downstream until the confluence with Milltown Creek, approximately 1.3 rivermiles downstream of Route 673. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | L | 6.52 |

Catoctin Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.52 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (9 of 12 samples - 75.0%) at DEQ station 1ANOC000.42 at Route 681.

2018 Assessment: E. coli bacteria criterion excursions (5 of 11 samples - 45.5%) at DEQ station 1ANOC004.38 at Route 287.

2010 Assessment: E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) at DEQ station 1ANOC009.37 at Route 812.

The Catoctin Creek bacteria TMDL for the North Fork Catoctin Creek watershed (Eq ID POL0166) was approved by the EPA on 05/31/2002 (Fed ID 20484). The SWCB approved the TMDL on 06/17/2004. The Catoctin Creek bacteria TMDL Implementation Plan for the North Fork Catoctin Creek watershed (ID 94) was approved by the EPA on 01/10/2005.

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

North Fork Catoctin Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.39 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2020 Assessment: One biological monitoring event in 2014 at DEQ station 1ANOC000.42 at Route 681 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The TMDL and Watershed Plan to Address Sediment in North Fork Catoctin Creek (Eq ID 2339) was approved by the EPA on 7/29/2020. The SWCB approved the TMDL and Watershed Plan on 06/29/2020.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A02R_NOC01A00 / North Fork Catoctin Creek / Segment begins at the confluence with an unnamed tributary to North Fork Catoctin Creek, approximately 0.15 rivermile downstream from the Route 287 bridge, and continues downstream until the confluence with Catoctin Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 4.42 |

North Fork Catoctin Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.42 |

Sources: Agriculture; Construction; Post-development Erosion and Sedimentation; Runoff from Forest/Grassland/Parkland; Site Clearance (Land Development or Redevelopment); Streambank Erosion

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ASOC001.66 at Route 698 (Old Wheatland Rd).

2016 Assessment: E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) at DEQ station 1ASOC007.06 at Route 738.

2016 assessment: E. coli bacteria criterion excursions (3 of 18 samples - 16.7%) at DEQ station 1ASOC011.82 at Route 611.

2016 assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ASOC013.05 at Route 7 Bypass.

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

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

South Fork Catoctin Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 18.49 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two biological monitoring events in 2016 at DEQ station 1ASOC002.93 (Next to Charles Henry Pl) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

South Fork Catoctin Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.33 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4C

Cause Description: One biological monitoring event in 2014 at DEQ station 1ANOC009.37 at Route 812 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

A new TMDL is not required for this impaired segment of North Fork Catoctin Creek because the Benthic TMDL Development Stressor Analysis Report for North Fork Catoctin Creek (09/15/2015) determined that this impairment is primarily due to low-flow conditions, and recommended that this segment be re-classified as Category 4C because the impairment is not caused by a pollutant.

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

North Fork Catoctin Creek

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

Sources: Reduced Freshwater Flows

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available from DEQ station 1AMIH001.98 at Route 673 for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2018 assessment: Sufficient excursions from the maximum E. coli bacteria criterion (4 of 10 samples - 40.0%) were recorded at DEQ station 1AMIH001.98 at Route 673 to assess this stream segment as not supporting the recreation use.

A new TMDL is not required for this impaired segment of Milltown Creek because the downstream Catoctin Creek bacteria TMDL (Fed ID 24399, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0169). A bacteria TMDL Implementation Plan for the Catoctin Creek watershed (ID 96) was approved by the EPA on 01/10/2005.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A02R_MIH01A06 / Milltown Creek / Segment begins at the confluence with an unnamed tributary to Milltown Creek, approximately 1.1 rivermile upstream from Route 681 near Milltown, and continues downstream until the confluence with Catoctin Creek. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.9 |

Milltown Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.9 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of three monitoring events in 2019 and 2020 at DEQ station 1AMIH001.98 at Route 673 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A02R_MIH01A06 / Milltown Creek / Segment begins at the confluence with an unnamed tributary to Milltown Creek, approximately 1.1 rivermile upstream from Route 681 near Milltown, and continues downstream until the confluence with Catoctin Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2022 | L | 3.9 |

Milltown Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.9 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) at DEQ station 1AXJT002.22 at Cottage Grove Lane.

A new TMDL is not required for this impaired segment of an unnamed tributary to Catoctin Creek because the downstream Catoctin Creek bacteria TMDL (Fed ID 24399, 05/31/2002) included modeling, source identification, and reductions that covered the entire Catoctin Creek watershed (Eq ID POL0169). The SWCB approved the TMDL on 06/17/2004. A bacteria TMDL Implementation Plan for the Catoctin Creek watershed (ID 96) was approved by the EPA on 01/10/2005.

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

Unnamed tributary to Catoctin Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.35 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available from DEQ station 1ALIM001.16 at Route 15 for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ALIM001.16 at Route 15.

The Limestone Branch bacteria TMDL (Eq ID POL0026) was approved by the EPA on 07/06/2004 (Fed ID 24403). The SWCB approved the TMDL on 12/02/2004.

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

Limestone Branch

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACLK002.40 at Route 658 (St. Clair Lane).

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

Clarks Run

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AXAQ000.85 at Route 661 (Limestone School Rd).

A new TMDL is not required for this impaired segment of the unnamed tributary to Limestone Branch because the downstream Limestone Branch bacteria TMDL (Fed ID 24403, 07/06/2004) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0026).

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

Unnamed tributary to Limestone Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.93 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of three biological monitoring events in 2015 and 2016 at DEQ station 1ABSC000.45 at Twin Maple Lane resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Big Spring Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.49 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at DEQ station 1AXGJ000.42 at Selma Lane.

A new TMDL is not required for this impaired segment of the unnamed tributary to Limestone Branch because the downstream Limestone Branch bacteria TMDL (Fed ID 24403, 07/06/2004) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0026).

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

Unnamed tributary to Limestone Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.14 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available from DEQ station 1AGOO044.36 at Route 17 (Winchester Rd) for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples.

There were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1AGOO-FFGCHGC-FOSR.

A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (Fed ID23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A04R_GOO01B00 / Goose Creek / Segment begins at the confluence with Kettle Run and continues downstream until the confluence with Bolling Branch. | 4A | Escherichia coli (E. coli) | 2004 | L | 4.31 |
| VAN-A04R_GOO02A04 / Goose Creek / Segment begins at the headwaters of Goose Creek and continues downstream until the confluence with Kettle Run. | 4A | Escherichia coli (E. coli) | 2024 | L | 8.11 |

Goose Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 12.42 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AGAR002.24 at Route 623 (Rokeby Rd).

A new TMDL is not required for this impaired segment of Gap Run because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

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

Gap Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACRA000.42 at Route 623 (Jacksontown Rd).

A new TMDL is not required for this impaired segment of Crooked Run because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

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

Crooked Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) at DEQ station 1aBOL000.05 at Route 713.

A new TMDL is not required for this impaired segment of Bolling Branch because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

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

Bolling Branch

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at DEQ station 1AXLW000.75 at Route 55.

A new TMDL is not required for this unnamed tributary to Goose Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

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

Unnamed tributary to Goose Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.91 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (6 of 24 samples - 25.0%) at DEQ station 1aCRM001.20 at Route 50.

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACRM008.59 at Route 702 (Frogtown Rd).

The Goose Creek bacteria TMDL for the Cromwells Run watershed (Eq ID POL0064) was approved by the EPA on 05/01/2003 (Fed ID 24404). The SWCB approved the TMDL on 06/17/2004. The Goose Creek bacteria TMDL Implementation Plan for the Cromwells Run watershed (ID 133) was approved by the EPA on 04/02/2018.

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

Cromwells Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

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

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

Wancopin Creek

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2020 Assessment: Five biological monitoring events in 2013, 2014, and 2015 at DEQ station 1AJEE000.23 at Route 719 and six biological monitoring events in 2013, 2014, and 2015 at DEQ station 1AJEE002.22 at Route 743 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Jeffries Branch

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AGOO030.75 at Route 611 (Saint Louis Rd).

A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

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

Goose Creek

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County; Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two biological monitoring events in 2016 at DEQ station 1ACRM004.09 at the end of Hatchers Mill Road resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Goose Creek

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1APAE002.54 at Route 623.

There were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1APAE-FLGCPSC-FOSR.

A new TMDL is not required for this impaired segment of Panther Skin Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

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

Panther Skin Creek

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AJEE000.23 at Route 719 (Green Garden Rd.).

2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AJEE002.22 at Route 743 (Millville Rd).

A new TMDL is not required for this impaired segment of Jeffries Branch because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

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

Jeffries Branch

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fauquier County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2010 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at DEQ station 1AGOO034.20 at Route 624.

2020 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AGOO036.61 at Route 710.

A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and tributaries watershed (Eq ID POL0063). The Goose Creek bacteria TMDL Implementation Plan for the Upper Goose Creek watershed (ID 131) was approved by the EPA on 04/02/2018.

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

Goose Creek

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (4 of 11 samples 36.4%) at DEQ station 1aXCD000.07 at Route 619.

A new TMDL is not required for this impaired segment of an unnamed tributary to Jeffries Branch because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

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

Unnamed tributary to Jeffries Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 0.31 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: DEQ station 1ANOG005.69 at Route 722: There were two or more STV exceedances in at least one 90-day period with <10 samples.

2012 Assessment: E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) at DEQ station 1aNOG011.60 at Route 782.

The Goose Creek bacteria TMDL for the North Fork Goose Creek watershed (Eq ID POL0065) was approved by the EPA on 05/01/2003 (Fed ID 24405). The SWCB approved the TMDL on 06/17/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A06R_NOG02A00 / North Fork Goose Creek / Segment begins at the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.23 rivermiles upstream from Route 725, and continues downstream until the confluence with Crooked Run. | 4A | Escherichia coli (E. coli) | 1998 | L | 4.70 |
| VAN-A06R_NOG03A02 / North Fork Goose Creek / Segment begins at the outlet from Sleeter Lake and continues downstream until the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.23 rivermiles upstream of Route 725. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.97 |

North Fork Goose Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.67 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

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

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A06R_NOG02A00 / North Fork Goose Creek / Segment begins at the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.23 rivermiles upstream from Route 725, and continues downstream until the confluence with Crooked Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 4.7 |

North Fork Goose Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.7 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A06R-01-PH Jacks Run**

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

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

Cause Description: 2022 Assessment: Excursions less than the lower limit of the pH criterion range (2 of 12 samples - 16.7%) at DEQ station 1AJAC001.06 at Rt. 690.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A06R_JAC01A04 / Jacks Run / Segment begins at the headwaters of Jacks Run and continues downstream until the confluence with North Fork Goose Creek. | 5A | pH | 2020 | L | 3.18 |

Jacks Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 3.18 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACRF001.18 at Route 727 (Forest Mill Rd).

A new TMDL is not required for this impaired segment of Crooked Run because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

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

Crooked Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two biological monitoring events in 2016 at DEQ station 1aJAC000.74 at 0.4 miles downstream from Route 690 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Jacks Run

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AJAC001.06 at Route 690.

A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (Fed ID 24405, 05/01/2003) included modeling, source identification, and reductions that covered the entire North Fork Goose Creek watershed (Eq ID POL0064).

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

Jacks Run

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

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A06R-04-BAC Unnamed tributary to North Fork Goose Creek**

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1AXPC-FLGCTribSL3-FOSR and there were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1AXPC-FLGCTribSL3-FOSR.

A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (Fed ID 24405, 05/01/2003) included modeling, source identification, and reductions that covered the entire North Fork Goose Creek watershed (Eq ID POL0064).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A06R_XPC01A24 / Unnamed tributary to North Fork Goose Creek / Segment begins at the headwaters and continues downstream until the confluence with North Fork Goose Creek. | 4A | Escherichia coli (E. coli) | 2024 | L | 1.71 |

Unnamed tributary to North Fork Goose Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.71 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABEC004.76 at Route 734 (Snickersville Turnpike).

The Goose Creek bacteria TMDL for the Beaverdam Creek watershed (Eq ID POL0066) was approved by the EPA on 05/01/2003 (Fed ID 23318). The SWCB approved the TMDL on 06/17/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A07R_BEC01A00 / Beaverdam Creek / Segment begins at the confluence with North Fork Beaverdam Creek, approximately 0.27 rivermile upstream of Route 746, and continues downstream until the confluence with North Fork Goose Creek. | 4A | Escherichia coli (E. coli) | 2006 | L | 6.5 |

Beaverdam Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.5 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at DEQ station 1ANOB000.75 at Route 630.

2010 Assessment: E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) at DEQ station 1ANOB005.49 at Route 719.

A new TMDL is not required for this impaired segment of North Fork Beaverdam Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23318, 05/01/2003) included modeling, source identification, and reductions that covered the entire Beaverdam Creek watershed (Eq ID POL0066).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A07R_NOB01A02 / North Fork Beaverdam Creek / Segment begins at the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12, and continues downstream until the confluence with the main stem of Beaverdam Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 3.16 |
| VAN-A07R_NOB02A04 / North Fork Beaverdam Creek / Segment begins at the confluence with Butchers Branch and continues downstream until the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12. | 4A | Escherichia coli (E. coli) | 2006 | L | 2.61 |

North Fork Beaverdam Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.77 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two biological monitoring events in 2016 at DEQ station 1aNOB000.75 at Route 630 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A07R_NOB01A02 / North Fork Beaverdam Creek / Segment begins at the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12, and continues downstream until the confluence with the main stem of Beaverdam Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 3.16 |
| VAN-A07R_NOB02A04 / North Fork Beaverdam Creek / Segment begins at the confluence with Butchers Branch and continues downstream until the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 2.61 |

North Fork Beaverdam Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.77 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2010 Assessment: E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) at DEQ station 1ABEC009.01 at Route 626.

2016 Assessment: E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at DEQ station 1ABEC011.76 at Route 630.

A new TMDL is not required for this impaired segment of Beaverdam Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23318, 05/01/2003) included modeling, source identification, and reductions that covered the entire Beaverdam Creek watershed (Eq ID POL0066).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A07R_BEC02A04 / Beaverdam Creek / Segment begins at the confluence with an unnamed tributary to Beaverdam Creek, just upstream from Route 626, and continues downstream until the confluence of with Dog Branch. | 4A | Escherichia coli (E. coli) | 2006 | L | 1.27 |
| VAN-A07R_BEC03A12 / Beaverdam Creek / Segment begins at the confluence with an unnamed tributary, at rivermile 13.2, and continues downstream to the confluence with an unnamed tributary to Beaverdam Creek, just upstream from Route 626. | 4A | Escherichia coli (E. coli) | 2012 | L | 4.38 |

Beaverdam Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.65 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A07R-04-BAC Dog Branch**

Cause Location: Begins at the confluence with an unnamed tributary upstream of Route 756 and continues downstream until the confluence with an unnamed tributary at approximately 1.2 miles downstream from Route 756.

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ADOG002.77 at Route 756.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A07R_DOG01A22 / Dog Branch / Segment begins at the confluence with an unnamed tributary upstream of Route 756 and continues downstream until the confluence with an unnamed tributary at approximately 1.2 miles downstream from Route 756. | 4A | Escherichia coli (E. coli) | 2024 | L | 1.22 |

Dog Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.22 |

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

## Potomac and Shenandoah River Basins

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

Cause Location: Includes all of Goose Creek Reservoir.

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) in the pooled data at DEQ stations 1AGOO004.93 and 1AGOO005.57.

A new TMDL is not required for this impairment because the Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions for the watershed in which this reservoir is located (Goose Creek and Tributaries, Eq ID POL0063).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08L_GOO02A02 / Goose Creek Reservoir / Segment includes the impounded waters downstream of the Dulles Greenway Road bridge. | 4A | Escherichia coli (E. coli) | 2018 | L | 39.64 |
| VAN-A08L_GOO02B06 / Goose Creek Reservoir / Segment includes the impounded waters upstream of the Dulles Greenway Road bridge. | 4A | Escherichia coli (E. coli) | 2018 | L | 58.13 |

Goose Creek Reservoir

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | 97.77 | |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1AGOO-RFLGCRCCP1-FOSR and there were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1AGOO-RFLGCRDT2-FOSR .

The Goose Creek bacteria TMDL for the Goose Creek and Tributaries watershed (Eq ID POL0063) was approved by the EPA on 05/01/2003 (Fed ID 23319). The SWCB approved the TMDL on 06/17/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_GOO01A00 / Goose Creek / Segment begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River. | 4A | Escherichia coli (E. coli) | 2006 | L | 4.82 |

Goose Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.82 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2016 Assessment: Two biological monitoring events in 2009 at DEQ station 1AGOO002.38 at Route 7 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The Goose Creek and Little River sediment TMDL for the Goose Creek watershed (Eq ID POL0071) was approved by the EPA on 04/26/2004 (Fed ID 23320). The SWCB approved the TMDL on 08/31/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_GOO01A00 / Goose Creek / Segment begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 4.82 |

Goose Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.82 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County; Loudoun County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

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

2022 assessment: two exceedances of the water quality criterion based fish tissue value (TV) of 18 parts per billion (ppb) for PCBs in fish tissue were recorded two species of fish (American eel and channel catfish) collected in 2015 at DEQ station 1ABRB002.15.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08L_GOO02A02 / Goose Creek Reservoir / Segment includes the impounded waters downstream of the Dulles Greenway Road bridge. | 5A | PCBs in Fish Tissue | 2006 | L | 39.64 |
| VAN-A08R_GOO01A00 / Goose Creek / Segment begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River. | 5A | PCBs in Fish Tissue | 2006 | L | 4.82 |
| VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River. | 5A | PCBs in Fish Tissue | 2006 | L | 2.94 |
| VAN-A09R_BRB02A06 / Broad Run / Segment begins at the confluence with Cabin Branch and continues downstream until the confluence with Beaverdam Run. | 5A | PCBs in Fish Tissue | 2006 | L | 2.27 |
| VAN-A09R_BRB03A06 / Broad Run / Segment begins at the Route 625 crossing and continues downstream until the confluence with Cabin Branch. | 5A | PCBs in Fish Tissue | 2006 | L | 1.12 |
| VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River. | 5A | PCBs in Fish Tissue | 2006 | L | 3.18 |
| VAN-A11R_DIF01B06 / Difficult Run / Segment begins at the Route 7 bridge crossing and continues downstream until the confluence with Captain Hickory Run. | 5A | PCBs in Fish Tissue | 2006 | L | 1.06 |

Broad Run, Difficult Run, Goose Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | 39.64 | 15.39 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

Cause Location: Begins at the confluence with an unnamed tributary to the Little River, approximately 0.6 rivermile upstream from the Route 705 crossing, and continues downstream until the confluence with Goose Creek.

Cause City/County: Fauquier County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ALIV001.70 at Route 15.

There were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1ALIV-FLGCLR-FOSR.

2012 Assessment: E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) at DEQ station 1ALIV006.92 at Route 629.

2020 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at DEQ station 1aLIV012.12 at Route 776.

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ALIV016.50 at Route 626 (Halfway Rd).

The Goose Creek bacteria TMDL for the Little River watershed (Eq ID POL0067) was approved by the EPA on 05/01/2003 (Fed ID 24406). The SWCB approved the TMDL on 06/17/2004.The Goose Creek bacteria TMDL Implementation Plan for the Little River watershed (ID 132) was approved by the EPA on 04/02/2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_LIV01A00 / Little River / Segment begins at the confluence with Hungry Run, approximately 1.5 rivermiles upstream from Route 50 near Aldie, and continues downstream until the confluence with Goose Creek. | 4A | Escherichia coli (E. coli) | 2016 | L | 6.42 |
| VAN-A08R_LIV02A06 / Little River / Segment begins at the confluence with an unnamed tributary and continues downstream until the confluence with Hungry Run, approximately 1.5 rivermiles upstream from Route 50 near Aldie. | 4A | Escherichia coli (E. coli) | 2006 | L | 2.48 |
| VAN-A08R_LIV02B10 / Little River / Segment begins at the confluence with Bartons Creek and continues downstream until the confluence with an unnamed tributary. | 4A | Escherichia coli (E. coli) | 2016 | L | 4.36 |
| VAN-A08R_LIV03A06 / Little River / Segment begins the confluence with an unnamed tributary to the Little River, approximately 0.6 rivermile upstream from the Route 705 crossing, and continues downstream until the confluence with Bartons Creek. | 4A | Escherichia coli (E. coli) | 2024 | L | 5.87 |

Little River

| | | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|---|
| **Recreation** | | | | |
| | Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 19.13 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A; Fecal Coliform/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ASYC002.03 at Route 652 (Grant Lane).

2004 Assessment: Fecal coliform bacteria criterion excursions (3 of 5 samples - 60.0%) at DEQ station 1ASYC004.93 at Route 621.

2006 Assessment: Fecal coliform bacteria criterion excursions (3 of 7 samples - 42.8%) at DEQ station 1ASYC007.43 at Route 797.

The Goose Creek bacteria TMDL for the Sycolin Creek watershed (Eq ID POL0069) was approved by the EPA on 05/01/2003 (Fed ID 24408). The SWCB approved the TMDL on 06/17/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_SYC01A00 / Sycolin Creek / Segment begins at rivermile 1.20, the boundary of the PWS designation, and continues downstream until the confluence with Goose Creek. | 4A | Escherichia coli (E. coli) | 1998 | L | 1.25 |
| VAN-A08R_SYC01B06 / Sycolin Creek / Segment begins at the confluence with an unnamed tributary to Sycolin Creek, approximately 0.23 rivermile upstream from Route 643, and continues downstream until rivermile 1.20, the boundary of the PWS designation. | 4A | Escherichia coli (E. coli) | 1998 | L | 1.84 |

Sycolin Creek

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

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_SYC02A02 / Sycolin Creek / Segment begins at the confluence with South Fork Sycolin Creek and continues downstream until the confluence with an unnamed tributary to Sycolin Creek, approximately 0.23 rivermile upstream from Route 643. | 4A | Fecal Coliform | 1998 | L | 4.01 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_SYC03A02 / Sycolin Creek / Segment begins at the headwaters of Sycolin Creek and continues downstream until the confluence with South Fork Sycolin Creek. | 4A | Fecal Coliform | 1998 | L | 3.99 |

Sycolin Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | | | 8 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (2 of 2 samples - 100%) at DEQ station 1ASFS000.28 at Route 15.

The Goose Creek bacteria TMDL for the South Fork Sycolin Creek watershed (Eq ID POL0068) was approved by the EPA on 05/01/2003 (Fed ID 33840). The SWCB approved the TMDL on 06/17/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_SFS01A02 / South Fork Sycolin Creek / Segment begins at the headwaters of South Fork Sycolin Creek and continues downstream until the confluence with Sycolin Creek. | 4A | Escherichia coli (E. coli) | 2002 | L | 3.77 |

South Fork Sycolin Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.77 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2018 Assessment: A total of two biological monitoring events in 2012 at DEQ station 1ATUS003.19 at Route 643 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_TUS01A00 / Tuscarora Creek / Segment begins at the boundary for the PWS designation area, approximately 0.25 rivermile downstream from the Route 15 crossing. and continues downstream until the confluence with Goose Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2014 | L | 2.6 |
| VAN-A08R_TUS01B06 / Tuscarora Creek / Segment begins at the confluence with Town Branch and continues downstream until the boundary for the PWS designation area, approximately 0.25 rivermile downstream from the Route 15 crossing. | 5A | Benthic Macroinvertebrates Bioassessments | 2014 | L | 1.3 |

Tuscarora Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.9 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (2 of 3 samples - 66.7%) at DEQ station 1ATUS000.04 at the golf cart bridge.

A new TMDL is not required for this impaired segment of Tuscarora Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_TUS01A00 / Tuscarora Creek / Segment begins at the boundary for the PWS designation area, approximately 0.25 rivermile downstream from the Route 15 crossing. and continues downstream until the confluence with Goose Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.6 |
| VAN-A08R_TUS01B06 / Tuscarora Creek / Segment begins at the confluence with Town Branch and continues downstream until the boundary for the PWS designation area, approximately 0.25 rivermile downstream from the Route 15 crossing. | 4A | Escherichia coli (E. coli) | 2004 | L | 1.3 |

Tuscarora Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.9 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two monitoring events in 2016 at DEQ station 1ADRL001.00 (upstream of Route 699) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Dry Mill Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.97 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AGOO011.23 at Route 621 (Evergreen Mills Rd).

There were two or more STV exceedances in at least one 90-day period with <10 samples at citizen station 1AGOO-FLGCGC-FOSR.

A new TMDL is not required for this impaired segment of Goose Creek because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_GOO03A02 / Goose Creek / Segment begins at the confluence with the Little River and extends downstream until the backwaters of the Goose Creek Reservoir, at approximately rivermile 10.2. | 4A | Escherichia coli (E. coli) | 2006 | L | 2.54 |
| VAN-A08R_GOO04A08 / Goose Creek / Segment begins at the confluence with North Fork Goose Creek and continues downstream until the confluence with Little River. | 4A | Escherichia coli (E. coli) | 2024 | L | 3.62 |

Goose Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.16 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: Two biological monitoring events in 2016 at DEQ station 1AGOO011.23 at Route 621 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Goose Creek

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AHOW000.52 at Tamworth Farm Lane.

A new TMDL is not required for this impaired segment of Howsers Branch because the downstream Goose Creek bacteria TMDL (Fed ID 24406, 05/01/2003) included modeling, source identification, and reductions that covered the entire Little River watershed (Eq ID POL0067). The Goose Creek bacteria TMDL Implementation Plan for the Little River watershed (ID 132) was approved by the EPA on 04/02/2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_HOW01A08 / Howsers Branch / Segment begins at the headwaters of Howsers Branch and continues downstream until the confluence with Little River. | 4A | Escherichia coli (E. coli) | 2008 | L | 5.11 |

Howsers Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.11 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of four biological monitoring events in 2015 and 2016 at DEQ station 1ACAC000.16 at Riverlook Court resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Cattail Branch

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) at DEQ station 1aBIB000.69 at Route 650.

A new TMDL is not required for this impaired segment of Big Branch because the downstream Goose Creek bacteria TMDL (Fed ID 23319, 05/01/2003) included modeling, source identification, and reductions that covered the entire Goose Creek and Tributaries watershed (Eq ID POL0063).

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

Big Branch

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two biological monitoring events in 2016 at DEQ station 1ASYC007.43 at Route 797 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_SYC03A02 / Sycolin Creek / Segment begins at the headwaters of Sycolin Creek and continues downstream until the confluence with South Fork Sycolin Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 3.99 |

Sycolin Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.99 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A08R-09-BEN Howsers Branch**

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of two biological monitoring events in 2017 at DEQ station 1AHOW003.68 at Route 50 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A08R_HOW01A08 / Howsers Branch / Segment begins at the headwaters of Howsers Branch and continues downstream until the confluence with Little River. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | L | 5.11 |

Howsers Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.11 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AXLE001.62 at Algonkian Parkway (near Middle School).

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

Unnamed tributary to the Potomac River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.74 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2021 and 2022 at DEQ station 1ABRB002.15 at Route 7 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

2018IR CARRYOVER: Two biological monitoring events in 2012 at DEQ station 1ABRB006.97, upstream from Route 625, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River. | 5A | Benthic Macroinvertebrates Bioassessments | 2006 | H | 2.94 |
| VAN-A09R_BRB02A06 / Broad Run / Segment begins at the confluence with Cabin Branch and continues downstream until the confluence with Beaverdam Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 2.27 |
| VAN-A09R_BRB03A06 / Broad Run / Segment begins at the Route 625 crossing and continues downstream until the confluence with Cabin Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 1.12 |
| VAN-A09R_BRB03B08 / Broad Run / Segment begins at the confluence with Horsepen Run and continues downstream until the Route 625 crossing. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 2.12 |

Broad Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 8.45 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Fish Consumption

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

Cause Description: 2010 Assessment: Two exceedances of the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in two species of fish (smallmouth bass and yellow bullheaded catfish) collected in 2004 at DEQ station 1ABRB002.15

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River. | 5A | Mercury in Fish Tissue | 2010 | L | 2.94 |

Broad Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Mercury in Fish Tissue - Total Impaired Size by Water Type: | | | 2.94 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABRB002.15 at Route 7 (Leesburg Pike).

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABRB006.33 at Route 625 (Waxpool Rd).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_BRB01A00 / Broad Run / Segment begins at the confluence with Beaverdam Run and continues downstream until the confluence with the Potomac River. | 5A | Escherichia coli (E. coli) | 2014 | H | 2.94 |
| VAN-A09R_BRB03A06 / Broad Run / Segment begins at the Route 625 crossing and continues downstream until the confluence with Cabin Branch. | 5A | Escherichia coli (E. coli) | 2010 | H | 1.12 |
| VAN-A09R_BRB03B08 / Broad Run / Segment begins at the confluence with Horsepen Run and continues downstream until the Route 625 crossing. | 5A | Escherichia coli (E. coli) | 2010 | H | 2.12 |

Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.18 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2021 and 2022 at DEQ station 1ABRB015.38 at Route 621 (Evergreen Mills Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_BRB03C10 / Broad Run / Segment begins at the confluence of Broad Run with South Fork Broad Run, and continues downstream until the confluence with Horsepen Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | H | 5.76 |
| VAN-A09R_BRB04A08 / Broad Run / Segment begins at the perennial headwaters and continues downstream until the confluence with South Fork Broad Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 3.70 |

Broad Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.46 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABRB015.38 at Route 621 (Evergreen Mills Rd).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_BRB04A08 / Broad Run / Segment begins at the perennial headwaters and continues downstream until the confluence with South Fork Broad Run. | 5A | Escherichia coli (E. coli) | 2012 | H | 3.7 |

Broad Run

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.7 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County; Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2021 and 2022 at DEQ station 1AHPR003.87 at Dulles Airport Access Road resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_HPR01A00 / Horsepen Run / Segment begins at the headwaters of Horsepen Run and continues downstream until the confluence with Stallion Branch, 0.83 rivermile upstream from Route 606. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | H | 8.18 |

Horsepen Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 8.18 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ASOR000.59 at Route 621 (Evergreen Mills Rd).

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

South Fork Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.28 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2021 and 2022 at DEQ station 1ASOR000.59 at Route 621 (Evergreen Mills Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

South Fork Broad Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.28 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABEM000.60 at Route 607 (Loudon County Parkway).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_BEM01A04 / Beaverdam Run / Segment begins at the confluence with of an unnamed tributary to Beaverdam Run, and continues downstream until the confluence with Broad Run. | 5A | Escherichia coli (E. coli) | 2014 | H | 2.31 |
| VAN-A09R_BEM02B10 / Beaverdam Run / Segment begins at the confluence with an unnamed tributary to Beaverdam Run, in Ashburn Park, and continues downstream until the confluence with an unnamed tributary to Beaverdam Run. | 5A | Escherichia coli (E. coli) | 2014 | H | 1.55 |

Beaverdam Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.86 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2021 and 2022 at DEQ station 1ABEM000.60 at Route 607 (Loudon County Parkway) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_BEM01A04 / Beaverdam Run / Segment begins at the confluence with of an unnamed tributary to Beaverdam Run, and continues downstream until the confluence with Broad Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | H | 2.31 |
| VAN-A09R_BEM02B10 / Beaverdam Run / Segment begins at the confluence with an unnamed tributary to Beaverdam Run, in Ashburn Park, and continues downstream until the confluence with an unnamed tributary to Beaverdam Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | H | 1.55 |

Beaverdam Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.86 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AINI000.80 at Route 606 (Old Ox Rd).

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

Indian Creek

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two biological monitoring events in 2016 at DEQ station 1AFRY000.85 at 0.25 mile upstream of Route 608 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

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

Frying Pan Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1.42 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AHPR003.87 at Dulles Airport Access Road.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_HPR01A00 / Horsepen Run / Segment begins at the headwaters of Horsepen Run and continues downstream until the confluence with Stallion Branch, 0.83 rivermile upstream from Route 606. | 5A | Escherichia coli (E. coli) | 2016 | H | 8.18 |

Horsepen Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 8.18 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A09R-07-BEN Russell Branch**

Cause Location: Segment begins at the perennial headwaters and continues downstream to the confluence with Beaverdam Run.

Cause City/County: Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of two biological monitoring events in 2017 at DEQ station 1ARUS001.36 at Casablanca Drive resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_RUS01A20 / Russell Branch / Segment begins at the start of the PWS designation and continues downstream to the confluence with Beaverdam Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | H | 1.96 |
| VAN-A09R_RUS02A20 / Russell Branch / Segment begins at the perennial headwaters and continues downstream to the start of the PWS designation. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | H | 0.14 |

Russell Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.1 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AFRY000.60 at Route 657 (Centreville Rd).

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

Frying Pan Branch

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A09R-09-BAC Russell Branch**

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

Cause City/County: Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ARUS000.33 at Loudoun County Parkway.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A09R_RUS01A20 / Russell Branch / Segment begins at the start of the PWS designation and continues downstream to the confluence with Beaverdam Run. | 5A | Escherichia coli (E. coli) | 2024 | L | 1.96 |
| VAN-A09R_RUS02A20 / Russell Branch / Segment begins at the perennial headwaters and continues downstream to the start of the PWS designation. | 5A | Escherichia coli (E. coli) | 2024 | L | 0.14 |

Russell Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.1 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (10 of 32 samples - 31.2%) at DEQ station 1ASUG004.42 at Route 7.

The Tributaries to the Potomac River bacteria TMDL for the Sugarland Run watershed (Eq ID 782) was approved by the EPA on 09/26/2013 (Fed ID 53779). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A10R_SUG01A00 / Sugarland Run / Segment begins at the boundary of the PWS designation area, at rivermile 4.82, and continues downstream until the confluence with the Potomac River. | 4A | Escherichia coli (E. coli) | 2002 | L | 4.78 |
| VAN-A10R_SUG01B06 / Sugarland Run / Segment begins at the confluence with Folly Lick Branch and continues downstream until the boundary of the PWS designation area, at rivermile 4.82. | 4A | Escherichia coli (E. coli) | 2006 | L | 1.17 |

Sugarland Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County; Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2016 Assessment: A total of four biological events in 2009 and in 2010 at DEQ station 1ASUG006.28 at Wiehle Avenue and two biological monitoring events in 2010 at DEQ station 1ASUG003.52 (adjacent to Brasswood Place) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A10R_SUG01A00 / Sugarland Run / Segment begins at the boundary of the PWS designation area, at rivermile 4.82, and continues downstream until the confluence with the Potomac River. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 4.78 |
| VAN-A10R_SUG01B06 / Sugarland Run / Segment begins at the confluence with Folly Lick Branch and continues downstream until the boundary of the PWS designation area, at rivermile 4.82. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 1.17 |
| VAN-A10R_SUG02A02 / Sugarland Run / Segment begins at the confluence with Smilax Branch and continues downstream until the confluence with Folly Lick Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 3.77 |

Sugarland Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.72 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: DEQ/USGS station 1ADIF000.86 at Route 193 (Georgetown Pike): There were two or more STV exceedances in at least one 90-day period with <10 samples and a geomean exceedance in at least one 90-day period with 10+ samples. Additionally, there were two or more STV exceedances in at least one 90-day period with <10 samples.

The Difficult Run bacteria TMDL (Eq ID POL0557) was approved by the EPA on 11/07/2008 (Fed ID 38239). The SWCB approved the TMDL on 04/28/2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River. | 4A | Escherichia coli (E. coli) | 2004 | L | 3.18 |

Difficult Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at station 1ADIF000.86 (Route 193) and two biological monitoring events in 2007 at station 1ADIF000.80 (downstream of Route 193) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The Difficult Run sediment TMDL (Eq ID POL0558) was approved by the EPA on 11/07/2008 (Fed ID 37087). The SWCB approved the TMDL on 04/27/2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 3.18 |

Difficult Run

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

Sources: Post-development Erosion and Sedimentation; Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: Heptachlor epoxide in Fish Tissue/5A

Cause Description: Two total exceedances of the water quality criterion based tissue screening value (TV) of 6.6 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in one species of fish (American eel) in samples collected during two sample events in 2021 at DEQ station 1ADIF000.86.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_DIF01A00 / Difficult Run / Segment begins at the confluence with Captain Hickory Run and continues downstream until the confluence with the Potomac River. | 5A | Heptachlor epoxide in Fish Tissue | 2006 | L | 3.18 |

Difficult Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Heptachlor epoxide in Fish Tissue - Total Impaired Size by Water Type: | | | 3.18 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) at DEQ station 1AMNR000.72 at Route 603.

The Tributaries to the Potomac River bacteria TMDL for the Mine Run watershed (Eq ID 783) was approved by the EPA on 09/26/2013 (Fed ID 53778). The SWCB approved the TMDL on 04/04/2014.

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

Mine Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2008 Assessment: Two biological monitoring events in 2001 at DEQ freshwater probabilistic station 1ACAH001.82 (upstream from Route 681) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_CAH01A04 / Captain Hickory Run / Segment begins at the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run, and continues downstream until the confluence with Difficult Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 2.19 |
| VAN-A11R_CAH01B06 / Captain Hickory Run / Segment begins at the headwaters of Captain Hickory Run and continues downstream until the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 1.09 |

Captain Hickory Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.28 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ADIF005.06 at Route 675 (Browns Mill Rd).

The geomean was exceeded in at least one 90-day period at DEQ station 1ADIF010.48 at Route 672 (Vale Road).

A new TMDL is not required for this impaired segment of Difficult Run because the downstream bacteria TMDL (Fed ID 38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire Difficult Run watershed (Eq ID POL0557).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_DIF02A02 / Difficult Run / Segment begins at the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Wolftrap Creek, and continues downstream until the confluence with Wolftrap Creek. | 4A | Escherichia coli (E. coli) | 2010 | L | 0.49 |
| VAN-A11R_DIF02B06 / Difficult Run / Segment begins at the confluence with Piney Branch and continues downstream until the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Wolftrap Creek. | 4A | Escherichia coli (E. coli) | 2010 | L | 2.34 |
| VAN-A11R_DIF03A02 / Difficult Run / Segment begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Piney Branch. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.55 |

Difficult Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.38 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at DEQ station 1ADIF005.06 at Route 675 and two biological monitoring events in 2007 at DEQ station 1ADIF010.48 at Route 672 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_DIF02A02 / Difficult Run / Segment begins at the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Wolftrap Creek, and continues downstream until the confluence with Wolftrap Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 0.49 |
| VAN-A11R_DIF02B06 / Difficult Run / Segment begins at the confluence with Piney Branch and continues downstream until the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Wolftrap Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 2.34 |
| VAN-A11R_DIF03A02 / Difficult Run / Segment begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Piney Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 3.55 |

Difficult Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.38 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) at DEQ station 1ASNA000.21 at Route 677.

A new TMDL is not required for this impaired segment of Snakeden Branch because the downstream Difficult Run bacteria TMDL (Fed ID 38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0557).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_SNA01A02 / Snakeden Branch / Segment begins at the confluence with an unnamed tributary to Snakeden Branch, approximately 0.4 rivermile downstream from the Twin Branches Road bridge, and continues downstream until the confluence with Difficult Run. | 4A | Escherichia coli (E. coli) | 2006 | L | 0.98 |

Snakeden Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 0.98 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at DEQ station 1ACOV003.32 (Wiehle Ave) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_COV02A02 / Colvin Run / Segment begins at the headwaters of Colvin Run and continues downstream until the confluence with an unnamed tributary (streamcode XJJ) flowing from Lake Anne. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 2.1 |

Colvin Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.1 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (3 of 13 samples - 23.1%) at DEQ station 1ALID000.64 at Route 669 (Stuart Mill Road).

A new TMDL is not required for this impaired segment of Little Difficult Run because the downstream bacteria TMDL (Fed ID 38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire Difficult Run watershed (Eq ID POL0557).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_LID01A02 / Little Difficult Run / Segment begins at the confluence with South Fork Little Difficult Run and continues downstream until the confluence with Difficult Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 1.76 |

Little Difficult Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.76 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at DEQ station 1ASNA000.21 at Route 677 (Hunter Station Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_SNA01A02 / Snakeden Branch / Segment begins at the confluence with an unnamed tributary to Snakeden Branch, approximately 0.4 rivermile downstream from the Twin Branches Road bridge, and continues downstream until the confluence with Difficult Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 0.98 |

Snakeden Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 0.98 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AWOT000.92 at Route 702.

A new TMDL is not required for this impaired segment of Wolftrap Creek because the downstream Difficult Run bacteria TMDL (Fed ID 38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0557).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_WOT01A02 / Wolftrap Creek / Segment begins at the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Difficult Run, and continues downstream until the confluence with Difficult Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 0.49 |
| VAN-A11R_WOT01B06 / Wolftrap Creek / Segment begins at the confluence with Old Courthouse Spring Branch and continues downstream until the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Difficult Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.24 |

Wolftrap Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.73 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at DEQ station 1ALID000.64 at Route 669 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_LID01A02 / Little Difficult Run / Segment begins at the confluence with South Fork Little Difficult Run and continues downstream until the confluence with Difficult Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 1.76 |

Little Difficult Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1.76 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (2 of 9 samples - 22.2%) at DEQ station 1ACAH000.96 at Fringe Tree Road.

A new TMDL is not required for this impaired segment of Captain Hickory Run because the downstream Difficult Run bacteria TMDL (Fed ID 38239, 11/07/2008) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0557).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_CAH01A04 / Captain Hickory Run / Segment begins at the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run, and continues downstream until the confluence with Difficult Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 2.19 |
| VAN-A11R_CAH01B06 / Captain Hickory Run / Segment begins at the headwaters of Captain Hickory Run and continues downstream until the boundary of the PWS designation area, approximately 0.86 rivermile upstream from the confluence with Piney Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 1.09 |

Captain Hickory Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.28 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at DEQ station 1AOCS000.43 at Laurel Hill Road resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_OCS01A04 / Old Courthouse Spring Branch / Segment begins at the headwaters of Old Courthouse Spring Branch and continues downstream until the confluence with Wolftrap Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 2.12 |

Old Courthouse Spring Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.12 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ANIC002.10 at Route 603 (Beach Mill Rd).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_NIC01A02 / Nichols Run / Segment begins at the headwaters of Nichols Run and continues downstream until the confluence with the Potomac River. | 5A | Escherichia coli (E. coli) | 2012 | L | 4.57 |

Nichols Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.57 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2016 Assessment: Two biological monitoring events in 2009 at DEQ station 1ATUY000.26, upstream of the G.W. Parkway, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_TUY01A06 / Turkey Run / Segment begins at the headwaters of Turkey Run, near Langley High School, and continues downstream until the confluence with the Potomac River. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 1.35 |

Turkey Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1.35 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2016 Assessment: Two biological monitoring events in 2009 at DEQ station 1ADED000.29, upstream of G.W. Parkway, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_DED01A04 / Dead Run / Segment begins at the headwaters of Dead Run and continues downstream until the confluence with the Potomac River. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 2.83 |

Dead Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.83 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: A total of two biological monitoring events in 2016 at DEQ station 1AWOT000.92 at Route 702 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_WOT01A02 / Wolftrap Creek / Segment begins at the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Difficult Run, and continues downstream until the confluence with Difficult Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 0.49 |
| VAN-A11R_WOT01B06 / Wolftrap Creek / Segment begins at the confluence with Old Courthouse Spring Branch and continues downstream until the boundary of the PWS designation area, approximately 0.49 rivermile upstream from the confluence with Difficult Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 2.24 |

Wolftrap Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.73 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A11R-11-BEN Piney Branch**

Cause Location: Begins at the headwaters of Piney Branch (PIB) and continues downstream until the confluence with Difficult Run.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of two biological monitoring events in 2021 at DEQ station 1APIB001.18 at 01 Miles upstream Route 676 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A11R_PIB01A08 / Piney Branch / Segment begins at the headwaters of Piney Branch and continues downstream until the confluence with Difficult Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2024 | L | 2.94 |

Piney Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.94 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Alexandria; Arlington County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AFOU000.19 at George Washington Parkway.

The Tidal Four Mile Run bacteria TMDL (Eq ID POL0737) was approved by the EPA on 06/14/2010 (Fed ID 38716). The SWCB approved the TMDL on 09/30/2010.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF. | 4A | Escherichia coli (E. coli) | 1996 | L | 0.05 |

Four Mile Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.05 | | |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Alexandria; Arlington County

Use(s): Fish Consumption

Causes(s)/VA Category: Chlordane in Fish Tissue/5A

Cause Description: Fish tissue data were assessed as insufficient for total chlordane for the 2024 cycle based on one exceedance of the water quality criterion based fish tissue value (TV) of 100 ppb recorded in one sample of carp collected in 2021 at DEQ station 1AFOU000.45. Since current data are insufficient to delist the existing impairment, the impairment remains. In addition to the current exceedance, three exceedances were recorded in two species of fish (carp and channel catfish) in samples collected in 2008 at DEQ station 1AFOU000.45.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF. | 5A | Chlordane in Fish Tissue | 2010 | L | 0.05 |

Four Mile Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chlordane in Fish Tissue - Total Impaired Size by Water Type: | 0.05 | | |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Alexandria; Arlington County

Use(s): Fish Consumption

Causes(s)/VA Category: Heptachlor epoxide in Fish Tissue/5A

Cause Description: The fish consumption use is assessed as impaired due to three exceedances of the water quality criterion based tissue value (TV) of 6.6 ppb for heptachlor epoxide in three species (carp, channel catfish, and blue catfish) sampled in 2021 at DEQ station 1AFOU000.45.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF. | 5A | Heptachlor epoxide in Fish Tissue | 2024 | L | 0.05 |

Four Mile Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Heptachlor epoxide in Fish Tissue - Total Impaired Size by Water Type: | 0.05 | | |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Alexandria; Arlington County; Fairfax County; King George County; Prince William County; Stafford County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A; Polychlorinated biphenyls (PCBs)/4A

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

The following exceedances of the water quality criterion based fish tissue value (TV) of 18 parts per billion (ppb) for PCBs in fish tissue have been recorded in current and past assessment cycles: 7 in 5 species (largemouth bass, carp, channel catfish, gizzard shad, blue catfish) in 2015 at 1AFOU000.45; 6 in 6 species (largemouth bass, carp, channel catfish, gizzard shad, white catfish, blue catfish) in 2015 at 1AHUT000.01; 4 in 3 species (carp, channel catfish, blue catfish) in 2015 at 1ALIF000.01; 10 in 7 species (largemouth bass, carp, channel catfish, bluegill sunfish, brown bullhead catfish, northern snakehead, gizzard shad) in 2015 at 1ANEA000.57; 8 in 7 species (largemouth bass, bluegill sunfish, channel catfish, blue catfish, brown bullhead catfish, carp, northern snakehead) collected in 2015 at 1APOH002.27; 18 in 9 species (largemouth bass, yellow perch, channel catfish, carp, brown bullhead catfish, American eel, white perch, gizzard shad, bluegill sunfish) in 2008 at 1ACHO000.90 (2014IR); 9 in 5 species (largemouth bass, channel catfish, blue catfish, brown bullhead catfish, carp) in 2015 at 1APOW001.11; 10 in 6 species (bluegill sunfish, channel catfish, blue catfish, white catfish, gizzard shad, northern snakehead) in 2015 and 1 in 1 species (northern snakehead) in 2016 at 1AAUA003.71; 10 in 5 species (blue catfish, channel catfish, carp, gizzard shad, northern snakehead) in 2015 at 1APOM001.04; 7 in 7 species (brown bullhead catfish, carp, channel catfish, gizzard shad, largemouth bass, pumpkinseed sunfish and yellow perch) in 2005 (2012IR), 5 in 1 species (American shad) in 2006 (2012IR), and 3 in 3 species (largemouth bass, gizzard shad, bluegill sunfish) in 2008 (2014IR) at 1AACO001.78; 3 in 3 species (largemouth bass, bullhead catfish, sunfish) in 1996 at 1AQUA002.76 (2002IR); 1 in 1 species (northern snakehead) in 2019 at 1AQUA000.85; 7 in 4 species (largemouth bass, carp, channel catfish, gizzard shad) in 2008 at 1AQUA001.00 (2014IR); 9 in 7 species (striped bass, largemouth bass, bluegill sunfish, channel catfish, flathead catfish, white catfish, carp) in 2015, 1 in 1 species (northern snakehead) in 2016, 2 in 1 species (northern snakehead) in 2018, and 1 in 1 species (northern snakehead) in 2019 at 1AOCC002.47; 1 in 1 species (northern snakehead) in 2017 at 1AOCC006.71; and 1 in 1 sp. (northern snakehead) in 2017 at 1ADOU001.02.

The Tidal Potomac River PCB TMDL was approved by EPA 10/31/07 and by SWCB 4/11/08

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12E_FOU01A00 / Four Mile Run / Segment includes the tidal waters of Four Mile Run; from rivermile 1.46 downstream until the confluence with the Potomac River, at the state line. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.050 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12E_POT01A16 / Potomac River / Segment includes tidal Virginia water adjacent to Alexandria, from Second Street to the northern portion of Oronoco Bay Park. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2016 | L | 0.018 |
| VAN-A12E_POT01B24 / Potomac River / Segment includes tidal Virginia water adjacent to Alexandria, from the northern portion of Oronoco Bay Park to King Street. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2016 | L | 0.029 |
| VAN-A13E_HFF01A06 / Hooff Run / Segment contains the tidal portion of Hooff Run; begins at the Alexandria National Cemetery and continues downstream until the confluence with Hunting Creek. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2006 | L | 0.003 |
| VAN-A13E_HUT01A02 / Hunting Creek / Segment includes all tidal waters of Hunting Creek; beginning at the Route 241 (Telegraph Road) bridge crossing and continuing downstream until the mouth of the embayment, at Jones Point and Belle View. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2004 | L | 0.529 |
| VAN-A14E_DOU01A00 / Dogue Creek / Segment includes all tidal waters of Dogue Creek, extending from approximately rivermile 2.1 until the confluence with the Potomac River. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.736 |
| VAN-A14E_LIF01A00 / Little Hunting Creek / Segment includes all tidal waters of Little Hunting Creek, extending from approximately rivermile 1.7 downstream until the confluence with the Potomac River. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.250 |
| VAN-A14E_POT01A08 / Potomac River / Segment includes tidal waters downstream of the mouth of the Hunting Creek embayment, starting south of H Island. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2004 | L | 0.527 |
| VAN-A14E_POT01B24 / Potomac River / Segment includes tidal waters downstream of the mouth of the Hunting Creek embayment, at Jones Point to H Island. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2004 | L | 0.321 |
| VAN-A14E_POT02A16 / Potomac River / Segment includes all tidal Virginia water adjacent to Alexandria, from King Street to the DC/MD boundary. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2016 | L | 0.029 |
| VAN-A15E_ACO01A06 / Accotink Bay / Segment includes tidal waters of Accotink Creek until the confluence with the tidal waters of Pohick Bay/Gunston Cove. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.395 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15E_POH01A00 / Gunston Cove / Segment extends from rivermile 1.31 in Gunston Cove until the confluence with the Potomac River. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 1.504 |
| VAN-A15E_POH02A00 / Pohick Bay / Segment includes tidal waters of Pohick Creek, from the boundary of watershed A15, and extends until rivermile 1.31 in Gunston Cove. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.450 |
| VAN-A16E_POH01A06 / Pohick Bay / Segment includes tidal waters of Pohick Creek upstream from the boundary of watershed A16. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.461 |
| VAN-A25E_MAE01A16 / Massey Creek / Segment extends from 0.29 rivermile upstream of monitoring station 1aMAE000.21 until the confluence with the tidal waters of Occoquan River within Occoquan Bay. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.065 |
| VAN-A25E_MAU01A12 / Marumsco Creek / Segment includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.025 |
| VAN-A25E_NEA01A00 / Neabsco Bay / Segment includes the tidal waters of Neabsco Bay, beginning at rivermile 1.37, downstream until the confluence with Occoquan Bay. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.545 |
| VAN-A25E_NEA20A02 / Neabsco Creek / Segment begins at the upstream limit of the tidal waters on Neabsco Creek and continues downstream until the start of the open waters of Neabsco Bay, approximately 0.8 rivermile upstream from monitoring station 1ANEA000.57. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.182 |
| VAN-A25E_OCC01A04 / Occoquan Bay / Segment extends 0.5 mile around the Coastal 2000 monitoring station 1aOCC000.77, just west of the Potomac Shoreline of Mason Neck State Park. The downstream limit is the state line at the Potomac River. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.720 |
| VAN-A25E_OCC01A10 / Occoquan Bay / Segment includes waters of Occoquan Bay within a 0.5 mile radius of station 1AOCC001.29. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.598 |
| VAN-A25E_OCC01A12 / Occoquan Bay/Belmont Bay / Segment includes waters of Occoquan Bay in a 0.5 mile radius around station 1AOCC000.01 down to the Virginia state line. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.412 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25E_OCC01B12 / Occoquan Bay / Segment includes waters of Occoquan Bay located approximately 0.5 mile radius around station 1AOCC001.69. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.709 |
| VAN-A25E_OCC01C16 / Occoquan Bay/Belmont Bay / Segment includes waters of Occoquan Bay located approximately 0.5 mile radius around station 1aOCC001.04. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.438 |
| VAN-A25E_OCC02A00 / Occoquan Bay / Segment extends 0.5 mile around the around monitoring station 1AOCC002.47. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.633 |
| VAN-A25E_OCC03A04 / Belmont Bay (Occoquan River) / Segment extends 0.5 mile around Coastal 2000 monitoring station 1AOCC002.62 (coordinates 38.6382, -77.208). Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.286 |
| VAN-A25E_OCC04A02 / Belmont Bay / Segment extends 0.5 mile around the monitoring station 1AOCC-766-ALL (coordinates 38.647, -77.195). Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.412 |
| VAN-A25E_OCC04B08 / Occoquan River / Segment extends from 0.5 rivermile upstream of monitoring station 1AOCC004.52 until 0.5 rivermile downstream of monitoring station 1AOCC003.82. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.561 |
| VAN-A25E_OCC04C18 / Occoquan River / Segment extends from 0.5 rivermile upstream of monitoring station 1aOCC005.16 until 0.5 rivermile downstream of monitoring station 1aOCC005.16. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.104 |
| VAN-A25E_OCC05A02 / Occoquan River / Segment extends from the end of the free-flowing waters to 0.5 rivermile upstream of monitoring station 1AOCC005.16. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.086 |
| VAN-A25E_OCC20A02 / Occoquan Bay/Belmont Bay / Segment includes all waters of the Occoquan and Belmont Bays not included in other delineated segments. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 2.623 |
| VAN-A25E_OCC30A02 / Occoquan Bay/Belmont Bay / Segment includes all tidal waters in the Occoquan watershed not included in other delineated stream segments. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.126 |
| VAN-A25E_POT01A10 / Potomac River / Segment includes the Potomac River embayment located between Hallowing Point and Sycamore Point. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2010 | L | 0.633 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26E_CHO01A04 / Chopawamsic Creek / Segment includes the lower most portion of Chopawamsic Creek embayment downstream until the state line at the confluence with the Potomac River. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2002 | L | 0.595 |
| VAN-A26E_CHO01B06 / Chopawamsic Creek / Segment includes all Chopawamsic Creek tidal waters not included in other delineated segments. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2002 | L | 0.103 |
| VAN-A26E_POT01A08 / Potomac River / Segment includes the tidal waters of the Potomac River embayment surrounding Chopawamsic Island. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2008 | L | 0.265 |
| VAN-A26E_POW01A02 / Powells Creek / Segment extends to a 0.5 mile radius around the ACB station 1APOW-865-ALL (38.5862, -77.253). Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.229 |
| VAN-A26E_POW01B20 / Powells Creek / Segment extends approximately to a 0.5 mile radius around station 1APOW000.25. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.527 |
| VAN-A26E_POW02A02 / Powells Creek / Segment extends to a 0.5 mile radius around the ACB station 1APOW-765-ALL (38.5842, -77.2647). Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.402 |
| VAN-A26E_POW03A20 / Powells Creek / Segment begins at the upstream limit of the tidal waters of Powells Creek and continues downstream to approximately 0.5 rivermile upstream from ACB station 1APOW-765-ALL (38.5842, -77.2647). Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.136 |
| VAN-A26E_QUA01A10 / Quantico Creek / Segment includes Quantico Creek approximately 0.2 miles upstream of station 1AQUA000.43 to the downstream limit of Quantico Creek at the state line at the Potomac River. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.187 |
| VAN-A26E_QUA01B04 / Quantico Creek / Segment extends to a 0.5-mile radius around station 1AQUA001.09. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.419 |
| VAN-A26E_QUA01C18 / Quantico Creek / Segment extends from 0.5 mile downstream of station 1AQUA002.38 to 0.5 mile upstream of station 1AQUA001.09. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.268 |
| VAN-A26E_QUA02A06 / Quantico Creek / Segment extends to an approximate 0.5 mile radius around station 1AQUA002.38. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.209 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26E_QUA20A10 / Quantico Creek / Segment includes tidal waters in Quantico Creek watershed from the riverine boundary downstream to approximately 0.5 mile upstream of station 1AQUA002.38. Portion of CBP segment POTTF. | 4A | PCBs in Fish Tissue | 2002 | L | 0.023 |
| VAN-A28E_AUA01A14 / Aquia Creek / Segment includes the tidal waters of Aquia Creek from the Thorney Point - Simms Point transect to the downstream limit of Aquia Creek at the state line at the Potomac River. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.741 |
| VAN-A28E_AUA01B06 / Aquia Creek / Segment begins approximately 0.5 miles downstream from station 1AAUA002.41 and continues downstream to approximately 0.5 mile downstream from station 1AAUA001.39, excluding the portion near the shoreline of Aquia Creek at Widewater State Park. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.848 |
| VAN-A28E_AUA01B20 / Aquia Creek / Segment begins approximately 0.5 miles downstream from station 1AAUA003.71 and continues downstream to approximately 0.5 mile downstream from station 1AAUA002.41. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.921 |
| VAN-A28E_AUA01B22 / Aquia Creek / Segment includes shoreline of Aquia Creek at Widewater State Park and location of VDH HAB station 1AAUA-WSPHAB-VDH. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2022 | L | 0.041 |
| VAN-A28E_AUA01C00 / Aquia Creek / Segment extends from rivermile 4.28 to rivermile 3.28 in Aquia Creek encompassing a 0.5-mile radius around station 1AAUA003.71. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.364 |
| VAN-A28E_AUA01D06 / Aquia Creek / Segment extends from approximately rivermile 6.70 and continues downstream until approximately rivermile 4.19. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.578 |
| VAN-A28E_AUA02A04 / Aquia Creek / Segment begins at the upstream limit of the tidal waters of Aquia Creek and continues downstream until the confluence with Austin Run. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.235 |
| VAN-A29E_CHN01A10 / Chotank Creek / Segment includes the tidal portion of Chotank Creek, from the fire road crossing inside Caledon State Park until its confluence with the Potomac River. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.123 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29E_CHN02A10 / Chotank Creek / Segment includes the tidal portion of Chotank Creek, from its headwaters until the fire road crossing inside of Caledon State Park. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.054 |
| VAN-A29E_POM01A04 / Potomac Creek / Segment extends to a 0.5 mile radius around station 1APOM000.11. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2004 | L | 0.344 |
| VAN-A29E_POM01B06 / Potomac Creek / Segment extends from rivermile 1.91 until rivermile 1.09 along Potomac Creek. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2002 | L | 0.587 |
| VAN-A29E_POM02A02 / Potomac Creek / Segment extends a half-mile radius around monitoring station 1APOM002.41. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2002 | L | 0.600 |
| VAN-A29E_POM02B16 / Potomac Creek / Segment extends from rivermile 3.72 until rivermile 2.92 along Potomac Creek Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2002 | L | 0.184 |
| VAN-A29E_POM03A08 / Potomac Creek / Segment extends to a half-mile radius around station 1APOM-SCSPILL-ALL (38.345, -77.3515). Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2002 | L | 0.321 |
| VAN-A29E_POM20A04 / Potomac Creek / Segment includes all tidal waters of Potomac Creek not included in other segments; beginning at the upstream limit of the tidal waters and continuing downstream until the confluence with the Potomac River at the state line. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2002 | L | 0.418 |
| VAN-A29E_POT01A06 / Fairview Beach/Potomac River / Segment includes all of Fairview Beach on the Potomac River. Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.005 |
| VAN-A29E_POT20A06 / Potomac River / Segment includes Potomac River tidal tributary water in Caledon State Park Portion of CBP segment POTOH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.007 |

Potomac River Embayments (FOU downstream until POM)

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | 24.191 | | |

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

Potomac River Embayments (FOU downstream until POM)

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type: | 0.529 | | |

Sources: Atmospheric Deposition - Toxics; Clean Sediments; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A12E-02-BAC Potomac River**

Cause Location: Tidal Virginia water adjacent to Alexandria, from Second Street to the northern portion of Oronoco Bay Park.

Cause City/County: Alexandria

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: The recreation use is assessed as impaired based on Level III E. coli data from citizen station 1APOT-8-PR. The geomean was exceeded in at least one 90-day period.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12E_POT01A16 / Potomac River / Segment includes tidal Virginia water adjacent to Alexandria, from Second Street to the northern portion of Oronoco Bay Park. Portion of CBP segment POTTF. | 5A | Escherichia coli (E. coli) | 2024 | L | 0.018 |

Potomac River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.018 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Alexandria; Arlington County; Fairfax County; Falls Church

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AFOU001.92 at Route 120 (W. Glebe Rd) and there were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AFOU005.16 above bike trail bridge in Glencarlyn Park.

The Four Mile Run bacteria TMDL (Eq ID POL0071) was approved by the EPA on 05/31/2002 (Fed ID 26433). The SWCB approved the TMDL on 06/17/2004. The Four Mile Run bacteria TMDL Implementation Plan (ID 38) was completed on 03/31/2004.

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

Four Mile Run

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

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2018 Assessment: Two biological monitoring events in 2011 at DEQ freshwater probabilistic station 1APIM001.89 at Ranleigh Road resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_PIM02A00 / Pimmit Run / Segment begins at the Route 309 bridge crossing and continues downstream until the confluence with Little Pimmit Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 2.77 |

Pimmit Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.77 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Arlington County; Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A

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

The Tidal Potomac River PCB TMDL was approved by the EPA on 10/31/2007 (Fed ID 35018). The SWCB approved the TMDL on 04/11/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River. | 4A | PCBs in Fish Tissue | 2006 | L | 1.65 |
| VAN-A12R_PIM02A00 / Pimmit Run / Segment begins at the Route 309 bridge crossing and continues downstream until the confluence with Little Pimmit Run. | 4A | PCBs in Fish Tissue | 2006 | L | 2.77 |

Pimmit Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 4.42 |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Arlington County; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available from DEQ station 1APIM000.15 for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples.

2014 Assessment: E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) at DEQ station 1APIM001.89 at Ranleigh Road.

2016 Assessment: E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) at DEQ station 1APIM004.16 at Route 309.

The Tributaries to the Potomac River bacteria TMDL for the Pimmit Run watershed (Eq ID 784) was approved by the EPA on 09/26/2013 (Fed ID 53776). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River. | 4A | Escherichia coli (E. coli) | 2010 | L | 1.65 |
| VAN-A12R_PIM02A00 / Pimmit Run / Segment begins at the Route 309 bridge crossing and continues downstream until the confluence with Little Pimmit Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 2.77 |
| VAN-A12R_PIM02B06 / Pimmit Run / Segment begins at the headwaters of Pimmit Run, upstream from Route 7, and continues downstream until the Route 309 bridge crossing. | 4A | Escherichia coli (E. coli) | 2010 | L | 3.34 |

Pimmit Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.76 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Alexandria; Arlington County; Fairfax County; Falls Church

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2021 and 2022 at DEQ station 1AFOU002.06 at Between West Glebe Road and I-395 and a total of four biological monitoring events in 2021 and 2022 at DEQ station 1AFOU005.16 above bike trail bridge in Glencarlyn Park resulted in an assessment that indicates an impaired macroinvertebrate community.

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

Four Mile Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 7.96 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Arlington County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (2 of 5 samples - 40.0%) at DEQ station 1ALBR000.04 at Route 120 (Glebe Road).

A new TMDL is not required for this impaired segment of Long Branch because the downstream Four Mile Run bacteria TMDL (Fed ID 26433, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0071). The Four Mile Run bacteria TMDL Implementation Plan (ID 38) was completed on 03/31/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_LBR01A08 / Long Branch / Segment begins at the headwaters of Long Branch and continues downstream until the confluence with Four Mile Run. | 4A | Escherichia coli (E. coli) | 2012 | L | 1.98 |

Long Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.98 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Arlington County; Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: Chlordane in Fish Tissue/5A

Cause Description: Insufficient chlordane data were available for the 2024 assessment; one exceedance of the water quality criterion based tissue value (TV) of 100 parts per billion (ppb) for chlordane in fish tissue was recorded in one sample of American eel collected in 2021. The following information is carried over from the 2008 assessment: Exceedances of the water quality criterion based tissue value (TV) of 100 parts per billion (ppb) for chlordane in fish tissue were recorded in two total samples of one fish species (American eel) collected in 2001 and 2004 at DEQ station 1APIM000.15.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River. | 5A | Chlordane in Fish Tissue | 2006 | L | 1.65 |

Pimmit Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chlordane in Fish Tissue - Total Impaired Size by Water Type: | | | 1.65 |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Arlington County; Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: Heptachlor epoxide in Fish Tissue/5A

Cause Description: Three exceedances of the water quality criterion based tissue value (TV) of 6.6 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in three total samples of two fish species (American eel and white sucker) collected in 2021 at DEQ station 1APIM000.15.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_PIM01A00 / Pimmit Run / Segment begins at the confluence with Little Pimmit Run and continues downstream until the confluence with the Potomac River. | 5A | Heptachlor epoxide in Fish Tissue | 2006 | L | 1.65 |

Pimmit Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Heptachlor epoxide in Fish Tissue - Total Impaired Size by Water Type: | | | 1.65 |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Arlington County; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ALIO000.15 at Route 695 (Kirby Rd) and Claiborne Drive.

A new TMDL is not required for this impaired segment of Little Pimmit Run because the downstream Tributaries to the Potomac River bacteria TMDL (Fed ID 53776, 09/26/2013) included modeling, source identification, and reductions that covered the entire Pimmit Run watershed (Eq ID 784).

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

Little Pimmit Run

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

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A12R-05-BAC Long Branch**

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

Cause City/County: Arlington County; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ALOF000.37 near Long Branch Nature Center and Park.

A new TMDL is not required for this impaired segment of Long Branch because the downstream Four Mile Run bacteria TMDL (Fed ID 26433, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0071). The Four Mile Run bacteria TMDL Implementation Plan (ID 38) was completed on 03/31/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_LOF01A08 / Long Branch / Segment begins at the headwaters of Long Branch and continues downstream until the confluence with Four Mile Run. | 4A | Escherichia coli (E. coli) | 2024 | L | 2.15 |

Long Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.15 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A12R-06-BAC Doctors Run**

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

Cause City/County: Arlington County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ADOC000.16 at Fourmile Run Drive.

A new TMDL is not required for this impaired segment of Doctors Run because the downstream Four Mile Run bacteria TMDL (Fed ID 26433, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0071). The Four Mile Run bacteria TMDL Implementation Plan (ID 38) was completed on 03/31/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_DOC01A24 / Doctors Run / Segment begins at the headwaters and continues downstream until the confluence with Four Mile Run. | 4A | Escherichia coli (E. coli) | 2024 | L | 1.23 |

Doctors Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.23 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A12R-07-BAC Lubber Run**

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

Cause City/County: Arlington County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ALUB000.08 at Route 50 (Arlington Blvd).

A new TMDL is not required for this impaired segment of Lubber Run because the downstream Four Mile Run bacteria TMDL (Fed ID 26433, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0071). The Four Mile Run bacteria TMDL Implementation Plan (ID 38) was completed on 03/31/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A12R_LUB01A24 / Lubber Run / Segment begins at the headwaters and continues downstream until the confluence with Four Mile Run. | 4A | Escherichia coli (E. coli) | 2024 | L | 1.67 |

Lubber Run

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.67 |

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

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

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

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

Indian Run

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

Sources: Source Unknown

## Potomac and Shenandoah River Basins

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

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

Cause City/County: Alexandria; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2012 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1AHOR001.04 at Pickett Street.

E. coli bacteria criterion excursions (7 of 12 samples - 58.3%) at DEQ station 1aHOR005.48 at Route 613.

The Holmes Run watershed (Eq ID POL0760) bacteria TMDL was approved by the EPA on 11/10/2010 (Fed ID 39464). The SWCB approved the TMDL on 08/04/2011.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_HOR01A00 / Holmes Run / Segment begins at the mouth of Lake Barcroft and continues downstream until the confluence with Backlick Run. | 4A | Escherichia coli (E. coli) | 2004 | L | 3.59 |

Holmes Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.59 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-03-BAC Cameron Run/Hunting Creek**

Cause Location: Begins at the confluence with Backlick Run and continues downstream until the mouth of the embayment, at Jones Point and Belle View.

Cause City/County: Alexandria; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AHUT000.01 at GW Parkway.

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACAM002.92 at Eisenhower Ave.

Bacteria TMDLs for the Hunting Creek (Eq ID POL0758; Fed ID 39462) and Cameron Run (Eq ID POL0759; Fed ID 39463) watersheds were approved by the EPA on 11/10/2010. The SWCB approved the TMDLs on 08/04/2011.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13E_HUT01A02 / Hunting Creek / Segment includes all tidal waters of Hunting Creek; beginning at the Route 241 (Telegraph Road) bridge crossing and continuing downstream until the mouth of the embayment, at Jones Point and Belle View. Portion of CBP segment POTTF. | 4A | Escherichia coli (E. coli) | 1998 | L | 0.529 |
| VAN-A13R_CAM01A04 / Cameron Run/Hunting Creek / Segment begins at the confluence with Backlick Run and continues downstream until the Route 241 (Telegraph Road) bridge crossing. | 4A | Escherichia coli (E. coli) | 2006 | L | 1.910 |

Cameron Run/Hunting Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.529 | | 1.91 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-03-BEN Holmes Run**

Cause Location: Begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Two biological monitoring events in 2017 at DEQ station 1aHOR005.48, upstream of Route 613, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_HOR01B00 / Holmes Run / Segment begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft. | 5A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 6.09 |

Holmes Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.09 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-04-BAC Holmes Run**

Cause Location: Begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AHOR005.48 at Route 613.

A new TMDL is not required for this impaired segment of Holmes Run because the downstream Holmes Run bacteria TMDL (Fed ID 39464, 11/10/2010) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0760).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_HOR01B00 / Holmes Run / Segment begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft. | 4A | Escherichia coli (E. coli) | 2012 | L | 6.09 |

Holmes Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.09 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-04-BEN Tripps Run**

Cause Location: Begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft.

Cause City/County: Fairfax County; Falls Church

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Two biological monitoring events in 2017 at DEQ station 1ATRI001.50 at Route 613 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_TRI01A00 / Tripps Run / Segment begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft. | 5A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 3.7 |

Tripps Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.7 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-05-BAC Backlick Run**

Cause Location: Begins at the headwaters of Backlick Run, upstream from Route 620, and continues downstream until the confluence with Holmes Run.

Cause City/County: Alexandria; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2016 assessment: Sufficient excursions from the maximum E. coli bacteria criterion (3 of 11 samples - 27.3%) were recorded at DEQ station 1ABAL001.40 at Route 401 (Van Dorn Street) to assess this stream segment as not supporting the recreation use.

A new TMDL is not required for this impaired segment of Backlick Run because the downstream bacteria TMDL (Fed ID 39463, 11/10/2010) included modeling, source identification, and reductions that covered the entire Cameron Run watershed (Eq ID POL0759).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_BAL01A00 / Backlick Run / Segment begins at the headwaters of Backlick Run, upstream from Route 620, and continues downstream until the confluence with Holmes Run. | 4A | Escherichia coli (E. coli) | 2012 | L | 6.69 |

Backlick Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.69 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-05-BEN Cameron Run/Hunting Creek**

Cause Location: Begins at the confluence with Backlick Run and continues downstream until the Route 241 (Telegraph Road) bridge crossing.

Cause City/County: Alexandria; Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of two biological monitoring events in 2022 at DEQ station 1ACAM002.63 at 0.2 mile upstream from I-495 resulted in a VCPMI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_CAM01A04 / Cameron Run/Hunting Creek / Segment begins at the confluence with Backlick Run and continues downstream until the Route 241 (Telegraph Road) bridge crossing. | 5A | Benthic Macroinvertebrates Bioassessments | 2024 | L | 1.91 |

Cameron Run/Hunting Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1.91 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-06-BAC Tripps Run**

Cause Location: Begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft.

Cause City/County: Fairfax County; Falls Church

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ stations 1ATRI001.50 (upstream from Route 613 (Sleepy Hollow Road)), 1ATRI002.25 (at Route 649 (Annandale Road)), 1ATRI002.75 (at Chestnut Avenue), and 1ATRI003.66 (at South Oak Street).

A new TMDL is not required for this impaired segment of Tripps Run because the downstream Holmes Run bacteria TMDL (Fed ID 39464, 11/10/2010) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0760).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_TRI01A00 / Tripps Run / Segment begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft. | 4A | Escherichia coli (E. coli) | 2012 | L | 3.7 |

Tripps Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.7 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-07-BAC Pike Branch**

Cause Location: Begins at the headwaters and continues downstream to the confluence with Cameron Run/Hunting Creek.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1APIK000.82 at Florence Lane.

A new TMDL is not required for this impaired segment of Pike Branch because the downstream bacteria TMDL (Fed ID 39462, 11/10/2010) included modeling, source identification, and reductions that covered the entire Hunting Creek watershed (Eq ID POL0758).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_PIK01A22 / Pike Branch / Segment begins at the headwaters and continues downstream to the confluence with Cameron Run/Hunting Creek. | 4A | Escherichia coli (E. coli) | 2024 | L | 2.25 |

Pike Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.25 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A13R-08-BAC Taylor Run**

Cause Location: Begins at the headwaters and continues downstream to Duke Street.

Cause City/County: Alexandria

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ATAY000.83 at Angel Park foot trail bridge.

A new TMDL is not required for this impaired segment of Taylor Run because the downstream bacteria TMDL (Fed ID 39462, 11/10/2010) included modeling, source identification, and reductions that covered the entire Hunting Creek watershed (Eq ID POL0758).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A13R_TAY01A24 / Taylor Run / Segment begins at the headwaters and continues downstream to Duke Street. | 4A | Escherichia coli (E. coli) | 2024 | L | 1.21 |

Taylor Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.21 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A14E-01-BAC Little Hunting Creek**

Cause Location: Includes all tidal waters of Little Hunting Creek, extending from approximately rivermile 1.7 downstream until the confluence with the Potomac River.

Portion of CBP segment POTTF.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: The recreation use is assessed as impaired based on Level III E. coli data from citizen station 1ALIF-13-PR. The geomean was exceeded in at least one 90-day period.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A14E_LIF01A00 / Little Hunting Creek / Segment includes all tidal waters of Little Hunting Creek, extending from approximately rivermile 1.7 downstream until the confluence with the Potomac River. Portion of CBP segment POTTF. | 5A | Escherichia coli (E. coli) | 2006 | L | 0.25 |

Little Hunting Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.25 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A14E-03-BAC Potomac River**

Cause Location: Includes tidal waters downstream of the mouth of the Hunting Creek embayment, at Jones Point to H Island.

Cause City/County: Alexandria; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: The recreation use is assessed as impaired based on Level III E. coli data from citizen station 1APOT-9-PR. The geomean was exceeded in at least one 90-day period.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A14E_POT01B24 / Potomac River / Segment includes tidal waters downstream of the mouth of the Hunting Creek embayment, at Jones Point to H Island. Portion of CBP segment POTTF. | 5A | Escherichia coli (E. coli) | 2024 | L | 0.321 |

Potomac River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.321 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A14R-01-BAC Paul Springs Branch**

Cause Location: Begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2014 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at DEQ station 1APAU001.17 at Route 626.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A14R_PAU01A04 / Paul Springs Branch / Segment begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch. | 5A | Escherichia coli (E. coli) | 2010 | L | 3.39 |

Paul Springs Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.39 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A14R-01-BEN Paul Springs Branch**

Cause Location: Begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at DEQ station 1APAU001.17 at Route 626 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A14R_PAU01A04 / Paul Springs Branch / Segment begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 3.39 |

Paul Springs Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.39 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A14R-01-PCB Little Hunting Creek**

Cause Location: Begins at the confluence with an unnamed tributary, approximately 0.82 rivermile upstream from the Route 1 bridge, and continues downstream until tidal waters.

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: Polychlorinated biphenyls (PCBs)/4A

Cause Description: 2012 Assessment: Two exceedances of the human health criterion for total polychlorinated biphenyls (PCBs) in the water column were recorded in 2006 at DEQ station 1ALIF002.48 at Route 1.

The Tidal Potomac River PCB TMDL for the Little Hunting Creek watershed (Eq ID POL0474) was approved by the EPA on 10/31/2007 (Fed ID 33955). The SWCB approved the TMDL on 04/11/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A14R_LIF01A08 / Little Hunting Creek / Segment begins at the confluence with an unnamed tributary, approximately 0.82 rivermile upstream from the Route 1 bridge, and continues downstream until tidal waters. | 4A | Polychlorinated biphenyls (PCBs) | 2010 | L | 1.09 |

Little Hunting Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type: | | | 1.09 |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Upstream Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A14R-02-BAC Dogue Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Dogue Creek, approximately 0.3 rivermiles upstream from Rt. 622, and continues downstream until the end of the free-flowing waters of Dogue Creek.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at DEQ station 1ADOU003.17 at Route 622.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A14R_DOU01A04 / Dogue Creek / Segment begins at the confluence with an unnamed tributary to Dogue Creek, approximately 0.3 rivermiles upstream from Rt. 622, and continues downstream until the end of the free-flowing waters of Dogue Creek. | 5A | Escherichia coli (E. coli) | 2014 | L | 1.41 |

Dogue Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.41 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A15L-01-HG Lake Accotink**

Cause Location: Includes all of Lake Accotink.

Cause City/County: Fairfax County

Use(s): Fish Consumption

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

Cause Description: 2014 Assessment: Three exceedances of the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded in two species of fish (largemouth bass and bluegill sunfish) collected in 2007 at DEQ station 1aACO012.78.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15L_ACO01A10 / Lake Accotink / Segment includes all of Lake Accotink. | 5A | Mercury in Fish Tissue | 2010 | L | 73.94 |

Lake Accotink

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Mercury in Fish Tissue - Total Impaired Size by Water Type: | | 73.94 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A15L-01-PCB Lake Accotink**

Cause Location: Includes all of Lake Accotink.

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: 2014 Assessment: Three exceedances of the water quality criterion based fish tissue value (TV) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in two species of fish (carp and gizzard shad) collected in 2007 at monitoring station 1aACO012.78.

NOTE: During the 2014 assessment cycle, the water quality criterion based fish tissue value (TV) for polychlorinated biphenyls (PCBs) in fish tissue was 20 parts per billion (ppb). In 2022, the PCB TV was updated to 18 ppb; the previous exceedances still apply to this impairment based on the updated TV.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15L_ACO01A10 / Lake Accotink / Segment includes all of Lake Accotink. | 5A | PCBs in Fish Tissue | 2010 | L | 73.94 |

Lake Accotink

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | 73.94 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-01-BAC Accotink Creek**

Cause Location: Begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: The geomean was exceeded in at least one 90-day period at DEQ station 1AACO004.84 at Route 611 (Telegraph Rd).

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AACO006.10 at Route 790 (Alban Rd).

The Lower Accotink Creek bacteria TMDL (Eq ID POL0556) was approved by the EPA on 12/18/2008 (Fed ID 35782). The SWCB approved the TMDL on 04/28/2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay. | 4A | Escherichia coli (E. coli) | 2004 | L | 7.48 |

Accotink Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.48 |

Sources: Sewage Discharges in Unsewered Areas; Urban Runoff/Storm Sewers; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-01-BEN Accotink Creek**

Cause Location: Begins at the outlet of Lake Accotink and continues downstream until the tidal waters of Accotink Bay.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2014 Assessment: Two biological monitoring events in 2007 at station 1AACO002.50 at Route 1; two biological monitoring events in 2007 and two biological monitoring events in 2008 at station 1AACO006.10 at Route 790; and two biological monitoring events in 2008 at station 1AACO009.14 at Routes 636 and 286 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

2022 Assessment: One biological monitoring event in 2016 at DEQ station 1AACO011.27 (one mile upstream of Route 644 (Old Keene Mill Road)) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The Accotink Creek Chloride (Eq ID 2120) and Sediment (Eq ID 2161) TMDLs for the Lower Accotink Creek watershed were approved by the EPA on 05/23/2018 (Fed IDs 11403 and 11423). The SWCD approved the TMDLs on 04/16/2018. The Salt Management Strategy (SaMS) has also been developed and is being implemented via the Northern Virginia Regional Commission (https://www.novaregion.org/1399/Northern-Virginia-Salt-Management-Strate).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 7.48 |
| VAN-A15R_ACO01B10 / Accotink Creek / Segment begins at the outlet of Lake Accotink and continues downstream until the confluence of Calamo Branch. | 4A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 2.63 |

Accotink Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 10.11 |

Sources: Construction Stormwater Discharge (Permitted); Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial/Commercial Site Stormwater Discharge (Permitted); Streambank Modifications/Destabilization; Unspecified Urban Stormwater

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-01-CHLR Accotink Creek**

Cause Location: Begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.

Cause City/County: Fairfax County

Use(s): Aquatic Life; Wildlife

Causes(s)/VA Category: Chloride/4A

Cause Description: 2022 assessment: Four exceedances of the acute water quality criterion were recorded within a three-year period at DEQ station 1AACO014.57 at Route 620.

The Accotink Creek Chloride TMDL for the Upper Accotink Creek watershed (Eq ID 2139) was approved by the EPA on 05/23/2018 (Fed ID 11403). The SWCD approved the TMDL on 04/16/2018. The Salt Management Strategy (SaMS) has also been developed and is being implemented via the Northern Virginia Regional Commission (https://www.novaregion.org/1399/Northern-Virginia-Salt-Management-Strate).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO02A00 / Accotink Creek / Segment begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink. | 4A | Chloride | 2016 | L | 5.22 |

Accotink Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chloride - Total Impaired Size by Water Type: | | | 5.22 |

Accotink Creek

| **Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chloride - Total Impaired Size by Water Type: | | | 5.22 |

Sources: Construction Stormwater Discharge (Permitted); Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial/Commercial Site Stormwater Discharge (Permitted); Streambank Modifications/Destabilization; Unspecified Urban Stormwater

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-01-PCB Accotink Creek**

Cause Location: Segment begins at the outlet of Lake Accotink and continues downstream until the tidal waters of Accotink Bay.

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: 2010 Assessment: Exceedances of the water quality criterion based fish tissue value (TV) of 18 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in three species of fish (American eel, redbreast sunfish, and rainbow trout) collected in 2004 at DEQ station 1AACO004.86.

2014 Assessment: Exceedances of the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue recorded in 2008 in one species of fish (American eel) sampled at DEQ station 1AACO011.62 and in 2007 in one species of fish (yellow bullhead catfish) sampled at DEQ station 1AACO012.58.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay. | 5A | PCBs in Fish Tissue | 2010 | L | 7.48 |
| VAN-A15R_ACO01B10 / Accotink Creek / Segment begins at the outlet of Lake Accotink and continues downstream until the confluence of Calamo Branch. | 5A | PCBs in Fish Tissue | 2010 | L | 2.63 |

Accotink Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 10.11 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-02-BAC Accotink Creek**

Cause Location: Begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: The STV exceedance rate was greater than 10% in at least one 90-day period with 10+ samples, the geomean was exceeded in at least one 90-day period with 10+ samples, and there were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AACO014.57 at Route 620 (Braddock Rd).

The Accotink Creek watershed bacteria TMDL (Eq ID POL0062) was approved by the EPA on 05/31/2002 (Fed ID 24410). The SWCB approved the TMDL on 06/17/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO02A00 / Accotink Creek / Segment begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink. | 4A | Escherichia coli (E. coli) | 1998 | L | 5.22 |

Accotink Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.22 |

Sources: Illicit Connections/Hook-ups to Storm Sewers; Impervious Surface/Parking Lot Runoff; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-02-CHLR Accotink Creek**

Cause Location: Begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.

Cause City/County: Fairfax County

Use(s): Aquatic Life; Wildlife

Causes(s)/VA Category: Chloride/4A

Cause Description: Two exceedances of the chloride chronic water quality criterion were recorded within a three-year period at DEQ station 1aACO004.84 at Route 611 (Telegraph Rd).

The Accotink Creek Chloride TMDL for the Lower Accotink Creek watershed (Eq ID 2120) was approved by the EPA on 05/23/2018 (Fed ID 11403). The SWCD approved the TMDL on 04/16/2018. The Salt Management Strategy (SaMS) has also been developed and is being implemented via the Northern Virginia Regional Commission (https://www.novaregion.org/1399/Northern-Virginia-Salt-Management-Strate).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO01A00 / Accotink Creek / Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay. | 4A | Chloride | 2018 | L | 7.48 |

Accotink Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chloride - Total Impaired Size by Water Type: | | | 7.48 |

Accotink Creek

| **Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chloride - Total Impaired Size by Water Type: | | | 7.48 |

Sources: Construction Stormwater Discharge (Permitted); Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial/Commercial Site Stormwater Discharge (Permitted); Streambank Modifications/Destabilization; Unspecified Urban Stormwater

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-03-BAC Accotink Creek**

Cause Location: Begins at the confluence with Daniels Run, in the City of Fairfax, and continues downstream until the confluence with Crook Branch, upstream from Route 846.

Cause City/County: Fairfax; Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: The geomean was exceeded in at least one 90-day period at DEQ station 1AACO021.28 at Route 237 (Pickett Rd).

A new TMDL is not required for this impaired segment of Accotink Creek because the downstream Accotink Creek bacteria TMDL (Fed ID 24410, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0062).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO03A02 / Accotink Creek / Segment begins at the confluence with Long Branch, at Eakin Park, and continues downstream until the confluence with Crook Branch, upstream from Route 846. | 4A | Escherichia coli (E. coli) | 2022 | L | 0.99 |
| VAN-A15R_ACO04A02 / Accotink Creek / Segment begins at the confluence with Daniels Run, in the City of Fairfax, and continues downstream until the confluence with Long Branch, at Eakin Park. | 4A | Escherichia coli (E. coli) | 2002 | L | 2.05 |

Accotink Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.04 |

Sources: Illicit Connections/Hook-ups to Storm Sewers; Impervious Surface/Parking Lot Runoff; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-03-CHLR Long Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.

Cause City/County: Fairfax County

Use(s): Aquatic Life; Wildlife

Causes(s)/VA Category: Chloride/4A

Cause Description: 2022 Assessment: Two exceedances of the chronic water quality criterion were recorded within a three-year period at DEQ station 1aLOE000.26 at Route 620.

The Accotink Creek Chloride TMDL for the Long Branch watershed (Eq ID 2119) was approved by the EPA on 05/23/2018 (Fed ID 11403). The SWCD approved the TMDL on 04/16/2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_LOE01A02 / Long Branch / Segment begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road. | 4A | Chloride | 2018 | L | 2.38 |

Long Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chloride - Total Impaired Size by Water Type: | | | 2.38 |

Long Branch

| **Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chloride - Total Impaired Size by Water Type: | | | 2.38 |

Sources: Construction Stormwater Discharge (Permitted); Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial/Commercial Site Stormwater Discharge (Permitted); Streambank Modifications/Destabilization; Unspecified Urban Stormwater

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-04-BEN Accotink Creek**

Cause Location: Begins at the headwaters of Accotink Creek and continues downstream until the start of Lake Accotink.

Cause City/County: Fairfax; Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2022 assessment: One biological monitoring event in 2016 at DEQ station 1AACO014.57 at Route 620 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

2012 Assessment: EPA biological monitoring events in 2005 and 2006 at stations 1AACO-A-EPA, 1AACO-B-EPA, 1AACO-C-EPA, and 1AACO-D-EPA resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The Accotink Creek Chloride (Eq ID 2139) and Sediment (Eq ID 2162) TMDLs for the Upper Accotink Creek watershed were approved by the EPA on 05/23/2018 (Fed IDs 11403 and 11423). The SWCD approved the TMDLs on 04/16/2018. The Salt Management Strategy (SaMS) has also been developed and is being implemented via the Northern Virginia Regional Commission (https://www.novaregion.org/1399/Northern-Virginia-Salt-Management-Strate).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_ACO02A00 / Accotink Creek / Segment begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink. | 4A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 5.22 |
| VAN-A15R_ACO03A02 / Accotink Creek / Segment begins at the confluence with Long Branch, at Eakin Park, and continues downstream until the confluence with Crook Branch, upstream from Route 846. | 4A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 0.99 |
| VAN-A15R_ACO04A02 / Accotink Creek / Segment begins at the confluence with Daniels Run, in the City of Fairfax, and continues downstream until the confluence with Long Branch, at Eakin Park. | 4A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 2.05 |
| VAN-A15R_ACO05A04 / Accotink Creek / Segment begins at the headwaters of Accotink Creek, and continues downstream until the confluence with Daniels Run. | 4A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 3.34 |

Accotink Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 11.6 |

Sources: Construction Stormwater Discharge (Permitted); Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial/Commercial Site Stormwater Discharge (Permitted); Streambank Modifications/Destabilization; Unspecified Urban Stormwater

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-05-BEN Long Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2012 Assessment: Two biological monitoring events in 2006 at DEQ station 1ALOE001.99 (downstream from Route 651/Guinea Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The Accotink Creek Chloride (Eq ID 2119) and Sediment (Eq ID 2160) TMDLs for the Long Branch watershed were approved by the EPA on 05/23/2018. The SWCD approved the TMDLs on 04/16/2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_LOE01A02 / Long Branch / Segment begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road. | 4A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 2.38 |

Long Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.38 |

Sources: Construction Stormwater Discharge (Permitted); Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial/Commercial Site Stormwater Discharge (Permitted); Streambank Modifications/Destabilization; Unspecified Urban Stormwater

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-06-BAC Long Branch**

Cause Location: Begins at the headwaters of Long Branch and continues downstream until the confluence with Accotink Creek, at rivermile 4.41.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2018 assessment: Sufficient excursions from the maximum E. coli bacteria criterion (3 of 11 samples - 27.3%) were recorded at DEQ station 1ALOA000.17 at Route 611.

A new TMDL is not required for this impaired segment of Long Branch because the downstream Lower Accotink Creek bacteria TMDL (Fed ID 35782, 12/18/2008) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0556).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_LOA01A08 / Long Branch / Segment begins at the headwaters of Long Branch and continues downstream until the confluence with Accotink Creek, at rivermile 4.41. | 4A | Escherichia coli (E. coli) | 2008 | L | 4.48 |

Long Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.48 |

Sources: Sewage Discharges in Unsewered Areas; Urban Runoff/Storm Sewers; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A15R-07-BAC Long Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: The geomean was exceeded in at least one 90-day period at DEQ station 1ALOE000.26 at Route 620 (Braddock Rd).

A new TMDL is not required for this impaired segment of Long Branch because the downstream Accotink Creek bacteria TMDL (Fed ID 24410, 05/31/2002) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0062).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A15R_LOE01A02 / Long Branch / Segment begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, just below Braddock Road. | 4A | Escherichia coli (E. coli) | 2018 | L | 2.38 |

Long Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.38 |

Sources: Illicit Connections/Hook-ups to Storm Sewers; Impervious Surface/Parking Lot Runoff; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A16L-01-DO Burke Lake**

Cause Location: Segment includes all of Burke Lake.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Excursions less than the minimum dissolved oxygen criterion at pooled lake stations 1ASOH006.66 and 1ASOH007.26 (11 of 95 samples - 11.6%).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A16L_SOH01A06 / Burke Lake / Segment includes all of Burke Lake. | 5A | Dissolved Oxygen | 2022 | L | 208.11 |

Burke Lake

| Aquatic Life | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | 208.11 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A16R-01-BAC Pohick Creek**

Cause Location: Begins at the confluence with South Run, approximately 0.25 rivermile upstream from I-95, and continues downstream until the end of the free-flowing portion of Pohick Creek.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1APOH005.36 at Route 1.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A16R_POH01A00 / Pohick Creek / Segment begins at the confluence with South Run, approximately 0.25 rivermile upstream from I-95, and continues downstream until the end of the free-flowing portion of Pohick Creek. | 5A | Escherichia coli (E. coli) | 2006 | L | 3.78 |

Pohick Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.78 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A16R-01-BEN Pohick Creek**

Cause Location: Begins at the confluence with Middle Run and continues downstream to the confluence with South Run.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2020 and 2021 at DEQ station 1APOH007.65 at Route 641 (Pohick Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

A total of four biological monitoring events in 2020 and 2021 at DEQ station 1APOH013.12 at Route 644 (Old Keene Mill Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A16R_POH01B14 / Pohick Creek / Segment begins at the confluence with Middle Run and continues downstream to the confluence with South Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2014 | L | 2.62 |
| VAN-A16R_POH02A02 / Pohick Creek / Segment begins at the confluence of an unnamed tributary to Pohick Creek, at rivermile 14.18, and continues downstream until the confluence with Middle Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2022 | L | 5.41 |

Pohick Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 8.03 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A16R-02-BAC Pohick Creek**

Cause Location: Begins at the confluence with Sideburn Branch and continues downstream until the confluence with South Run.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1APOH007.65 at Route 641 (Pohick Rd).

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1APOH013.12 at Route 644 (Old Keene Mill Rd).

2020 Assessment: E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at DEQ station 1APOH015.09 at Route 645.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A16R_POH01B14 / Pohick Creek / Segment begins at the confluence with Middle Run and continues downstream to the confluence with South Run. | 5A | Escherichia coli (E. coli) | 2016 | L | 2.62 |
| VAN-A16R_POH02A02 / Pohick Creek / Segment begins at the confluence of an unnamed tributary to Pohick Creek, at rivermile 14.18, and continues downstream until the confluence with Middle Run. | 5A | Escherichia coli (E. coli) | 2012 | L | 5.41 |
| VAN-A16R_POH03A04 / Pohick Creek / Segment begins at the confluence with Sideburn Branch and continues downstream until the confluence with an unnamed tributary to Pohick Creek, at rivermile 14.18. | 5A | Escherichia coli (E. coli) | 2006 | L | 1.78 |

Pohick Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.81 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A16R-03-BAC South Run**

Cause Location: Begins at the confluence with an unnamed tributary, at rivermile 3.6, and continues downstream to the confluence with Pohick Creek.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2020 assessment: Sufficient excursions from the maximum E. coli bacteria criterion (4 of 12 samples - 33.3%) were recorded at DEQ station 1ASOH001.71 at Route 6070.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A16R_SOH01A12 / South Run / Segment begins at the confluence with an unnamed tributary, at rivermile 3.6, and continues downstream to the confluence with Pohick Creek. | 5A | Escherichia coli (E. coli) | 2016 | L | 4.16 |

South Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.16 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A16R-04-BAC Middle Run**

Cause Location: Begins at the confluence of Cherry Run and Peyton Run, creating Middle Run, and continues downstream to the confluence with Pohick Creek.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: The recreation use is assessed as impaired based on E. coli data from DEQ station 1AMID000.75 at Route 640 (Gambrill Rd). There were two or more STV exceedances in at least one 90-day period with <10 samples.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A16R_MID01A16 / Middle Run / Segment begins at the confluence of Cherry Run and Peyton Run, creating Middle Run, and continues downstream to the confluence with Pohick Creek. | 5A | Escherichia coli (E. coli) | 2016 | L | 2.85 |

Middle Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.85 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-01-BAC Cedar Run**

Cause Location: Begins at the confluence with Mill Run, approximately 1.2 rivermiles downstream from Route 672, and continues downstream until the confluence with the Occoquan River/Lake Jackson.

Cause City/County: Fauquier County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACER006.00 at Route 646 (Aden Rd).

2010 Assessment: E. coli bacteria criterion excursions (3 of 7 samples - 42.9%) at DEQ station 1ACER009.52 at Route 611.

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACER016.46 at Route 806 (Elk Run Rd).

2010 Assessment: E. coli bacteria criterion excursions (7 of 15 samples - 46.7%) at DEQ station 1ACER025.25 at Route 602.

The Cedar Run and Licking Run bacteria TMDL for the Cedar Run watershed (EQ ID POL0012) was approved by the EPA on 07/06/2004 (Fed ID 24411). The SWCB approved the TMDL on 12/02/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_CER01A02 / Cedar Run / Segment begins at the confluence with Walnut Branch and continues downstream until the mouth of waterbody A17R. | 4A | Escherichia coli (E. coli) | 1996 | L | 1.65 |
| VAN-A17R_CER02A02 / Cedar Run / Segment begins near the confluence with Owl Run and continues downstream until the confluence with Walnut Branch. | 4A | Escherichia coli (E. coli) | 1998 | L | 3.00 |
| VAN-A17R_CER02B20 / Cedar Run / Segment begins at the confluence with Turkey Run, approximately 0.15 rivermile upstream from Route 603, and continues downstream until near the confluence with Owl Run. | 4A | Escherichia coli (E. coli) | 1998 | L | 3.46 |
| VAN-A17R_CER03A02 / Cedar Run / Segment begins at the boundary of the PWS designation area, approximately rivermile 25.20, and continues downstream until the confluence with Turkey Run, approximately 0.15 rivermile upstream from Route 603. | 4A | Escherichia coli (E. coli) | 1998 | L | 4.22 |
| VAN-A17R_CER03B06 / Cedar Run / Segment begins at the confluence with Mill Run, approximately 1.2 rivermiles downstream from Route 672, and continues downstream until the boundary of the PWS designation area, at approximately rivermile 25.20. | 4A | Escherichia coli (E. coli) | 1998 | L | 2.49 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A18R_CER01A02 / Cedar Run / Segment begins at the boundary of the PWS designation area, at rivermile 7.86, and continues downstream until the confluence with the Occoquan River/Lake Jackson. | 4A | Escherichia coli (E. coli) | 1996 | L | 7.81 |
| VAN-A18R_CER01B06 / Cedar Run / Segment begins at the confluence with Goslin Run and continues downstream until the boundary of the PWS designation area, at rivermile 7.86. | 4A | Escherichia coli (E. coli) | 1996 | L | 1.24 |
| VAN-A18R_CER02A02 / Cedar Run / Segment begins at the boundary of the PWS designation area, at rivermile 12.81, and continues downstream until the confluence with Goslin Run. | 4A | Escherichia coli (E. coli) | 1996 | L | 3.74 |
| VAN-A18R_CER02B06 / Cedar Run / Segment begins at the mouth of watershed A17R and continues downstream until the boundary of the PWS designation area, at rivermile 12.81. | 4A | Escherichia coli (E. coli) | 1996 | L | 0.68 |

Cedar Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 28.29 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-01-BEN Cedar Run**

Cause Location: Begins near the confluence with Owl Run and continues downstream until the confluence with Walnut Branch.

Cause City/County: Fauquier County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2017 and 2018 at DEQ station 1ACER016.46 at Route 806 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_CER02A02 / Cedar Run / Segment begins near the confluence with Owl Run and continues downstream until the confluence with Walnut Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | L | 3 |

Cedar Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-01-DO Owl Run**

Cause Location: Begins at the headwaters of Owl Run and continues downstream until the confluence with Cedar Run.

Cause City/County: Fauquier County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Excursions less than the minimum dissolved oxygen criterion (3 of 10 samples - 30.0%) at DEQ station 1AOWL001.85 at Route 616 (Casanova Rd).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_OWL01A14 / Owl Run / Segment begins at the headwaters of Owl Run and continues downstream until the confluence with Cedar Run. | 5A | Dissolved Oxygen | 2020 | L | 5.86 |

Owl Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 5.86 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-02-BAC Licking Run**

Cause Location: Begins at Route 602, below the mouth of Germantown Lake, and continues downstream until the confluence with Cedar Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at DEQ station 1ALIL001.43 at Route 616.

The Cedar Run and Licking Run bacteria TMDL for the Licking Run watershed (Eq ID POL0013) was approved by the EPA on 07/06/2004 (Fed ID 23321). The SWCB approved the TMDL on 12/02/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_LIL01A00 / Licking Run / Segment begins at the outlet of the Germantown Lake impoundment and continues downstream until the confluence with Cedar Run. | 4A | Escherichia coli (E. coli) | 1998 | L | 6.53 |

Licking Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.53 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-02-BEN Licking Run**

Cause Location: Begins at the headwaters of Licking Run and continues downstream until the boundary of the PWS designation area, at rivermile 11.32.

Cause City/County: Fauquier County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2021 and 2022 at DEQ station 1ALIL008.29 (upstream of Route 663) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_LIL02A04 / Licking Run / Segment begins at the boundary of the PWS designation area, at rivermile 11.32, and continues downstream until the start of Germantown Lake. | 5A | Benthic Macroinvertebrates Bioassessments | 2024 | L | 3.51 |
| VAN-A17R_LIL02B06 / Licking Run / Segment begins at the headwaters of Licking Run and continues downstream until the boundary of the PWS designation area, at rivermile 11.32. | 5A | Benthic Macroinvertebrates Bioassessments | 2024 | L | 3.51 |

Licking Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 7.02 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-03-BAC Licking Run**

Cause Location: Begins at the headwaters of Licking Run and continues downstream until the start of Germantown Lake.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2014 Assessment: E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) at DEQ station 1ALIL009.92 at Route 674.

A new TMDL is not required for this impaired segment of Licking Run because the downstream bacteria TMDL (Fed ID 23321, 07/06/2004) included modeling, source identification, and reductions that covered the entire Licking Run watershed (Eq ID POL0013).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_LIL02A04 / Licking Run / Segment begins at the boundary of the PWS designation area, at rivermile 11.32, and continues downstream until the start of Germantown Lake. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.51 |
| VAN-A17R_LIL02B06 / Licking Run / Segment begins at the headwaters of Licking Run and continues downstream until the boundary of the PWS designation area, at rivermile 11.32. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.51 |

Licking Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.02 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-04-BAC Turkey Run**

Cause Location: Begins at the confluence with an unnamed tributary to Turkey Run, approximately 0.25 rivermile upstream from the Route 602 crossing, and continues downstream until the confluence with Cedar Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1ATUK003.37 at Route 602.

A new TMDL is not required for this impaired segment of Turkey Run because the downstream Cedar Run and Licking Run bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_TUK01A06 / Turkey Run / Segment begins at the confluence with an unnamed tributary to Turkey Run, approximately 0.25 rivermile upstream from the Route 602 crossing, and continues downstream until the confluence with Cedar Run. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.61 |

Turkey Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.61 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-05-BAC Cedar Run**

Cause Location: Begins at the outlet of the Warrenton Reservoir and continues downstream to the confluence with Mill Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1ACER030.62 at Route 674.

A new TMDL is not required for this impaired segment of Cedar Run because the downstream bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_CER03C12 / Cedar Run / Segment begins at the boundary of the PWS designation area, approximately 0.6 rivermile downstream from the Route 678 crossing, and continues downstream to the confluence with Mill Run. | 4A | Escherichia coli (E. coli) | 2012 | L | 2.41 |
| VAN-A17R_CER04A06 / Cedar Run / Segment begins at the outlet of the Warrenton Reservoir and continues downstream until the boundary of the PWS designation area, approximately 0.6 rivermile downstream from the Route 678 crossing. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.50 |

Cedar Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.91 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-06-BAC Walnut Branch**

Cause Location: Begins at the confluence with an unnamed tributary, just upstream from the railroad crossing, and continues downstream until the confluence with Cedar Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (4 of 9 samples - 44.4%) at DEQ station 1AWAL000.79 at Route 767.

A new TMDL is not required for this impaired segment of Walnut Branch because the downstream Cedar Run and Licking Run bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_WAL01A06 / Walnut Branch / Segment begins at the confluence with an unnamed tributary, just upstream from the railroad crossing, and continues downstream until the confluence with Cedar Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 1.69 |

Walnut Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.69 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-07-BAC Owl Run**

Cause Location: Begins at the headwaters of Owl Run and continues downstream until the confluence with Cedar Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) at DEQ station 1AOWL001.85 at Route 616.

A new TMDL is not required for this impaired segment of Owl Run because the downstream Cedar Run and Licking Run bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_OWL01A14 / Owl Run / Segment begins at the headwaters of Owl Run and continues downstream until the confluence with Cedar Run. | 4A | Escherichia coli (E. coli) | 2014 | L | 5.86 |

Owl Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.86 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A17R-08-BAC Mill Run**

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

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AMIE002.54 at Route 605.

A new TMDL is not required for this impaired segment of Turkey Run because the downstream Cedar Run and Licking Run bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A17R_MIE01A20 / Mill Run / Segment begins at the headwaters and continues downstream to the confluence with Cedar Run. | 4A | Escherichia coli (E. coli) | 2020 | L | 5.65 |

Mill Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.65 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A18R-01-BAC Elk Run**

Cause Location: Begins at the confluence with Furrs Run and continues downstream until the confluence with Town Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (4 of 8 samples - 50.0%) at DEQ station 1AELK000.10 at Route 806 (Elk Run Road).

A new TMDL is not required for this impaired segment of Elk Run because the downstream bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A18R_ELK01A08 / Elk Run / Segment begins at the confluence with Furrs Run and continues downstream until the confluence with Town Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.28 |

Elk Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.28 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A18R-02-BAC Town Run**

Cause Location: Begins at the confluence with Negro Run and continues downstream until the confluence with Elk Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ATON003.77 at Route 611 (Sowego Rd).

A new TMDL is not required for this impaired segment of Town Run because the downstream bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A18R_TON01A08 / Town Run / Segment begins at the confluence with Negro Run and continues downstream until the confluence with Elk Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.52 |

Town Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.52 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A18R-02-BEN Lucky Run**

Cause Location: Begins at the headwaters of Lucky Run and continues downstream until the confluence with Cedar Run.

Cause City/County: Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2008 Assessment: Two biological monitoring events in 2001 at DEQ freshwater probabilistic station 1ALUC000.95 off Route 611 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A18R_LUC01A04 / Lucky Run / Segment begins at the headwaters of Lucky Run and continues downstream until the confluence with Cedar Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 3.49 |

Lucky Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.49 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A18R-03-BAC Slate Run**

Cause Location: Begins at the headwaters of Slate Run and continues downstream until the confluence with Cedar Run.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2014 Assessment: E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at DEQ station 1ASLE000.36 at Route 649 (Old Church Road).

A new TMDL is not required for this impaired segment of Slate Run because the downstream bacteria TMDL (Fed ID 24411, 07/06/2004) included modeling, source identification, and reductions that covered the entire Cedar Run watershed (Eq ID POL0012).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A18R_SLE01A08 / Slate Run / Segment begins at the headwaters of Slate Run and continues downstream until the confluence with Cedar Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 6.97 |

Slate Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.97 |

Sources: Grazing in Riparian or Shoreline Zones; Manure Runoff; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-01-BAC Broad Run**

Cause Location: Begins at the confluence with Rocky Branch and continues downstream until the confluence with Cannon Branch.

Cause City/County: Manassas; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2014 Assessment: E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at DEQ station 1ABRU011.24 (fka 1ABRU011.48) at Sudley Manor Drive.

The Occoquan River bacteria TMDL for the Broad Run (1) watershed (Eq ID POL0404) was approved by the EPA on 11/15/2006 (Fed ID 31993). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_BRU02A00 / Broad Run / Segment begins at Sudley Manor Drive and continues downstream until the confluence with Cannon Branch. | 4A | Escherichia coli (E. coli) | 2002 | L | 7.2 |
| VAN-A19R_BRU02B24 / Broad Run / Segment begins at the confluence with Rocky Branch and continues downstream until Sudley Manor Drive. | 4A | Escherichia coli (E. coli) | 2024 | L | 0.4 |

Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.6 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-01-BEN Broad Run**

Cause Location: Begins at the outlet from Lake Manassas and continues downstream until Sudley Manor Drive.

Cause City/County: Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of two biological monitoring events in 2022 at DEQ station 1ABRU011.57 at ~0.3 mile above Sudley Manor Drive resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_BRU02B24 / Broad Run / Segment begins at the confluence with Rocky Branch and continues downstream until Sudley Manor Drive. | 5A | Benthic Macroinvertebrates Bioassessments | 2024 | L | 0.40 |
| VAN-A19R_BRU03A04 / Broad Run / Segment begins at the outlet from Lake Manassas and continues downstream until the confluence with Rocky Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2024 | L | 4.07 |

Broad Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.47 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-02-BAC Broad Run**

Cause Location: Begins at the confluence with an unnamed tributary to Broad Run, at approximately rivermile 21.3, and continues downstream until the start, western end, of Lake Manassas.

Cause City/County: Fauquier County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2010 Assessment: E. coli bacteria criterion excursions (4 of 14 samples - 41.7%) at DEQ station 1ABRU020.12 at Route 29/15.

The Occoquan River bacteria TMDL for the Broad Run (2) watershed (Eq ID POL0405) was approved by the EPA on 11/15/2006 (Fed ID 31994). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_BRU07A02 / Broad Run / Segment begins 5 miles upstream of the Lake Manassas Dam and continues downstream until the start, western end, of Lake Manassas. | 4A | Escherichia coli (E. coli) | 2002 | L | 1.33 |

Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.33 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-03-BAC Kettle Run**

Cause Location: Begins at the confluence with an unnamed tributary to Kettle Run, just upstream from Route 602, and continues downstream until the confluence with Broad Run.

Cause City/County: Fauquier County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) at DEQ station 1AKET004.27 at Route 646.

2018 Assessment: E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) at DEQ station 1AKET009.91 at Route 604.

2020 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AKET012.03 at Route 761.

The Occoquan River bacteria TMDL for the Kettle Run watershed (Eq ID POL0408) was approved by the EPA on 11/15/2006 (Fed ID 31996). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_KET01A00 / Kettle Run / Segment begins at the confluence with an unnamed tributary to Kettle Run, just upstream from Route 708, and continues downstream until the confluence with Broad Run. | 4A | Escherichia coli (E. coli) | 2002 | L | 7.76 |
| VAN-A19R_KET01B12 / Kettle Run / Segment begins at the confluence with an unnamed tributary to Kettle Run, at approximately rivermile 10.5, and continues downstream until the confluence with an unnamed tributary to Kettle Run, just upstream from Route 708. | 4A | Escherichia coli (E. coli) | 2014 | L | 2.46 |
| VAN-A19R_KET02A04 / Kettle Run / Segment begins at the confluence with an unnamed tributary to Kettle Run, just upstream from Route 602, and continues downstream until the confluence with another unnamed tributary to Kettle Run, at approximately rivermile 10.5. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.62 |

Kettle Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 13.84 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-04-BAC South Run**

Cause Location: Begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run).

Cause City/County: Fauquier County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (4 of 9 samples - 44.4%) at DEQ station 1ASOT001.44 at Route 215.

The Occoquan River bacteria TMDL for the South Run watershed (Eq ID POL0407) was approved by the EPA on 11/15/2006 (Fed ID 32108). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_SOT01A00 / South Run / Segment begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run). | 4A | Escherichia coli (E. coli) | 2012 | L | 2.35 |

South Run

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

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-04-BEN South Run**

Cause Location: Begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run).

Cause City/County: Fauquier County; Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2012 Assessment: Two biological monitoring events in 2005 at DEQ station 1ASOT001.65 at Route 652 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The South Run benthic TMDL (Eq ID POL0374) was approved by the EPA on 08/02/2006 (Fed ID 24412). The SWCB approved the TMDL on 03/09/2007. The primary stressor identified for South Run was determined based on evaluations of candidate stressors that potentially could be impacting the stream. Based on the stressor identification analysis, the most probable stressor for the benthic community of South Run was identified as total phosphorus enrichment.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_SOT01A00 / South Run / Segment begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run). | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 2.35 |

South Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.35 |

Sources: Agriculture; Lake Fertilization; Municipal Point Source Discharges; Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-05-BAC Broad Run**

Cause Location: Begins at the confluence with Mill Run and continues downstream until the confluence with Catletts Branch.

Cause City/County: Fauquier County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2014 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ABRU025.35 at Route 55.

2020 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ABRU026.40 at Route 628.

The Occoquan River bacteria TMDL for the Broad Run watershed was approved by the EPA on 11/15/2006 (Fed IDs 31994 and 31995). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_BRU07B06 / Broad Run / Segment begins at the confluence with Trapp Branch and continues downstream until the confluence with Catletts Branch. | 4A | Escherichia coli (E. coli) | 2006 | L | 1.16 |
| VAN-A19R_BRU08A04 / Broad Run / Segment begins at the confluence with Mill Run and continues downstream to the confluence with Trapp Run. | 4A | Escherichia coli (E. coli) | 2004 | L | 1.17 |

Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.33 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-06-BAC Broad Run**

Cause Location: Begins at the confluence with Kettle Run and continues downstream until the confluence with Cedar Run, forming the Occoquan River/Lake Jackson.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABRU001.59 at Route 692 (Lucasville Rd).

A new TMDL is not required for this impaired segment of Broad Run because the downstream bacteria TMDL (Fed ID 32111, 11/15/2006) included modeling, source identification, and reductions that covered the entire Occoquan River watershed (Eq ID POL0409).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_BRU01A04 / Broad Run / Segment begins at the confluence with Kettle Run and continues downstream until the confluence with Cedar Run, forming the Occoquan River/Lake Jackson. | 4A | Escherichia coli (E. coli) | 2006 | L | 2.4 |

Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.4 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-07-BAC Trapp Branch**

Cause Location: Begins at the confluence with an unnamed tributary to Trapp Branch, approximately 0.08 rivermile downstream from the Route 696 crossing, and continues downstream until the confluence with Broad Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ATRA001.02 at Route 674 (Georgetown Rd).

A new TMDL is not required for this impaired segment of Trapp Branch because the downstream Occoquan River bacteria TMDL (Fed ID 31994, 11/15/2006) included modeling, source identification, and reductions that covered the entire Broad Run (2) watershed (Eq ID POL0405).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_TRA01A06 / Trapp Branch / Segment begins at the confluence with an unnamed tributary to Trapp Branch, approximately 0.08 rivermile downstream from the Route 696 crossing, and continues downstream until the confluence with Broad Run. | 4A | Escherichia coli (E. coli) | 2006 | L | 1.78 |

Trapp Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.78 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-09-BAC Broad Run**

Cause Location: Begins at the confluence with an unnamed tributary to Broad Run and continues downstream until the confluence with Mill Run.

Cause City/County: Fauquier County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2014 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ABRU029.80 at Route 55 (upstream).

A new TMDL is not required for this impaired segment of Broad Run because the downstream Occoquan River bacteria TMDL (Fed ID 31995, 11/15/2006) included modeling, source identification, and reductions that covered the entire Broad Run (3) watershed (Eq ID POL0406).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_BRU08B10 / Broad Run / Segment begins at the confluence with an unnamed tributary to Broad Run and continues downstream until the confluence with Mill Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 4.17 |

Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.17 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A19R-10-BAC North Fork Broad Run**

Cause Location: Begins at the confluence with an unnamed tributary to North Fork and continues downstream until the confluence with Lake Manassas (Broad Run).

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ANOF002.14 at Route 29/211.

A new TMDL is not required for this impaired segment of North Fork Broad Run because the downstream Occoquan River bacteria TMDL (Fed ID 31993, 11/15/2006) included modeling, source identification, and reductions that covered the entire Broad Run (1) watershed (Eq ID POL0404).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A19R_NOF01A10 / North Fork Broad Run / Segment begins at the confluence with an unnamed tributary to North Fork and continues downstream until the confluence with Lake Manassas (Broad Run). | 4A | Escherichia coli (E. coli) | 2016 | L | 3.67 |

North Fork Broad Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.67 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A20R-01-BAC Occoquan River**

Cause Location: Begins at the confluence with Purcell Branch and continues downstream until the start of the Occoquan Reservoir.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (3 of 16 samples - 18.8%) at DEQ station 1AOCC021.35 at Route 3000.

The Occoquan River bacteria TMDL (Eq ID POL0409) was approved by the EPA on 11/15/2006 (Fed ID 32111). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A20R_OCC01A04 / Occoquan River / Segment begins at the confluence with Purcell Branch and continues downstream until the start of the Occoquan Reservoir. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.36 |

Occoquan River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.36 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A20R-02-BAC Purcell Branch**

Cause Location: Begins at the headwaters of Purcell Branch, near Woodbine School, and continues downstream until the confluence with the Occoquan River.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at DEQ station 1APUR001.20 at Route 643.

A new TMDL is not required for this impaired segment of Purcell Branch because the downstream bacteria TMDL (Fed ID 32111, 11/15/2006) included modeling, source identification, and reductions that covered the entire Occoquan River watershed (Eq ID POL0409).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A20R_PUR01A06 / Purcell Branch / Segment begins at the headwaters of Purcell Branch, near Woodbine School, and continues downstream until the confluence with the Occoquan River. | 4A | Escherichia coli (E. coli) | 2006 | L | 3.86 |

Purcell Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.86 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-01-BEN Catharpin Creek**

Cause Location: Begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run.

Cause City/County: Fauquier County; Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Four monitoring events in 2019 and 2020 at DEQ station 1ACAA001.18 at Route 676, two biological monitoring events in 2021 at DEQ freshwater probabilistic station 1ACAA002.28 at 1.1 miles upstream from Route 676, and four monitoring events in 2019 and 2020 at DEQ station 1ACAA007.34 at Route 600 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_CAA01A02 / Catharpin Creek / Segment begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | H | 6.81 |
| VAN-A21R_CAA02A08 / Catharpin Creek / Segment begins at the headwaters of Catharpin Creek and continues downstream until the Route 601 crossing. | 5A | Benthic Macroinvertebrates Bioassessments | 2022 | H | 3.46 |

Catharpin Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 10.27 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-01-PCB Bull Run**

Cause Location: Includes Bull Run near Manassas Park from the I-66 bridge downstream approximately fourteen miles to the Route 612 (Yates Ford Road) bridge.

Cause City/County: Fairfax County; Prince William County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: The fish consumption use is categorized as impaired due to a Virginia Department of Health PCB fish consumption advisory. The advisory, dated 12/13/04 and modified 07/27/05, limits consumption of carp and channel catfish to no more than two meals per month.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_BUL01A06 / Bull Run / Segment begins at the confluence with Flat Branch and continues downstream until the confluence with Cub Run. | 5A | PCBs in Fish Tissue | 2006 | L | 0.20 |
| VAN-A21R_BUL01B06 / Bull Run / Segment begins at the I-66 crossing and continues downstream until the confluence with Flat Branch. | 5A | PCBs in Fish Tissue | 2006 | L | 2.63 |
| VAN-A23R_BUL01A06 / Bull Run / Segment begins at the Route 612 crossing, at rivermile 5.8, and continues downstream until the beginning of the Occoquan Reservoir. | 5A | PCBs in Fish Tissue | 2006 | L | 2.91 |
| VAN-A23R_BUL01C04 / Bull Run / Segment begins at the confluence of Popes Head Creek with Bull Run and continues downstream until rivermile 5.8. | 5A | PCBs in Fish Tissue | 2004 | L | 0.96 |
| VAN-A23R_BUL02A02 / Bull Run / Segment begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek. | 5A | PCBs in Fish Tissue | 2004 | L | 4.87 |

Bull Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 11.57 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-02-BEN Bull Run**

Cause Location: Begins at the confluence with Chestnut Lick, approximately 0.7 rivermile upstream from Route 705, and continues downstream until the confluence with an unnamed tributary to Bull Run, at rivermile 22.34.

Cause City/County: Loudoun County; Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Two biological monitoring events in 2015 at DEQ station 1aBUL025.94 at Route 705 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_BUL02A00 / Bull Run / Segment begins at the confluence with Chestnut Lick, approximately 0.7 rivermile upstream from Route 705, and continues downstream until the confluence with an unnamed tributary to Bull Run, at rivermile 22.34. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | L | 4.66 |

Bull Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.66 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-03-BAC Catharpin Creek**

Cause Location: Begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment from DEQ station 1ACAA002.28 at 1.1 miles upstream from Route 676 (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: The recreation use is assessed as impaired based on E. coli data from DEQ station 1ACAA001.18 at Route 676 (Catharpin Rd). There were two or more STV exceedances in at least one 90-day period with <10 samples.

A new TMDL is not required for this impaired segment of Catharpin Creek because the downstream Occoquan River bacteria TMDL (Fed ID 32109, 11/15/2006) included modeling, source identification, and reductions that covered the entire Little Bull Run watershed (Eq ID POL0410).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_CAA01A02 / Catharpin Creek / Segment begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 6.81 |

Catharpin Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.81 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-03-BEN Unnamed Tributary to Bull Run**

Cause Location: Begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run.

Cause City/County: Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: Two biological monitoring events in 2016 at DEQ station 1AXOB000.17 at 0.1 mile downstream from Route 677 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_XOB01A18 / Unnamed Tributary to Bull Run / Segment begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 3.73 |

Unnamed Tributary to Bull Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.73 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-04-BAC Youngs Branch**

Cause Location: Begins at the headwaters of Youngs Branch and continues downstream until the confluence with Bull Run.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1AYOU001.50 at Route 29.

A new TMDL is not required for this impaired segment of Youngs Branch because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_YOU01A02 / Youngs Branch / Segment begins at the headwaters of Youngs Branch and continues downstream until the confluence with Bull Run. | 4A | Escherichia coli (E. coli) | 2012 | L | 6.05 |

Youngs Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.05 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-04-BEN Little Bull Run**

Cause Location: Begins at the confluence with Catharpin Creek and continues downstream until the confluence with Bull Run.

Cause City/County: Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2022 Assessment: Three biological monitoring events in 2015 and 2016 at DEQ station 1ALII001.07 at Robin Drive resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_LII01A02 / Little Bull Run / Segment begins at the confluence with Lick Branch and continues downstream until the confluence with Bull Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 1.95 |
| VAN-A21R_LII02A02 / Little Bull Run / Segment begins at the confluence with Catharpin Creek and continues downstream until the confluence with Lick Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | L | 3.18 |

Little Bull Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.13 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-05-BAC Bull Run**

Cause Location: Begins at the confluence with Little Bull Run and continues downstream until the confluence with Youngs Branch.

Cause City/County: Fairfax County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1ABUL016.31 at Route 29/211.

A new TMDL is not required for this impaired segment of Bull Run because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_BUL01D08 / Bull Run / Segment begins at the confluence with Little Bull Run and continues downstream until the confluence with Youngs Branch. | 4A | Escherichia coli (E. coli) | 2016 | L | 4.02 |

Bull Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.02 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-06-BAC Unnamed Tributary to Bull Run**

Cause Location: Begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AXOB000.23 at Route 677.

A new TMDL is not required for this impaired segment of an unnamed tributary to Bull Run because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_XOB01A18 / Unnamed Tributary to Bull Run / Segment begins below the downstream pond near the headwaters and continues downstream to the confluence with Bull Run. | 4A | Escherichia coli (E. coli) | 2018 | L | 3.73 |

Unnamed Tributary to Bull Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.73 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A21R-07-BAC Little Bull Run**

Cause Location: Begins at the headwaters of Little Bull Run and continues downstream until the confluence with Catharpin Creek.

Cause City/County: Fauquier County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ALII006.75 at Route 676 (Catharpin Rd).

A new TMDL is not required for this impaired segment of Little Bull Run because the downstream Occoquan River bacteria TMDL (Fed ID 32109, 11/15/2006) included modeling, source identification, and reductions that covered the entire Little Bull Run watershed (Eq ID POL0410).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A21R_LII03A06 / Little Bull Run / Segment begins at the headwaters of Little Bull Run and continues downstream until the confluence with Catharpin Creek. | 4A | Escherichia coli (E. coli) | 2018 | L | 9.94 |

Little Bull Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.94 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-01-BAC Cub Run**

Cause Location: Begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available from DEQ station 1ACUB002.61 at Route 658 for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: The recreation use is assessed as impaired based on E. coli data from DEQ station 1ACUB002.61 at Route 658 (Compton Rd). There were two or more STV exceedances in at least one 90-day period with <10 samples.

2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACUB011.25 at Route 50 (John Mosby Hwy).

A new TMDL is not required for this impaired segment of Cub Run because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_CUB01A00 / Cub Run / Segment begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run. | 4A | Escherichia coli (E. coli) | 2006 | L | 6.90 |
| VAN-A22R_CUB02A02 / Cub Run / Segment begins at the confluence with an unnamed tributary to Cub Run at rivermile 13.23 (perennial headwaters) and continues downstream until the confluence with Elklick Run. | 4A | Escherichia coli (E. coli) | 2020 | L | 6.34 |

Cub Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 13.24 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-01-BEN Flatlick Branch**

Cause Location: Begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Four biological monitoring events in 2018 and 2019 at DEQ station 1AFLL000.88 at Route 620 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_FLL01A04 / Flatlick Branch / Segment begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 3.23 |

Flatlick Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.23 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-01-PCB Cub Run**

Cause Location: Begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: 2022 Assessment: Two exceedances of the water quality criterion based fish tissue value (TV) of 18 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in one species of fish (American eel) in samples collected during two sampling events in 2015 at DEQ station 1ACUB002.61.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_CUB01A00 / Cub Run / Segment begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run. | 5A | PCBs in Fish Tissue | 2018 | L | 6.9 |

Cub Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 6.9 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-02-BAC Elklick Run**

Cause Location: Begins at the confluence with an unnamed tributary to Elklick Run, approximately 0.65 rivermile downstream from the Route 620 crossing, and continues downstream until the confluence with Cub Run.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) at DEQ station 1AELC001.39 at Route 609.

A new TMDL is not required for this impaired segment of Elklick Run because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_ELC01A04 / Elklick Run / Segment begins at the confluence with an unnamed tributary to Elklick Run at the Fairfax County boundary, and continues downstream until the confluence with Cub Run. | 4A | Escherichia coli (E. coli) | 2006 | L | 2.53 |

Elklick Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.53 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-02-BEN Big Rocky Run**

Cause Location: Begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Four monitoring events in 2018 and 2019 at DEQ station 1ABIR000.76 at Route 29/211 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_BIR01A02 / Big Rocky Run / Segment begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 4.35 |

Big Rocky Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.35 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-03-BAC Flatlick Branch**

Cause Location: Begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (3 of 13 samples - 23.1%) at DEQ station 1AFLL000.88 at Route 620.

2020 Assessment: E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) at USGS station 01656903.

A new TMDL is not required for this impaired segment of Flatlick Branch because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_FLL01A04 / Flatlick Branch / Segment begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run. | 4A | Escherichia coli (E. coli) | 2014 | L | 3.23 |
| VAN-A22R_FLL02A14 / Flatlick Branch / Segment begins at the headwaters of Flatlick Run and continues downstream until the confluence with Frog Branch. | 4A | Escherichia coli (E. coli) | 2020 | L | 3.39 |

Flatlick Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.62 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-03-BEN Cub Run**

Cause Location: Begins at the confluence with an unnamed tributary to Cub Run at rivermile 13.23 and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County; Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: A total of four biological monitoring events in 2017 and 2018 at DEQ station 1ACUB002.61 at Route 658, a total of four biological monitoring events in 2017 and 2018 at DEQ station 1ACUB003.74 at Route 29/211, and a total of four biological monitoring events in 2017 and 2018 at DEQ station 1ACUB008.60 at Route 661 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_CUB01A00 / Cub Run / Segment begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 6.90 |
| VAN-A22R_CUB02A02 / Cub Run / Segment begins at the confluence with an unnamed tributary to Cub Run at rivermile 13.23 (perennial headwaters) and continues downstream until the confluence with Elklick Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | L | 6.34 |

Cub Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 13.24 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-04-BAC Big Rocky Run**

Cause Location: Begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABIR000.76 at Route 29/211 (Lee Hwy).

A new TMDL is not required for this impaired segment of Big Rocky Run because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_BIR01A02 / Big Rocky Run / Segment begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run. | 4A | Escherichia coli (E. coli) | 2014 | L | 4.35 |

Big Rocky Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.35 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-04-BEN Elklick Run**

Cause Location: Begins at the confluence with an unnamed tributary to Elklick Run, approximately 0.65 rivermile downstream from the Route 620 crossing, and continues downstream until the confluence with Cub Run.

Cause City/County: Fairfax County; Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Four monitoring events in 2018 and 2019 at DEQ station 1AELC001.39 at Route 609 and two biological monitoring events in 2017 at DEQ station 1AELC004.49, 0.76 mile upstream from Route 620, resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_ELC01A04 / Elklick Run / Segment begins at the confluence with an unnamed tributary to Elklick Run at the Fairfax County boundary, and continues downstream until the confluence with Cub Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2014 | L | 2.53 |
| VAN-A22R_ELC02A20 / Elklick Run / Segment begins at the headwaters and continues downstream to the confluence with an unnamed tributary to Elklick Run at the Fairfax County boundary. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | L | 4.34 |

Elklick Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.87 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-05-BAC Sand Branch**

Cause Location: Begins at the intermittent headwaters and continues downstream to the confluence with Cub Run.

Cause City/County: Fairfax County; Loudoun County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ASAN000.34 at Route 609 (Pleasant Valley Rd).

2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ASAN001.45 at Route 639 (Willard Rd).

A new TMDL is not required for this impaired segment of Sand Branch because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entre Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_SAN01A18 / Sand Branch / Segment begins at the headwaters and continues downstream to the confluence with Cub Run. | 4A | Escherichia coli (E. coli) | 2018 | L | 1.55 |

Sand Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.55 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A22R-05-BEN Sand Branch**

Cause Location: Begins at the intermittent headwaters and continues downstream to the confluence with Cub Run.

Cause City/County: Fairfax County; Loudoun County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Two biological monitoring events in 2020 at DEQ station 1ASAN000.34 at Route 609 (Pleasant Valley Road) and two biological monitoring events in 2020 at DEQ station 1ASAN001.45 at Route 639 (Willa Road Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A22R_SAN01A18 / Sand Branch / Segment begins at the headwaters and continues downstream to the confluence with Cub Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2018 | H | 1.55 |

Sand Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1.55 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-01-BAC Johnny Moore Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Johnny Moore Creek, approximately 0.13 rivermile downstream from Route 3546, and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AJOH002.42 at Route 658 (Compton Rd).

A new TMDL is not required for this impaired segment of Johnny Moore Creek because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entre Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_JOH01A02 / Johnny Moore Creek / Segment begins at the confluence with an unnamed tributary to Johnny Moore Creek, approximately 0.13 rivermile downstream from Route 3546, and continues downstream until the confluence with Bull Run. | 4A | Escherichia coli (E. coli) | 2020 | L | 4.35 |

Johnny Moore Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.35 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-01-BEN Bull Run**

Cause Location: Begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek.

Cause City/County: Fairfax County; Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2012 Assessment: Two biological monitoring events in 2005 at DEQ station 1ABUL009.61 (downstream of Route 28), one biological monitoring event in 2005 at DEQ station 1ABUL010.28 (at Route 28), and two biological monitoring events in 2005 at DEQ station 1ABUL011.12 (upstream of Route 616) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The Bull Run sediment TMDL (Eq ID POL0402) was approved by the EPA on 09/26/2006 (Fed ID 30362). The SWCB approved the TMDL on 06/27/2007.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_BUL02A02 / Bull Run / Segment begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1994 | L | 4.87 |

Bull Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.87 |

Sources: Post-development Erosion and Sedimentation; Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-02-BAC Popes Head Creek**

Cause Location: Begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (7 of 35 samples - 20.0%) at DEQ station 1APOE002.00 at Route 645.

The Occoquan River bacteria TMDL for the Popes Head Creek watershed (Eq ID POL0412) was approved by the EPA on 11/15/2006 (Fed ID 32107). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_POE01A00 / Popes Head Creek / Segment begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run. | 4A | Escherichia coli (E. coli) | 2004 | L | 5.64 |

Popes Head Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.64 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-02-BEN Popes Head Creek**

Cause Location: Begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: 2012 Assessment: Two biological monitoring events in 2005 at DEQ station 1APOE002.00 at Route 645 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

The Popes Head Creek sediment TMDL (Eq ID POL0403) was approved by the EPA on 09/26/2006 (Fed ID 30363). The SWCB approved the TMDL on 06/27/2007.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_POE01A00 / Popes Head Creek / Segment begins at the confluence with Piney Branch and continues downstream until the confluence with Bull Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 5.64 |

Popes Head Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.64 |

Sources: Post-development Erosion and Sedimentation; Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-03-BAC Little Rocky Run**

Cause Location: Begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 7 samples - 28.6%) at DEQ station 1ALIP001.00 at Route 658 (Compton Road).

A new TMDL is not required for this impaired segment of Little Rocky Run because the downstream Occoquan River bacteria TMDL (Fed ID 32110, 11/15/2006) included modeling, source identification, and reductions that covered the entire Bull Run watershed (Eq ID POL0411).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_LIP01A06 / Little Rocky Run / Segment begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 5.23 |

Little Rocky Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.23 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-03-BEN Little Rocky Run**

Cause Location: Begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Two biological monitoring events in 2018 at DEQ station 1aLIP001.00 at Route 658 (Compton Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_LIP01A06 / Little Rocky Run / Segment begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 5.23 |

Little Rocky Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.23 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-04-BAC Piney Branch**

Cause Location: Begins at the perennial headwaters and continues downstream until the confluence with Popes Head Creek.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at DEQ station 1APIY000.05 at Route 660.

A new TMDL is not required for this impaired segment of Piney Branch because the downstream Occoquan River bacteria TMDL (Fed ID 32107, 11/15/2006) included modeling, source identification, and reductions that covered the entire Popes Head Creek watershed (Eq ID POL0412).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_PIY01A02 / Piney Branch / Segment begins at the perennial headwaters and continues downstream until the confluence with Popes Head Creek. | 4A | Escherichia coli (E. coli) | 2020 | L | 3.54 |

Piney Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.54 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A23R-05-BAC Bull Run**

Cause Location: Begins at the confluence with Cub Run (at the start of watershed A23R) and continues downstream until the confluence with Popes Head Creek.

Cause City/County: Fairfax County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2022 assessment: The STV exceedance rate was greater than 10% in at least one 90-day period with 10+ samples and there were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ABUL010.28 at Route 28 (Centreville Rd).

The Occoquan River bacteria TMDL for the Bull Run watershed was approved by the EPA on 11/15/2006 (Fed ID 32110). The SWCB approved the TMDL on 07/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A23R_BUL02A02 / Bull Run / Segment begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek. | 4A | Escherichia coli (E. coli) | 2022 | L | 4.87 |

Bull Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.87 |

Sources: Grazing in Riparian or Shoreline Zones; Impacts from Land Application of Wastes; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sewage Discharges in Unsewered Areas; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A24L-01-PCB Occoquan Reservoir**

Cause Location: Segment includes the upper Bull Run arm of the Occoquan Reservoir; extending from rivermile 2.89 on Bull Run downstream until the crossing of the Route 612 (Yates Ford Road) bridge.

Cause City/County: Fairfax County; Prince William County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: The fish consumption use is categorized as impaired due to a Virginia Department of Health PCB fish consumption advisory. The advisory, dated 12/13/04 and modified 07/27/05, limits consumption of carp and channel catfish to no more than two meals per month. The affected area includes Bull Run near Manassas Park from the I-66 bridge downstream approximately fourteen miles to the Route 612 (Yates Ford Road) bridge.

Additionally, six previous exceedances of the water quality criterion based fish tissue value (TV) of 18 ppb for PCBs were recorded in two species of fish (channel catfish and carp) sampled in 2015 at DEQ station 1ABUL001.57.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A24L_OCC02A06 / Occoquan Reservoir / Segment includes the upper Bull Run arm of the Occoquan Reservoir; extending from rivermile 2.89 on Bull Run downstream until the crossing of the Route 612 (Yates Ford Road) bridge. | 5A | PCBs in Fish Tissue | 2006 | L | 63.12 |

Occoquan Reservoir

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | 63.12 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A24L-02-PCB Occoquan Reservoir**

Cause Location: Segment includes most of the Occoquan Reservoir; extending from rivermile 19.83 on the Occoquan River and rivermile 1.57 on Bull Run, at the crossing of the Route 612 bridge, downstream until the water supply dam of the Fairfax County Water Authority.

Cause City/County: Fairfax County; Prince William County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: 2022 Assessment: Five exceedances of the water quality criterion based fish tissue value (TV) of 18 parts per billion (ppb) for PCBs in fish tissue were recorded in two species of fish (channel catfish and American eel) sampled in 2015 at DEQ station 1AOCC008.80.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A24L_OCC01A02 / Occoquan Reservoir / Segment includes most of the Occoquan Reservoir; extending from rivermile 19.83 on the Occoquan River and rivermile 1.57 on Bull Run, at the crossing of the Route 612 bridge, downstream until the water supply dam of the Fairfax County Water Authority. | 5A | PCBs in Fish Tissue | 2018 | L | 1250.04 |

Occoquan Reservoir

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | 1250.04 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A24R-01-BAC Wolf Run**

Cause Location: Begins at the confluence with Maple Branch and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at DEQ station 1AWOL001.26 at Route 643.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A24R_WOL01A06 / Wolf Run / Segment begins at the confluence with Maple Branch and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir. | 5A | Escherichia coli (E. coli) | 2006 | L | 2.5 |

Wolf Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.5 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A24R-02-BAC Sandy Run**

Cause Location: Begins at the headwaters of Sandy Run and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ASAD001.76 at Cathedral Forest Drive.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A24R_SAD01A04 / Sandy Run / Segment begins at the boundary of the PWS designation, at rivermile 3.1 and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir. | 5A | Escherichia coli (E. coli) | 2008 | L | 1.95 |
| VAN-A24R_SAD01A10 / Sandy Run / Segment begins at the headwaters of Sandy Run and continues downstream until the boundary of the PWS designation, at rivermile 3.1. | 5A | Escherichia coli (E. coli) | 2008 | L | 4.14 |

Sandy Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.09 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A24R-02-BEN Hooes Run**

Cause Location: Begins at the outlet from Lake Omiscol and continues downstream until the beginning of the inundated waters of the Occoquan Reservoir.

Cause City/County: Prince William County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Two biological monitoring events in 2017 at DEQ station 1AHOO001.13 at Castile Court resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A24R_HOO01A02 / Hooes Run / Segment begins at the outlet from Lake Omiscol and continues downstream until the beginning of the inundated waters of the Occoquan Reservoir. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | L | 0.99 |

Hooes Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 0.99 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A24R-03-BAC Hooes Run**

Cause Location: Begins at the outlet from Lake Omiscol and continues downstream until the beginning of the inundated waters of the Occoquan Reservoir.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at DEQ station 1AHOO000.34 at Route 641 (Old Bridge Road).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A24R_HOO01A02 / Hooes Run / Segment begins at the outlet from Lake Omiscol and continues downstream until the beginning of the inundated waters of the Occoquan Reservoir. | 5A | Escherichia coli (E. coli) | 2012 | L | 0.99 |

Hooes Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 0.99 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25E-02-BAC Neabsco Creek**

Cause Location: Segment includes the tidal waters of Neabsco Bay, beginning at rivermile 1.37, downstream until the confluence with Occoquan Bay.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2022 assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ANEA000.57 at Rail Road Bridge.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25E_NEA01A00 / Neabsco Bay / Segment includes the tidal waters of Neabsco Bay, beginning at rivermile 1.37, downstream until the confluence with Occoquan Bay. Portion of CBP segment POTTF. | 5A | Escherichia coli (E. coli) | 2004 | L | 0.545 |

Neabsco Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.545 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25E-03-BAC Occoquan River**

Cause Location: Extends from the end of the free-flowing waters to 0.5 rivermile downstream of monitoring station 1aOCC006.64.

Cause City/County: Fairfax County; Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AOCC006.71 at Route 123 (Gordon Boulevard).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25E_OCC05A02 / Occoquan River / Segment extends from the end of the free-flowing waters to 0.5 rivermile upstream of monitoring station 1AOCC005.16. Portion of CBP segment POTTF. | 5A | Escherichia coli (E. coli) | 2014 | L | 0.086 |

Occoquan River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.086 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25E-04-BAC Marumsco Creek**

Cause Location: Includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AMAU001.16 at Featherstone Drive.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25E_MAU01A12 / Marumsco Creek / Segment includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay. Portion of CBP segment POTTF. | 5A | Escherichia coli (E. coli) | 2012 | L | 0.025 |

Marumsco Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | 0.025 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25E-04-EBEN Occoquan River**

Cause Location: Extends 0.5 mile around Coastal 2000 monitoring station 1aOCC002.62.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Estuarine Bioassessments/5A

Cause Description: 2008 Assessment: Coastal 2000 weight of evidence analysis for DEQ station 1aOCC002.62 (sampled in 2002), utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment were the primary factor for this determination.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25E_OCC03A04 / Belmont Bay (Occoquan River) / Segment extends 0.5 mile around Coastal 2000 monitoring station 1AOCC002.62 (coordinates 38.6382, -77.208). Portion of CBP segment POTTF. | 5A | Estuarine Bioassessments | 2006 | L | 0.286 |

Occoquan River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Estuarine Bioassessments - Total Impaired Size by Water Type: | 0.286 | | |

Sources: Agriculture; Atmospheric Deposition - Nitrogen; Industrial Point Source Discharge; Internal Nutrient Recycling; Loss of Riparian Habitat; Municipal Point Source Discharges; Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-01-BAC Neabsco Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Neabsco Creek, near Dale City and approximately 0.4 rivermile downstream from Route 784 (on the tributary) and continues downstream until the start of the tidal waters of Neabsco Bay.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ANEA002.89 at Route 1.

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ANEA007.65 at Darbydale Ave.

The Neabsco Creek bacteria TMDL was approved by EPA on 07/10/2008 (Federal ID 34830). The SWCB approved the TMDL on 04/28/2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_NEA01A00 / Neabsco Creek / Segment begins at the confluence with an unnamed tributary to Neabsco Creek, near Dale City and approximately 0.4 rivermile downstream from Route 784 (on the tributary) and continues downstream until the start of the tidal waters of Neabsco Bay. | 4A | Escherichia coli (E. coli) | 2024 | L | 9.42 |

Neabsco Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.42 |

Sources: Urban Runoff/Storm Sewers; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-01-BEN Giles Run**

Cause Location: Begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.

Cause City/County: Fairfax County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2016 Assessment: Two biological monitoring events in 2010 at DEQ station 1AGIL003.10 at Route 642 (Lorton Road) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_GIL01A04 / Giles Run / Segment begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 6.48 |

Giles Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.48 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-01-PCB Giles Run**

Cause Location: Begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: Polychlorinated biphenyls (PCBs)/4A

Cause Description: 2012 Assessment: Three exceedances of the human health criteria for total polychlorinated biphenyls (PCBs) in the water column were recorded in 2005 and 2006 at DEQ station 1AGIL000.70 at Route 611.

The Tidal Potomac River PCB TMDL for the Occoquan River watershed (Eq ID POL0476) was approved by the EPA on 10/31/2007 (Fed ID 35565). The SWCB approved the TMDL on 04/11/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_GIL01A04 / Giles Run / Segment begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek. | 4A | Polychlorinated biphenyls (PCBs) | 2010 | L | 6.48 |

Giles Run

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type: | | | 6.48 |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Upstream Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-02-BAC Mills Branch**

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

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AWLB000.06 at Occoquan Regional Park.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_WLB01A02 / Mills Branch / Segment begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River. Mills Branch, a channeled flow under the Lorton landfill, is an unnamed tributary on the Occoquan/Ft. Belvoir quads. | 5A | Escherichia coli (E. coli) | 2014 | L | 1.72 |

Mills Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.72 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-02-PCB Mills Branch**

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

Cause City/County: Fairfax County

Use(s): Fish Consumption

Causes(s)/VA Category: Polychlorinated biphenyls (PCBs)/4A

Cause Description: 2012 Assessment: Two exceedances of the human health criteria for total polychlorinated biphenyls (PCBs) in the water column were recorded in 2006 at DEQ station 1AWLB000.06 at Occoquan Regional Park.

The Tidal Potomac River PCB TMDL for the Occoquan River watershed (Eq ID POL0476) was approved by the EPA on 10/31/2007 (Fed ID 35565). The SWCB approved the TMDL on 04/11/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_WLB01A02 / Mills Branch / Segment begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River. Mills Branch, a channeled flow under the Lorton landfill, is an unnamed tributary on the Occoquan/Ft. Belvoir quads. | 4A | Polychlorinated biphenyls (PCBs) | 2010 | L | 1.72 |

Mills Branch

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type: | | | 1.72 |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Upstream Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-03-BAC Giles Run**

Cause Location: Begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.

Cause City/County: Fairfax County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AGIL000.85 at Route 1.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_GIL01A04 / Giles Run / Segment begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek. | 5A | Escherichia coli (E. coli) | 2014 | L | 6.48 |

Giles Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.48 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-04-BAC Marumsco Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Marumsco Creek, just upstream from Easy Street, and continues downstream until the end of the free-flowing waters.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (5 of 11 samples - 45.5%) at DEQ station 1AMAU001.67 at Route 1 (Jefferson Davis Highway).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_MAU01A04 / Marumsco Creek / Segment begins at the confluence with an unnamed tributary to Marumsco Creek, just upstream from Easy Street, and continues downstream until the end of the free-flowing waters. | 5A | Escherichia coli (E. coli) | 2014 | L | 0.54 |

Marumsco Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 0.54 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-05-BAC Unnamed Tributary to Occoquan River**

Cause Location: Begins at the headwaters of an unnamed tributary and continues downstream until the confluence with the Occoquan River.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at DEQ station 1AXMK000.37 at Route 2100.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_XMK01A16 / Unnamed Tributary to Occoquan River / Segment begins at the headwaters of an unnamed tributary and continues downstream until the confluence with the Occoquan River. | 5A | Escherichia coli (E. coli) | 2016 | L | 1.11 |

Unnamed Tributary to Occoquan River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.11 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A25R-06-BAC Cow Branch**

Cause Location: Begins at the headwaters of Cow Branch, and continues downstream to the confluence with the estuarine portion of Neabsco Bay.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1ACWB000.56 at Route 638 (Blackburn Rd).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A25R_CWB01A12 / Cow Branch / Segment begins at the headwaters of Cow Branch, and continues downstream to the confluence with the estuarine portion of Neabsco Bay. | 5A | Escherichia coli (E. coli) | 2020 | L | 3.99 |

Cow Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.99 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A26L-01-HG Lake Montclair**

Cause Location: Includes all of Lake Montclair.

Cause City/County: Prince William County

Use(s): Fish Consumption

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

Cause Description: 2012 Assessment: Nine exceedances of the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded in three species of fish (largemouth bass, channel catfish, and black crappie) collected in 2006 at station 1APOW009.08.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26L_POW01A06 / Lake Montclair / Segment includes all of Lake Montclair. | 5A | Mercury in Fish Tissue | 2010 | L | 103.54 |

Lake Montclair

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Mercury in Fish Tissue - Total Impaired Size by Water Type: | | 103.54 | |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A26L-01-PCB Lake Montclair**

Cause Location: Includes all of Lake Montclair.

Cause City/County: Prince William County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A

Cause Description: 2010 Assessment: Exceedances of the water quality criterion based fish tissue value (TV) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in 2004 and 2006 in three species of fish (carp (2004), brown bullhead catfish (2004), and channel catfish (2004, 2006)) collected at station 1APOW009.08.

The Tidal Potomac River PCB TMDL for the Powells Creek watershed (Eq ID POL0481) was approved by the EPA on 10/31/2007 (Fed ID 34374). The SWCB approved the TMDL on 04/11/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26L_POW01A06 / Lake Montclair / Segment includes all of Lake Montclair. | 4A | PCBs in Fish Tissue | 2010 | L | 103.54 |

Lake Montclair

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | 103.54 | |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Source Unknown; Upstream Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A26R-01-CU Quantico Creek**

Cause Location: Begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay.

Cause City/County: Prince William County

Use(s): Aquatic Life; Wildlife

Causes(s)/VA Category: Copper/5A

Cause Description: 2022 assessment: Two exceedances of the freshwater chronic criterion and three exceedances of the freshwater acute criterion were recorded within a three year period (2015-2018) at DEQ stations 1AQUA004.20 at Route 1 and 1AQUA004.88 at Van Buren Road.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26R_QUA01A00 / Quantico Creek / Segment begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay. | 5A | Copper | 2020 | L | 1.47 |

Quantico Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Copper - Total Impaired Size by Water Type: | | | 1.47 |

Quantico Creek

| **Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Copper - Total Impaired Size by Water Type: | | | 1.47 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A26R-02-BAC Powells Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Powells Creek, at rivermile 12.77 and continues downstream until the end of the free-flowing waters of Powells Creek, however does not include Lake Montclair and the first 0.2 rivermiles below the lake.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions at DEQ station 1APOW003.11 at Route 1 (3 of 13 samples - 23.1%) and at DEQ station 1APOW009.99 at Route 643 (4 of 11 samples - 36.4%).

The Potomac River Tributaries bacteria TMDL for the Powells Creek watershed (Eq ID 766) was approved by the EPA on 09/26/2013 (Fed ID 53801). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26R_POW01A00 / Powells Creek / Segment begins approximately 0.2 rivermiles below Lake Montclair and continues downstream until the end of the free-flowing waters of Powells Creek. | 4A | Escherichia coli (E. coli) | 2006 | L | 5.37 |
| VAN-A26R_POW02A02 / Powells Creek / Segment begins at the confluence with an unnamed tributary to Powells Creek, at rivermile 12.77, and continues downstream until the beginning of Lake Montclair. | 4A | Escherichia coli (E. coli) | 2014 | L | 3.91 |

Powells Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.28 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A26R-03-BAC Quantico Creek**

Cause Location: Begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: Insufficient E. coli data were available for the 2024 assessment from DEQ station 1AQUA004.46 (there was one STV exceedance in one or multiple 90-day periods but there were insufficient data to analyze geomean). The following information is carried over from the 2020 assessment: Sufficient excursions from the maximum E. coli bacteria criterion (11 of 35 samples - 31.4%) were recorded at DEQ station 1AQUA004.46 at Route 1 Business to assess this stream segment as not supporting the recreation use.

The Potomac River Tributaries bacteria TMDL for the Powells Creek watershed (Eq ID 768) was approved by the EPA on 09/26/2013 (Fed ID 53797). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26R_QUA01A00 / Quantico Creek / Segment begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay. | 4A | Escherichia coli (E. coli) | 2004 | L | 1.47 |

Quantico Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.47 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A26R-04-BAC North Branch Chopawamsic Creek**

Cause Location: Begins at the headwaters of North Branch Chopawamsic Creek and continues downstream until the confluence with Middle Branch.

Cause City/County: Prince William County; Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ANOR009.87 at the MCB-1 bridge crossing.

The Potomac River Tributaries bacteria TMDL for the North Branch Chopawamsic Creek watershed (Eq ID 769) was approved by the EPA on 09/26/2013 (Fed ID 53788). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26R_NOR01A02 / North Branch Chopawamsic Creek / Segment begins at the headwaters of North Branch Chopawamsic Creek and continues downstream until the confluence with Middle Branch. | 4A | Escherichia coli (E. coli) | 2004 | L | 7.26 |

North Branch Chopawamsic Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.26 |

Sources: Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Sanitary Sewer Overflows (Collection System Failures); Urban Runoff/Storm Sewers; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A26R-05-BAC South Fork Quantico Creek**

Cause Location: Begins at the headwaters of the South Fork Quantico Creek and continues downstream until the start of the impounded waters, adjacent to what is labeled as Mawavi Camp No 2 on the Joplin quad.

Cause City/County: Prince William County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2020 assessment: E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) at DEQ station 1ASOQ006.73 at Route 619.

The Potomac River tributaries bacteria TMDL for the South Fork Quantico Creek watershed (Eq ID 767) was approved by the EPA on 09/26/2013 (Fed ID 53796). The SWCB approved the TMDL on 04/04/2014

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26R_SOQ01B02 / South Fork Quantico Creek / Segment begins at the headwaters of the South Fork Quantico Creek and continues downstream until the start of the impounded waters, adjacent to what is labeled as Mawavi Camp No 2 on the Joplin quad. | 4A | Escherichia coli (E. coli) | 2004 | L | 4.82 |

South Fork Quantico Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.82 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A26R-07-BAC Unnamed tributary to Potomac River**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream until its confluence with the Potomac River

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2018 Assessment: E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) at DEQ station 1AXLF000.13 at Route 633 (Arkendale Road).

The Potomac River tributaries bacteria TMDL for the Unnamed Tributary (XLF) watershed (Eq ID 770) was approved by the EPA on 09/26/2013 (Fed ID 53790). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26R_XLF01A10 / Unnamed tributary to Potomac River / Segment begins at the headwaters of the unnamed tributary and continues downstream until its confluence with the Potomac River. | 4A | Escherichia coli (E. coli) | 2010 | L | 3.67 |

Unnamed tributary to Potomac River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.67 |

Sources: Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Urban Runoff/Storm Sewers; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A26R-08-BAC South Branch Chopawamsic Creek**

Cause Location: Begins at the headwaters of the South Branch Chopawamsic Creek, and continues downstream to the inundated waters of the Breckenridge Reservoir.

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ASOB001.80 at MCB-1.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A26R_SOB01A12 / South Branch Chopawamsic Creek / Segment begins at the headwaters of the South Branch Chopawamsic Creek, and continues downstream to the inundated waters of the Breckenridge Reservoir. | 5A | Escherichia coli (E. coli) | 2018 | L | 4.66 |

South Branch Chopawamsic Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.66 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A27R-01-BAC Aquia Creek**

Cause Location: Begins at the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610, and continues downstream until Smith Lake (Aquia Reservoir).

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (6 of 34 samples - 17.6%) at DEQ station 1AAUA014.51 at Route 641.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A27R_AUA01A00 / Aquia Creek / Segment begins at the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610, and continues downstream until Smith Lake (Aquia Reservoir). | 5A | Escherichia coli (E. coli) | 2006 | L | 6.36 |

Aquia Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.36 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A27R-01-DO Unnamed tributary to Aquia Creek**

Cause Location: Begins at the headwaters of the unnamed tributary and continues downstream until its confluence with Aquia Creek.

Cause City/County: Stafford County

Use(s): Aquia Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: 2014 Assessment: Excursions less than the minimum dissolved oxygen criterion (4 of 16 samples - 25.0%) at citizen station 1AXLN-SCVDOT-ALL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A27R_XLN01A10 / Unnamed tributary to Aquia Creek / Segment begins at the headwaters of the unnamed tributary and continues downstream until its confluence with Aquia Creek. | 5A | Dissolved Oxygen | 2010 | L | 2.25 |

Unnamed tributary to Aquia Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 2.25 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A27R-02-BAC Aquia Creek**

Cause Location: Begins at the headwaters of Aquia Creek and continues downstream until the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610.

Cause City/County: Fauquier County; Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) at DEQ station 1AAUA023.09 at Route 644.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A27R_AUA02A02 / Aquia Creek / Segment begins at the headwaters of Aquia Creek and continues downstream until the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610. | 5A | Escherichia coli (E. coli) | 2012 | L | 8.82 |

Aquia Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 8.82 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A28E-01-HAB Aquia Creek**

Cause Location: Shoreline of Aquia Creek at Widewater State Park and location of VDH HAB station 1AAUA-WSPHAB-VDH.

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Harmful Algal Blooms/5A

Cause Description: The recreation use is assessed as impaired based on a 2021 Virginia Department of Health harmful algae bloom (HAB) swim advisory for the shoreline of Aquia Creek at Widewater State Park that was confirmed through follow-up sampling.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A28E_AUA01B22 / Aquia Creek / Segment includes shoreline of Aquia Creek at Widewater State Park and location of VDH HAB station 1AAUA-WSPHAB-VDH. Portion of CBP segment POTOH. | 5A | Harmful Algal Blooms | 2022 | L | 0.041 |

Aquia Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Harmful Algal Blooms - Total Impaired Size by Water Type: | 0.041 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A28R-01-BAC Austin Run**

Cause Location: Begins at the confluence with an unnamed tributary to Austin Run, just upstream of the Route 1 crossing, and continues downstream until the confluence with Aquia Creek.

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) at DEQ station 1AAUS000.49 at the end of Aquia Drive.

There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AAUS001.60 at Route 1.

The Potomac River tributaries bacteria TMDL for the Austin Run watershed (Eq ID 771) was approved by the EPA on 09/26/2013 (Fed ID 53793). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A28R_AUS01A04 / Austin Run / Segment begins at the confluence with an unnamed tributary to Austin Run (streamcode XGQ) and continues downstream until the confluence with Aquia Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 0.85 |
| VAN-A28R_AUS02A06 / Austin Run / Segment begins at the confluence with an unnamed tributary to Austin Run, just upstream of the Route 1 crossing, and continues downstream until the confluence with another unnamed tributary to Austin Run (streamcode XGQ). | 4A | Escherichia coli (E. coli) | 2014 | L | 0.70 |

Austin Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.55 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A29E-01-PH Potomac Creek**

Cause Location: Segment extends from rivermile 1.91 until rivermile 1.09 along Potomac Creek and includes the lower portion of the Accokeek Creek arm of Potomac Creek, approximately 0.35 rivermile upstream.

Cause City/County: King George County; Stafford County

Use(s): Aquatic Life

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

Cause Description: 2014 Assessment: Sufficient excursions greater than the upper limit of the pH criterion range were recorded at continuous monitoring station 1APOM-000.97-VIMS (69 of 606 observations, 11.4%).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29E_POM01B06 / Potomac Creek / Segment extends from rivermile 1.91 until rivermile 1.09 along Potomac Creek. Portion of CBP segment POTOH. | 5A | pH | 2014 | L | 0.587 |

Potomac Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | 0.587 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A29E-02-BAC Fairview Beach (Potomac River)**

Cause Location: Includes all of Fairview Beach on the Potomac River.

Cause City/County: King George County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/5R

Cause Description: Virginia Department of Health bacteria beach monitoring program station VA351214 at Fairview Beach: The geomean was exceeded in at least one 90-day period.

The Fairview Beach bacteria Watershed Plan has been completed and approved; Category 5R was approved by the EPA on 03/31/2015.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29E_POT01A06 / Fairview Beach/Potomac River / Segment includes all of Fairview Beach on the Potomac River. Portion of CBP segment POTOH. | 5R | Enterococcus | 2006 | L | 0.005 |

Fairview Beach (Potomac River)

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.005 | | |

Sources: Sediment Resuspension (Contaminated Sediment); Unspecified Domestic Waste; Unspecified Urban Stormwater; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A29E-02-PH Mallows Marsh**

Cause Location: Mallows Marsh within Caledon State Park

Cause City/County: King George County

Use(s): Aquatic Life

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

Cause Description: Excursions less than the lower limit of the pH criterion range (4 of 17 samples - 23.5%) at citizen monitoring station 1AMAM-CSPMM-ALL.

The pH excursions may be attributable to natural conditions as this segment is in a low-lying coastal plain environment that is subject to low pH.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29E_MAM01A24 / Mallows Marsh / Segment includes Mallows Marsh within Caledon State Park. | 5C | pH | 2024 | L | 0.002 |

Mallows Marsh

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | 0.002 | | |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A29E-03-BAC Chotank Creek**

Cause Location: Includes the tidal portion of Chotank Creek, from its headwaters until the fire road crossing inside of Caledon State Park.

Cause City/County: King George County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/5A

Cause Description: 2016 Assessment: Enterococcus bacteria criterion excursions (3 of 12 samples - 25.0%) at DEQ station 1ACHN002.97 at the fire road in Caledon State Park.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29E_CHN02A10 / Chotank Creek / Segment includes the tidal portion of Chotank Creek, from its headwaters until the fire road crossing inside of Caledon State Park. Portion of CBP segment POTOH. | 5A | Enterococcus | 2012 | L | 0.054 |

Chotank Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.054 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A29L-01-PH Curtis Lake**

Cause Location: Includes all of Curtis Lake.

Cause City/County: Stafford County

Use(s): Aquatic Life

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

Cause Description: 2022 Assessment: Exceedances of the upper limit of the criterion range (5 of 36 samples - 13.9%) at DEQ lake monitoring station 1ALOH007.93 (lacustrine), one hundred feet from the dam.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29L_LOH02A02 / Curtis Lake / Segment includes all of Curtis Lake. | 5C | pH | 2022 | L | 86.14 |

Curtis Lake

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | 86.14 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A29R-01-BAC Accokeek Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Accokeek Creek, approximately 0.33 rivermile downstream from Route 1 at rivermile 8.62, and continues downstream until the end of the free-flowing waters.

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AACC006.13 at Route 608 (Brooke Rd).

The Potomac River tributaries bacteria TMDL for the Accokeek Creek watershed (Eq ID 772) was developed and approved by the EPA on 09/26/2013 (Fed ID 53785). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29R_ACC01A00 / Accokeek Creek / Segment begins at the confluence with an unnamed tributary to Accokeek Creek (rivermile 8.62), approximately 0.33 rivermile downstream from Route 1, and continues downstream until the end of the free-flowing waters. | 4A | Escherichia coli (E. coli) | 2002 | L | 4.48 |

Accokeek Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.48 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A29R-01-BEN Unnamed tributary to Long Branch**

Cause Location: Begins at the headwaters of an unnamed tributary to Long Branch and continues downstream until the confluence with Long Branch, at rivermile 3.58.

Cause City/County: Stafford County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: 2020 Assessment: Two biological monitoring events in 2014 at DEQ station 1AXLB000.05 (0.05 mile upstream of confluence with Long Branch) resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29R_XLB01A08 / Unnamed tributary to Long Branch / Segment begins at the headwaters of an unnamed tributary to Long Branch and continues downstream until the confluence with Long Branch, at rivermile 3.58. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | L | 2.3 |

Unnamed tributary to Long Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.3 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A29R-02-BAC Potomac Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Potomac Creek, at rivermile 9.12, and continues downstream until the east end of swamp.

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2016 Assessment: E. coli bacteria criterion excursions (2 of 8 samples - 25.0%) at DEQ station 1APOM006.72 at Route 608.

2018 Assessment: E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at DEQ station 1APOM008.24 at Route 626.

The Potomac River tributaries bacteria TMDL for the Potomac Creek watershed (Eq ID 774) was approved by the EPA on 09/26/2013 (Fed ID 53786). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29R_POM01A00 / Potomac Creek / Segment begins at the railroad crossing at the west end of swamp, upstream from Route 608, and continues downstream until the east end of swamp. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.18 |
| VAN-A29R_POM02A06 / Potomac Creek / Segment begins at the confluence with an unnamed tributary to Potomac Creek, at rivermile 9.12, and continues downstream until the railroad crossing at the west end of swamp, upstream from Route 608. | 4A | Escherichia coli (E. coli) | 2014 | L | 1.92 |

Potomac Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.1 |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A29R-02-BEN Potomac Run**

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

Cause City/County: Stafford County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: Two biological monitoring events in 2018 at DEQ station 1APOR000.52 at approximately 0.1 mile upstream from Route 648 resulted in a VSCI assessment that indicates an impaired macroinvertebrate community.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29R_POR01A06 / Potomac Run / Segment begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2020 | L | 6.6 |

Potomac Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.6 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A29R-03-BAC Potomac Run**

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

Cause City/County: Stafford County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: 2022 Assessment: There were two or more STV exceedances in at least one 90-day period with <10 samples at DEQ station 1APOR000.40 at Route 648 (Stefaniga Rd).

The Potomac River tributaries bacteria TMDL for the Potomac Run watershed (Eq ID 773) was approved by the EPA on 09/26/2013 (Fed ID 53792). The SWCB approved the TMDL on 04/04/2014.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29R_POR01A06 / Potomac Run / Segment begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch. | 4A | Escherichia coli (E. coli) | 2006 | L | 6.6 |

Potomac Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.6 |

Sources: Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Runoff from Forest/Grassland/Parkland; Urban Runoff/Storm Sewers; Wastes from Pets; Waterfowl; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: A29R-05-BAC Dirt Bridge Run**

Cause Location: Begins at the confluence of two unnamed tributaries and continues downstream until the confluence with Passapatanzy Creek.

Cause City/County: King George County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: 2020 Assessment: E. coli bacteria criterion excursions (2 of 10 samples 20.0%) at DEQ station 1ADBR001.37 at Route 218.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A29R_DBR01A10 / Dirt Bridge Run / Segment begins at the confluence of two unnamed tributaries and continues downstream until the confluence with Passapatanzy Creek. | 5A | Escherichia coli (E. coli) | 2018 | L | 1.82 |

Dirt Bridge Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.82 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A30E-01-BAC Williams Creek**

Cause Location: Begins at the head of tide of Williams Creek and continues downstream until the extent of the Section C area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, effective May 15, 2012.

Cause City/County: King George County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: 2014 Assessment: Enterococcus bacteria criterion excursions (3 of 11 samples - 27.3%) at DEQ station 1AWLL001.30 at Route 206 and excursions (4 of 6 samples - 66.7%) at DEQ station 1AWLL002.21 at Route 301.

A new TMDL is not required for this impaired segment of Williams Creek because the Upper Machodoc Creek Watershed bacteria TMDL (Fed ID 36032, 12/18/2008) included modeling, source identification, and reductions that covered the entire watershed (Eq ID POL0443).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_WLL01B10 / Williams Creek / The downstream portion of the boundary of the admin condemnation area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Enterococcus | 2010 | L | 0.113 |
| VAN-A30E_WLL02A02 / Williams Creek / The upstream portion of the boundary of the admin condemnation area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Enterococcus | 2010 | L | 0.022 |

Williams Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.134 | | |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A30E-01-EBEN Upper Machodoc Creek**

Cause Location: Upstream portion of Upper Machodoc Creek described in VDH Shellfish Area Condemnation 001A-36, Section D, effective June 15, 2019, wherein the administrative condemnation applies.

Cause City/County: King George County

Use(s): Aquatic Life

Causes(s)/VA Category: Estuarine Bioassessments/5A

Cause Description: Coastal 2000 weight of evidence analysis at station 1aUMC003.09 (sampled 2019), utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use; there was strong evidence for pollution-induced degradation.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the admin condemnation boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022 Portion of CBP segment POTMH. | 5A | Estuarine Bioassessments | 2022 | L | 0.464 |
| VAN-A30E_UMC05B24 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within admin condemnation described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022; portion where deep-water and deep-channel uses do not apply in CBP segment POTMH. | 5A | Estuarine Bioassessments | 2022 | L | 0.002 |

Upper Machodoc Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Estuarine Bioassessments - Total Impaired Size by Water Type: | 0.465 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A30E-01-PCB Coan River, Monroe Creek, Upper Machodoc Creek**

Cause Location: Includes the tidal portions of the following tributaries from the Potomac River Bridge at Route 301 to the mouth of the Potomac River near Smith Point: Upper Machodoc Creek, Monroe Creek, and Coan River.

Cause City/County: King George County; Northumberland County; Westmoreland County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A

Cause Description: The fish consumption use is categorized as impaired due to a Virginia Department of Health PCB fish consumption advisory. The advisory, dated 12/13/2004, limits consumption of channel catfish, gizzard shad, and white perch to no more than two meals per month.

Ten exceedances of the water quality criterion based fish tissue value (TV) of 18 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in six species of fish (channel catfish, gizzard shad, white perch, mummichog, spot, and croaker) sampled in 2004 and three exceedances in three species of fish (blue catfish, white perch, and gizzard shad) sampled in 2018 at DEQ station 1aUMC001.36. Five exceedances of the water quality criterion based fish tissue value (TV) of 18 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in four species of fish (channel catfish, gizzard shad, spot, and bluefish) sampled in 2004 and in one species of fish (gizzard shad) sampled in 2018 at DEQ station 1aUMC004.43.

The Tidal Potomac River PCB TMDL for the Upper Machodoc Creek watershed (Eq ID POL0483) was approved by the EPA on 10/31/2007 (Fed ID 35068). The SWCB approved the TMDL on 04/11/2008.

Monroe Creek was assessed as not supporting of the Fish Consumption Use in the 2004 cycle based on exceedances of the tissue screening level for PCBs in white perch and gizzard shad in 2001 at 1AMON002.49. Additional sampling at 1AMON002.60 in 2008 indicated PCBs in white perch, channel catfish, blue crab and gizzard shad. VDH issued a Fish Consumption Advisory for Monroe Creek on 12/13/2004 due to PCB contamination in gizzard shad, white perch, and channel catfish. The "Total Maximum Daily Loads of Polychlorinated Biphenyls (PCBs) for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia" report was approved on 10/30/2007 and by the SWCB on 4/11/2007. The segment is considered a Category 4A water. Monitoring in 2018 at station 1AMON002.49 indicated continued PCB exceedances in blue catfish, blue crab, gizzard shad, and striped bass.

The Coan River was assessed as impaired of the Fish Consumption Use in the 2006 cycle due to a VDH Fish Consumption Advisory (12/13/2004) for PCBs in gizzard shad, white perch, and channel catfish. This was influenced by an exceedance of the fish tissue value in one sp. in 2004 at 1ACOA04.24. The impairment was confirmed with exceedances of the Human Health criteria in SPMD samples in 2005. The TMDL was completed as a part of the Potomac River Basin PCB TMDL, which was approved by the EPA on 10/30/2007 and by the SWCB on 4/11/2008. The segment is considered a Category 4A water. Additional monitoring indicated exceedance of the fish tissue value in gizzard shad in 2018 at 1ACOA004.24.

The "Total Maximum Daily Loads of Polychlorinated Biphenyls (PCBs) for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia" report was approved on 10/30/2007 and by the SWCB on 4/11/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_UMC01A02 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek within the condemned boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section F, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.027 |
| VAN-A30E_UMC01B06 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek within the condemned boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.058 |
| VAN-A30E_UMC02A04 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek within the condemned boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section B, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.028 |
| VAN-A30E_UMC03A04 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek (near Williams Creek) within the administrative condemnation boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section D, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.043 |
| VAN-A30E_UMC03B10 / Upper Machodoc Creek / Segment includes the area of UMC described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section M1, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.049 |
| VAN-A30E_UMC04A10 / Upper Machodoc Creek / Segment includes main body of tidal Upper Machodoc Creek not included in the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 15, 2022. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2004 | L | 0.699 |
| VAN-A30E_UMC04B24 / Upper Machodoc Creek / Segment includes the portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022, from Howland Point to the main body of tidal UMC not described in VDH Condemnation. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.143 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_UMC04C06 / Upper Machodoc Creek / Segment includes the portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022, from near the end of Shoreline Drive downstream to Howland Point. Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2006 | L | 0.419 |
| VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the admin condemnation boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022 Portion of CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2004 | L | 0.464 |
| VAN-A30E_UMC05B24 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within admin condemnation described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022; portion where deep-water and deep-channel uses do not apply in CBP segment POTMH. | 4A | PCBs in Fish Tissue | 2004 | L | 0.002 |
| VAP-A31E_MON01A00 / Monroe Creek/Monroe Bay / Prohibited area around STP outfall as described in VDH shellfish condemnation 002-001D, 5/15/2022 | 4A | PCBs in Fish Tissue | 2004 | L | 0.176 |
| VAP-A31E_MON02A98 / Monroe Bay / Administratively condemned portion of VDH condemnation notice 002-001A, 5/15/2022 POTMH | 4A | PCBs in Fish Tissue | 2004 | L | 0.355 |
| VAP-A31E_MON03A98 / Monroe Bay / Portion of VDH condemnation notice 002-001A, 5/15/2022 not administratively condemned POTMH | 4A | PCBs in Fish Tissue | 2004 | L | 0.172 |
| VAP-A31E_MON03B16 / Monroe Bay / Described in VDH condemnation notice 002-001M1, 5/15/2022. POTMH | 4A | PCBs in Fish Tissue | 2004 | L | 0.063 |
| VAP-A31E_MON04A00 / Monroe Bay / Downstream of VDH-DSS condemnation 002-001M1, 5/15/2022. Extent adjusted slightly in the 2024 cycle. POTMH | 4A | PCBs in Fish Tissue | 2004 | L | 0.189 |
| VAP-A31E_MON05A04 / Monroe Bay / Described in VDH Condemnation 002-001C, 5/15/2022. POTMH | 4A | PCBs in Fish Tissue | 2004 | L | 0.002 |
| VAP-A34E_COA01A02 / Coan River / Portion of VDH-DSS Condemnation Notice 008-214S6, 3/15/2022 not included on SFC 145, 2/23/1997. Size reduced in the 2024 cycle. POTMH | 4A | PCBs in Fish Tissue | 2006 | L | 0.024 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COA01A98 / Coan River / Coan River portion of VDH-DSS Condemnation 145I, 2/25/1997 which is within 008-214A, 3/15/2022. Expanded in the 2024 cycle. POTMH | 4A | PCBs in Fish Tissue | 2006 | L | 0.333 |
| VAP-A34E_COA01B16 / Coan River / Portion of VDH-DSS Condemnation Notice 145I, 2/25/1997 not condemned in 008-214, 3/15/2022. Shrank in the 2024 cycle. POTMH | 4A | PCBs in Fish Tissue | 2006 | L | 0.017 |
| VAP-A34E_COA02A02 / Coan River / Tidal Coan River from rivermile 2.37 to its mouth at the Potomac. POTMH | 4A | PCBs in Fish Tissue | 2006 | L | 2.173 |
| VAP-A34E_COA02B20 / Coan River / From the downstream boundary of SFC 008-214S6, 3/15/2022 to rivermile 2.37. POTMH | 4A | PCBs in Fish Tissue | 2006 | L | 0.532 |

Coan River, Monroe Creek, Upper Machodoc Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | 5.966 | | |

Sources: Atmospheric Deposition - Toxics; Combined Sewer Overflows; Contaminated Sediments; Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial Point Source Discharge; Municipal Point Source Discharges; Non-Point Source; Upstream Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A30E-03-SF Upper Machodoc Creek**

Cause Location: The downstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation 001A-36, Section D, effective June 15, 2019, and continuing until the open embayment of Upper Machodoc Creek.

Cause City/County: King George County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: The shellfishing use is categorized as impaired due to Section D of the Virginia Department of Health Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated May 15, 2022: "It shall be unlawful for any person, firm, or corporation to take shellfish from these areas for any purpose, except by permit granted by the Marine Resources Commission, as provided in °28.2-810 of the Code of Virginia."

The Upper Machodoc Creek Watershed (Eq ID POL0444) shellfish bacteria TMDL was approved by the EPA on 12/18/2008 (Fed ID 36028). The SWCB approved the TMDL on 07/27/2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_UMC04B24 / Upper Machodoc Creek / Segment includes the portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022, from Howland Point to the main body of tidal UMC not described in VDH Condemnation. Portion of CBP segment POTMH. | 4A | Fecal Coliform | 2012 | L | 0.143 |
| VAN-A30E_UMC04C06 / Upper Machodoc Creek / Segment includes the portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022, from near the end of Shoreline Drive downstream to Howland Point. Portion of CBP segment POTMH. | 4A | Fecal Coliform | 2012 | L | 0.419 |

Upper Machodoc Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Shellfishing** | | | |
| Fecal Coliform - Total Impaired Size by Water Type: | 0.562 | | |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A30R-01-DO Pepper Mill Creek**

Cause Location: Begins at the headwaters of Pepper Mill Creek and continues downstream until its confluence with Upper Machodoc Creek.

Cause City/County: King George County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: 2014 Assessment: Excursions less than the minimum dissolved oxygen criterion (2 of 14 samples - 14.3%) at DEQ station 1APEP001.58 at Route 206.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30R_PEP01A10 / Pepper Mill Creek / Segment begins at the headwaters of Pepper Mill Creek and continues downstream until the confluence with Upper Machodoc Creek. | 5C | Dissolved Oxygen | 2010 | L | 8.67 |

Pepper Mill Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 8.67 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A30R-01-PH Pepper Mill Creek**

Cause Location: Begins at the headwaters of Pepper Mill Creek and continues downstream until its confluence with Upper Machodoc Creek.

Cause City/County: King George County

Use(s): Aquatic Life

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

Cause Description: 2014 Assessment: Excursions less than the lower limit of the pH criterion range (3 of 14 samples - 21.4%) at DEQ station 1APEP001.58 at Route 206.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30R_PEP01A10 / Pepper Mill Creek / Segment begins at the headwaters of Pepper Mill Creek and continues downstream until the confluence with Upper Machodoc Creek. | 5C | pH | 2010 | L | 8.67 |

Pepper Mill Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Aquatic Life** | | | |
| pH - Total Impaired Size by Water Type: | | | 8.67 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A30R-02-BAC Upper Machodoc Creek**

Cause Location: Includes the upstream portion of UMC within the boundaries described in VDH Shellfish Area Condemnation 001A-36, Section D, effective May 07, 2013. Portion of CBP segment POTMH.

Cause City/County: King George County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: 2022 assessment: There were two or more Enterococcus STV exceedances in at least one 90-day period with <10 samples at DEQ station 1AUMC004.43.

A new bacteria TMDL is not required for this impaired segment because the Upper Machodoc Creek Watershed shellfish TMDL (Fed ID 36028, 12/18/2008) included modeling, source identification, and reductions for bacteria that covered the entire Upper Machodoc Creek watershed (Eq ID POL0444).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the admin condemnation boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022 Portion of CBP segment POTMH. | 4A | Enterococcus | 2006 | L | 0.464 |
| VAN-A30E_UMC05B24 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within admin condemnation described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022; portion where deep-water and deep-channel uses do not apply in CBP segment POTMH. | 4A | Enterococcus | 2006 | L | 0.002 |

Upper Machodoc Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.465 | | |

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

## Potomac and Shenandoah River Basins

**Cause Group Code: A30R-02-DO Gambo Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until the ponded waters on Gambo Creek.

Cause City/County: King George County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: 2022 assessment: Excursions less than the minimum dissolved oxygen criterion at DEQ station 1AGAM003.50 at Route 301 (2 of 7 samples - 28.6%).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30R_GAM01A04 / Gambo Creek / Segment begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until estuarine Gambo Creek. | 5C | Dissolved Oxygen | 2016 | L | 0.95 |

Gambo Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 0.95 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A30R-02-PH Gambo Creek**

Cause Location: Begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until estuarine Gambo Creek.

Cause City/County: King George County

Use(s): Aquatic Life

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

Cause Description: 2022 Assessment: Excursions less than the lower limit of the pH criterion range at DEQ station 1AGAM003.50 at Route 301 (2 of 6 samples - 33.3%).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30R_GAM01A04 / Gambo Creek / Segment begins at the confluence with an unnamed tributary to Gambo Creek, approximately 0.35 rivermile upstream from Route 645, and continues downstream until estuarine Gambo Creek. | 5C | pH | 2016 | L | 0.95 |

Gambo Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 0.95 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-01-SF Rosier Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 001-008A, 5/15/2022

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: In the 1998 cycle, a portion of Rosier Creek was impaired due to shellfish condemnation 088A, 7/1/1998. The Shellfish TMDL for that portion was developed during the 2008 cycle. The TMDL was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

In the 2020 cycle, the condemnation shrank considerably and became smaller than the TMDL area (VDH-DSS Shellfish Condemnation 001-088A, 5/30/2018). The expansion was delisted and the lower portion of the TMDL are was partially delisted (Portion of condemnation 001-008S8, 5/30/2018). It was seasonally condemned so was Category 2C/2B.

In the 2022 cycle, the condemnation expanded again and the downstream portion was relisted. It is larger than the TMDL area. The expansion is considered nested (Category 4A.)

In the 2024 cycle, the condemnation shrank slightly, but remains larger than the TMDL extent.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_ROS01A08 / Rosier Creek / Portion of VDH condemnation notice 001-088A, 5/15/2022 not included in the 2006 TMDL. Size reduced in the 2024 cycle. POTMH | 4A | Fecal Coliform | 2022 | L | 0.184 |
| VAP-A31E_ROS01A98 / Rosier Creek / Described in VDH condemnation notice 088A, 7/1/1998. POTMH | 4A | Fecal Coliform | 1998 | L | 0.206 |

Rosier Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.389 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-03-SF Monroe Creek**

Cause Location: The portion of VDH Shellfish Condemnation 002-001A, 5/15/2022 which is not included in the administrative condemnation.

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH-DSS Shellfish Condemnation 002-001A, 5/15/2022 that is not administratively condemned

The area was seasonally condemned in the 2010 cycle, however condemnation A expanded in the 2014 cycle. The Shellfish TMDL for Monroe Creek was approved by the EPA on 6/8/2006 and by the SWCB on 7/27/2009. The area was addressed by the TMDL; therefore, it was considered Category 4A.

Condemnation A shrank slightly in the 2016 cycle and section M2 was split off; it was considered partially delisted (Cat. 2C.)

The lower portion of the condemnation converted to seasonally condemned in the 2020 cycle (002-001S9, 5/30/2018) and was partially delisted (Category 2C/2B).

It expanded again in the 2022 cycle.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_MON03A98 / Monroe Bay / Portion of VDH condemnation notice 002-001A, 5/15/2022 not administratively condemned POTMH | 4A | Fecal Coliform | 2014 | L | 0.172 |

Monroe Creek

**Shellfishing**

| Fecal Coliform - Total Impaired Size by Water Type: | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| | 0.172 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-04-PH Monroe Creek**

Cause Location: As described in VDH condemnation 002-001D, 5/30/2018

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: pH/4C

Cause Description: During the 2012 cycle, the upper portion of Monroe Creek was impaired of the Aquatic Life Use due to a pH violation rate of 10/16 at 1AMRC002.81, which is located at Rt. 658.

A Swampwaters Determination Report was completed during the 2014 cycle. The report attributed the pH exceedances to natural conditions and the impairment is considered Category 4C.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_MON01A00 / Monroe Creek/Monroe Bay / Prohibited area around STP outfall as described in VDH shellfish condemnation 002-001D, 5/15/2022 | 4C | pH | NA | NA | 0.176 |

Monroe Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | 0.176 | | |

Sources: Agriculture; Atmospheric Deposition - Nitrogen; Clean Sediments; Industrial Point Source Discharge; Internal Nutrient Recycling; Loss of Riparian Habitat; Municipal Point Source Discharges; Naturally Occurring Organic Acids; Sediment Resuspension (Clean Sediment); Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-06-BAC Mattox Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations 002-001B, 5/15/2022

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: The segment was initially listed in 1996 based on excessive fecal coliform standards at the Route 205 bridge (1AMAO004.08). The segment was adjusted during the 2006 cycle to be coincident with VDH-DSS Shellfish Condemnation 001B (11/15/2004) and the Recreation Use impairment switched to Enterococci due to exceedances at 1AMAO004.08.

During the 2008 and 2010 cycles, the segment remained impaired due to Enterococci exceedance at 1AMAO001.36 and at 1AMAO004.08. The exceedance rate was 5/12 during the 2014 cycle at 1AMAO004.08.

The bacterial TMDL for the Mattox Creek Watershed was approved by the EPA on 12/4/2006 and by the SWCB on 7/31/2008; therefore, the segment is considered Category 4A for the Recreation Use.

The impairment length has been adjusted to remain coincident with Mattox Creek shellfish condemnations.

New bacteria criteria were implemented in the 2022 cycle. There is insufficient information to assess the new criteria; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_MAO01A98 / Mattox Creek / From the downstream boundary of the 5/30/2018 administrative shellfish condemnation to rivermile 0.58. Segment changes in the 2024 cycle. POTMH | 4A | Enterococcus | 2006 | L | 0.435 |
| VAP-A31E_MAO01B10 / Mattox Creek / Upper mainstem portion of the condemnation notice 002-001B, 5/15/2022 which was administratively condemned on 5/30/2018. POTMH | 4A | Enterococcus | 2006 | L | 0.366 |
| VAP-A31E_MAO01C24 / Mattox Creek / Rivermile 0.58 to the mouth POTMH | 4A | Enterococcus | 2006 | L | 0.540 |

Mattox Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 1.341 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-06-SF Mattox Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 002-001B, 5/15/2022

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS condemnation 002-001B, 5/15/2022

The segment has been considered impaired of the Shellfish Consumption Use since 1996. The Shellfish TMDL for the Mattox Creek Watershed was developed during the 2008 cycle and was approved by the EPA on 12/4/2006 and the water was considered Category 4A for the Shellfish Use.

However, during the 2010 cycle it was determined that the upper portion of the section was administratively closed as a buffer for the Outdoor World Harborview STP. Therefore the use was considered removed for the upper portion and it was partially delisted.

The advisory was shortened during the 2012 cycle and split into 002-001B and 002-001C, 8/30/2010. It expanded and re-merged in the 2014 cycle. It slightly shrunk and expanded in 2016 and 2018. It shrank further and the condemnation split in the 2020 cycle (portion of VDH-DSS condemnation 002-001B, 5/30/2018 & 002-001C, 5/30/2018).

In the 2022 cycle, the prohibition zone and administrative condemnation zone were removed. The areas are now part of the impaired restricted zone. They are considered nested. In addition, the condemnation expanded downstream and merged. It expanded further in the 2024 cycle and merged with a previous seasonally condemned area.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_MAO01A98 / Mattox Creek / From the downstream boundary of the 5/30/2018 administrative shellfish condemnation to rivermile 0.58.<br>Segment changes in the 2024 cycle.<br>POTMH | 4A | Fecal Coliform | 1996 | L | 0.435 |
| VAP-A31E_MAO01B10 / Mattox Creek / Upper mainstem portion of the condemnation notice 002-001B, 5/15/2022 which was administratively condemned on 5/30/2018.<br>POTMH | 4A | Fecal Coliform | 2022 | L | 0.366 |
| VAP-A31E_MAO01C24 / Mattox Creek / Rivermile 0.58 to the mouth<br>POTMH | 4A | Fecal Coliform | 1996 | L | 0.540 |
| VAP-A31E_XFF01A04 / XFF - Mattox Creek, UT / As described in VDH Condemnation 002-001E, 5/30/2018.<br>POTMH | 4A | Fecal Coliform | 2022 | L | 0.010 |
| VAP-A31E_ZZZ01A14 / Unsegmented estuaries in A31 / Unsegmented portion of watershed PL66.<br>POTMH | 4A | Fecal Coliform | 2022 | L | 0.006 |

Mattox Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 1.357 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-07-BAC Popes Creek**

Cause Location: From the extent of tide to the mouth of Popes Creek

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: Popes Creek was initially assessed as impaired of the Recreation Use in 2002 based on fecal coliform standard exceedances at 1APOP000.38, which is located off of the George Washington National Monument picnic area. During the 2006 cycle, the fecal coliform rate remained impaired (2/7) and enterococci was added as an impairment (2/6).

During the 2010 cycle, the enterococci exceedance rate was 4/11.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

The impairment is considered nested because it is contained within the shellfish TMDL study area, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_POP01A98 / Popes Creek / Described in VDH-DSS condemnation notice 003-146A, 9/23/2008. | 4A | Enterococcus | 2006 | L | 0.577 |

Popes Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.577 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-07-SF Popes Creek**

Cause Location: From the extent of tide to the mouth of Popes Creek

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Popes Creek was previously assessed as not supporting the Shellfish Consumption Use based on VDH-DSS Shellfish Condemnation 146, 4/27/1989; this condemnation was later replaced by 003-146A, 9/23/2008.

The Popes Creek Shellfish TMDL was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. The segment is considered Category 4A for the Shellfish Use.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_POP01A98 / Popes Creek / Described in VDH-DSS condemnation notice 003-146A, 9/23/2008. | 4A | Fecal Coliform | 1998 | L | 0.577 |

Popes Creek

| | | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|---|
| **Shellfishing** | Fecal Coliform - Total Impaired Size by Water Type: | 0.577 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-11-BAC Bridges Creek**

Cause Location: The tidal portion of Bridges Creek

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/5A

Cause Description: Bridges Creek was assessed as not supporting of the Recreation Use support goal during the 2004 cycle based on a fecal coliform violation rate of 2/2 at 01660860, a USGS station located near the mouth of Bridges Creek.

The impairment converted to enterococci during the 2012 cycle based on violations at 1ABRG000.15.

The enterococci exceedance rate was 26/35 during the 2016 cycle.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_BRG01A04 / Bridges Creek / Tidal limit to mouth POTMH | 5A | Enterococcus | 2012 | L | 0.182 |

Bridges Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.182 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-12-EBTOX Mattox Creek**

Cause Location: Upper mainstem portion of Mattox Creek (administratively condemned on 5/30/2018)

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2024 cycle, the upper mainstem of Mattox Creek was impaired of the Aquatic Life Use based on estuarine probabilistic monitoring at station 1AMAO003.07. The weight-of-evidence approach assigned it as scenario 1, Category 5A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_MAO01B10 / Mattox Creek / Upper mainstem portion of the condemnation notice 002-001B, 5/15/2022 which was administratively condemned on 5/30/2018. POTMH | 5A | Sediment Bioassay | 2024 | L | 0.366 |

Mattox Creek

| | | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|---|
| **Aquatic Life** | Sediment Bioassay - Total Impaired Size by Water Type: | 0.366 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A31E-13-EBTOX Mattox Creek**

Cause Location: Lower Mattox Creek 1/2 mile upstream of station 1AMAO000.08 to the mouth

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2024 cycle, the lower portion of Mattox Creek was impaired of the Aquatic Life Use based on 2022 estuarine probabilistic monitoring at station 1AMAO000.08. The weight-of-evidence approach assigned it as scenario 8, Category 5A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_MAO01C24 / Mattox Creek / Rivermile 0.58 to the mouth POTMH | 5A | Sediment Bioassay | 2024 | L | 0.54 |

Mattox Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 0.54 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A31R-01-BAC Pine Hill Creek Watershed**

Cause Location: Pine Hill Creek watershed from its headwaters to tidal limit at Rosier Creek.

Cause City/County: King George County; Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: During the 2014 cycle, the Pine Hill Creek watershed was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 1APIN007.24, which is located at Route 301.

Note: monitoring at station 1APIN000.57 is acceptable (1/12).

New bacteria criteria were implemented in the 2022 cycle. There is insufficient information to assess the criteria; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31R_PIN01A00 / Pine Hill Creek Watershed / Pine Hill Creek and its tributaries from the confluence with Rosier Creek to their headwaters. | 5A | Escherichia coli (E. coli) | 2014 | L | 34.92 |

Pine Hill Creek Watershed

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 34.92 |

Sources: Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: A31R-02-BAC Mattox Creek Watershed**

Cause Location: Mattox Creek from its headwaters to the limit of tide and all nontidal tributaries of Mattox Creek.

Cause City/County: King George County; Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2020 cycle, the nontidal Mattox Creek watershed was impaired of the Recreation Use due to an E. coli exceedance rate of 4/11 at 1AMAO007.46.

The TMDL had already been completed and was adopted by the EPA on 12/4/2006 and by the SWCB on 7/31/2008; therefore, the water is considered Category 4A for the Recreation Use.

New bacteria criteria were implemented in the 2022 cycle. No additional data was collected; however, re-analysis confirmed the impairment due to two or more STV exceedances in the same 90-day period with <10 samples.

In the 2022 cycle, it was determined that the TMDL only addressed the tributaries above the tidal limit, which is also where the listing station is. The tributaries below the tidal limit were removed from the impaired segment (partially delisted.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31R_MAO01A98 / Mattox Creek / Mainstem Mattox Creek above head of tide and all free-flowing tributaries to Mattox Creek. | 4A | Escherichia coli (E. coli) | 2020 | L | 59.11 |

Mattox Creek Watershed

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 59.11 |

Sources: Agriculture; Municipal Point Source Discharges; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A31R-03-BAC Popes Creek Watershed**

Cause Location: The Popes Creek watershed above the tidal limit.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: The nontidal Popes Creek watershed was impaired of the Recreation Use during the 2014 cycle due to an E. coli exceedance rate of 2/11 at 1APOP003.92, which is located at the Route 3 bridge.

The impairment is considered nested in the Popes Creek Watershed Shellfish TMDL, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. It will be considered Category 4A.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31R_POP01A00 / Popes Creek / Watershed above tidal limit. | 4A | Escherichia coli (E. coli) | 2014 | L | 29.88 |

Popes Creek Watershed

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 29.88 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-01-SF Cold Harbor Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 004-184A, 3/15/2021

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Shellfish Condemnation 004-184A, 3/15/2021

Cold Harbor Creek was mistakenly assessed as impaired in the 1998 cycle due to VDH-DSS Shellfish Condemnation 184A, 6/21/1996. The area had been reopened on 2/10/1997; therefore, it should have been assessed as fully supporting.

The segment was first listed appropriately in the 2004 cycle. The impairment was addressed in the "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" report, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008. The TMDL was based on the extent in 184A, 6/18/2002. The segment is considered Category 4A for the shellfish use.

In the 2024 cycle, the condemnation expanded past this TMDL extent; the expansion will be considered nested.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_CHB01A98 / Cold Harbor Bay / Described in VDH-DSS condemnation notice 184A, 6/18/2002. POTMH | 4A | Fecal Coliform | 2004 | L | 0.083 |
| VAP-A32E_CHB02A06 / Cold Harbor Creek / Currioman Bay / Described in VDH condemnation 004-184M1, 3/15/2019. POTMH | 4A | Fecal Coliform | 2024 | L | 0.044 |

Cold Harbor Creek

| Shellfishing | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.126 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-02-SF Currioman Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 184, 2/10/1997

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH-DSS Shellfish Condemnation 004-184B, 3/15/2021

VDH-DSS Shellfish Condemnation 184, 2/10/1997 - impaired in 1998 - was included in the "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" report, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008. This area is considered Category 4A.

The downstream portion of the current condemnation is addressed in A32E-13-SF.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_CUR01A98 / Currioman Creek / Described in the condemnation notice 004-184, 2/10/1997. POTMH | 4A | Fecal Coliform | 1998 | L | 0.052 |

Currioman Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.052 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-04-SF Nomini Creek, Pierce Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations 082A and 082B, 7/3/1997

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portions of VDH Shellfish Condemnation 004-082D, 1/15/2022

Portions of Nomini Creek (0.5404 sq. mi.) and Pierce Creek (0.14 sq. mi.) were assessed as impaired in 1998. During the 2004 cycle, the condemnation was expanded and combined. The Nomini Creek Watershed TMDL, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008, addressed the 1998 portions of the impairment (004-082B and 004-082A, 7/3/1997). The residual of the impaired area is addressed in A32E-04-SF2.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_NOM01A98 / Nomini Creek / As described in VDH Shellfish Condemnation 082B, 7/3/1997. POTMH | 4A | Fecal Coliform | 1998 | L | 0.540 |
| VAP-A32E_PEI01A98 / Pierce Creek / As described in VDH Shellfish Condemnation 082A, 7/3/1997. POTMH | 4A | Fecal Coliform | 1998 | L | 0.142 |

Nomini Creek, Pierce Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.682 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-04-SF2 Nomini Creek, Peirce Creek**

Cause Location: The portions of VDH Notice and Description of Shellfish Condemnation 004-082D, 1/15/2022 that were not included in the 2007 Nomini Creek watershed TMDL.

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portions of VDH Condemnation 004-082D, 1/15/2022

Portions of Nomini Creek (0.5404 sq. mi.) and Pierce Creek (0.14 sq. mi.) were assessed as impaired in 1998. During the 2004 cycle, the condemnation expanded. The TMDL was approved by the EPA on 8/22/2007, but only addressed the 1998 portion of the impairment. As the condemnation first expanded on the 2004 list, the TMDL for the downstream portion was due in 2016.

The impairment is considered nested within the Nomini Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

The condemnation shrank slightly in the 2022 and 2024 cycles.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_NOM01A04 / Nomini Creek, Pierce Creek / Portion of VDH Shellfish Condemnation 004-082D, 4/15/2020 downstream of 082B, 7/3/1997 and the portion upstream of 082A, 7/3/1997. Size decreased in the 2024 cycle. POTMH | 4A | Fecal Coliform | 2004 | L | 0.13 |

Nomini Creek, Peirce Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.13 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-05-SF Buckner Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 082D, 2/10/1997

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH Shellfish Condemnation 004-082B, 1/15/2022 VDH Shellfish Condemnation 004-082S205, 1/15/2022

The upper portion of Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to VDH shellfish advisory 082D, 2/10/1997. Although the closure was expanded during the 2008 cycle (004-082B 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the original upstream impaired area, which is classified as Category 4A.

In the 2016 cycle, the condemnation shrank (004-082B, 1/22/2014); the condemned area remained Category 4A and the lower portion was partially delisted (Category 2C.)

The condemnation expanded past the 1997 advisory boundary again in the 2018 cycle. See A32E-07-SF

In the 2020 cycle, it was a portion of VDH Shellfish Condemnation 004-082B, 2/13/2018. The condemned area shrank significantly in the 2022 cycle and became smaller than the TMDL area. The expansion was delisted; the re-opened part of the TMDL area was partially delisted.

The condemnation shrank further in the 2024 cycle; the remaining portion of the 1997 area is conditionally approved (Category 2C/2B).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_BUB01B16 / Buckner Creek / Described in VDH Condemnation 004-082B, 1/15/2022. Size reduced in the 2024 cycle. POTMH | 4A | Fecal Coliform | 1998 | L | 0.104 |

Buckner Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.104 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-06-SF North Prong Buckner Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 004-082E, 2/10/1997

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH Shellfish Condemnation 004-082A, 1/15/2022

The upper portion of North Prong Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082E, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082A, 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the original upstream impaired area. This upstream portion of the condemnation is classified as Category 4A; the lower portion is considered nested and is addressed in A32E-21-SF.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_NOP01A02 / North Prong Buckner Creek / Described in VDH-DSS condemnation notice 082E, 2/10/1997. POTMH | 4A | Fecal Coliform | 1998 | L | 0.023 |

North Prong Buckner Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.023 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-08-SF Lower Machodoc Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083A, 5/15/2022

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS condemnation 005-083A, 5/15/2022

0.36 sq. mile of Lower Machodoc Creek was assessed in 1998 as impaired of the Shellfish Use due to VDH shellfish condemnation 83B, 5/16/1997.

A TMDL was developed based on the 005-083B, 12/28/2007 extent and was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

The segment has expanded and contracted several times. The condemnation shrank considerably in the 2020 cycle and converted to seasonally condemned. The extension was delisted (Category 2B); the open portion of the TMDL was partially delisted (Category 2C/2B.)

The condemnation shrank again in the 2022 cycle and the impairment was adjusted.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_LOW01A04 / Lower Machodoc Creek / As described in VDH condemnation notice 005-083A, 5/15/2022. POTMH | 4A | Fecal Coliform | 1998 | L | 0.37 |

Lower Machodoc Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.37 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-09-EBTOX Lower Machodoc Creek**

Cause Location: One-half mile upstream and downstream of monitoring station 1ALOW002.18

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2016 cycle, a portion of Lower Machodoc Creek was assessed as impaired of the Aquatic Life Use. Estuarine probabilistic monitoring at station 1ALOW002.18 in 2013 indicated a high potential for chronic benthic alteration due to PAHs in sediment.

Impairment corrected from estuarine bioassessments to sediment bioassay in the 2024 cycle.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_LOW02B16 / Lower Machodoc Creek / One-half mile upstream and downstream of station 1ALOW002.18. POTMH | 5A | Sediment Bioassay | 2016 | L | 0.687 |

Lower Machodoc Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 0.687 | | |

Sources: Agriculture; Atmospheric Deposition - Nitrogen; Clean Sediments; Contaminated Sediments; Industrial Point Source Discharge; Internal Nutrient Recycling; Loss of Riparian Habitat; Municipal Point Source Discharges; Sediment Resuspension (Clean Sediment); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-10-SF Weatherall Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083D, 5/15/2022

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Shellfish Condemnation 005-083D, 5/15/2022

The Shellfish Use impairment was addressed in the Lower Machodoc Shellfish TMDL which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_WEA02A04 / Weatherall Creek / As described in VDH condemnation 005-083D, 5/15/2022. POTMH | 4A | Fecal Coliform | 2016 | L | 0.055 |

Weatherall Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.055 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-13-SF Currioman Creek**

Cause Location: The portion of VDH Notice and Description of Shellfish Condemnation 004-184B, 3/15/2021 that was not included in the 8/23/2004 condemnation

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH Shellfish condemnation 004-184B, 3/15/2021

The upstream portion of Currioman Creek has been listed for shellfish condemnations since 1998. The condemnation expanded on 1/27/2006, however the 2007 TMDL did not address the expanded portion. The expansion is first listed in 2008; therefore, the TMDL is due in 2020.

The impairment is considered nested in the upstream Currioman Creek Shellfish TMDL, which was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_CUR01B08 / Currioman Creek / From the limit of VDH condemnation 004-184, 2/10/1997 downstream to the limit of 004-184B, 3/15/2021. POTMH | 4A | Fecal Coliform | 2008 | L | 0.02 |

Currioman Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.02 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-19-SF Barnes Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 082C, 2/10/1997

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH Shellfish Condemnation 004-082E, 1/15/2022

Barnes Creek is assessed as impaired of the Shellfish Use. This area was impaired in the 1998 cycle and was addressed in the TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination". This condemnation is classified as Category 4A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_BAN02A08 / Barnes Creek / Described in VDH Shellfish Condemnation 082C, 2/10/1997. POTMH | 4A | Fecal Coliform | 2008 | L | 0.057 |

Barnes Creek

| | | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|---|
| **Shellfishing** | Fecal Coliform - Total Impaired Size by Water Type: | 0.057 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-20-PCB Nomini Creek**

Cause Location: Nomini Creek mainstem downstream of the shellfish condemnations.

Cause City/County: Westmoreland County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: During the 2020 cycle, lower Nomini Creek was impaired of the Fish Consumption Use. Monitoring in 2018 at station 1ANOM002.91 indicated PCBs above the allowable fish tissue level in blue catfish, croaker, and gizzard shad.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_NOM02A00 / Nomini Creek / Downstream condemnation boundary to the mouth. Split in the 2024 cycle. POTMH | 5A | PCBs in Fish Tissue | 2020 | L | 4.410 |
| VAP-A32E_NOM02B24 / Nomini Creek / Described in VDH-DSS condemnation 004-082S125, 1/15/2022. POTMH | 5A | PCBs in Fish Tissue | 2020 | L | 0.217 |
| VAP-A32E_NOM02C24 / Nomini Creek / From the downstream boundary of VDH-DSS condemnation 004-082S125, 1/15/2022 downstream to rivermile 4.24 POTMH | 5A | PCBs in Fish Tissue | 2020 | L | 0.207 |

Nomini Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | 4.833 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-21-SF North Prong Buckner Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 004-082A, 1/15/2022 not included in 004-082E, 2/10/1997

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH Shellfish Condemnation 004-082A, 1/15/2022

The upper portion of North Prong Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082E, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082A, 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the original upstream impaired area. The upstream portion of the condemnation was classified as Category 4A, however this lower portion was considered Category 5B and the TMDL was due in 2020.

The impairment was later nested in the North Prong Buckner Creek TMDL and is considered Category 4A.

The condemnation has varied in size. It shrank slightly in the 2022 cycle.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_NOP02A08 / North Prong Buckner Creek / Portion of VDH condemnation 004-082A, 1/15/2022 that was not included in 082E, 2/10/1997. POTMH | 4A | Fecal Coliform | 2008 | L | 0.032 |

North Prong Buckner Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.032 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-25-EBTOX Currioman Bay**

Cause Location: Currioman Bay between the Potomac River and Currioman Creek

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2022 cycle, a portion of Currioman Bay was impaired of the Aquatic Life Use based on monitoring at 2020 estuarine probabilistic monitoring station 1ACRB001.52. DEQ-Central Office assigned it to Weight-of-Evidence Scenario 1 (Category 5A.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_CRB03A14 / Currioman Bay / Northern Currioman Bay<br>Size increased in the 2024 cycle.<br>POTMH | 5A | Sediment Bioassay | 2022 | L | 1.271 |

Currioman Bay

| Aquatic Life | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 1.271 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-26-BAC Lower Machodoc Creek**

Cause Location: Described in VDH condemnation notice 005-083B, 12/28/2007

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2022 cycle, lower Machodoc Creek was impaired of the Recreation Use due to enterococci exceedances at 1ALOW004.77, which is located off Route 618. There were two or more STV exceedances in the same 90-day period with <10 samples.

There was insufficient information to assess enterococci in the 2024 cycle (one STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean.) The impairment will be carried over.

The impairment is located within the study area for the Lower Machodoc Watershed Shellfish TMDL, which was approved by the EPA on 12/29/2008 and by the EPA on 4/28/2009. As the shellfish TMDL requires the reduction of fecal coliform bacteria in the watershed, the Recreation Use is considered nested (Category 4A).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_LOW01A04 / Lower Machodoc Creek / As described in VDH condemnation notice 005-083A, 5/15/2022. POTMH | 4A | Enterococcus | 2022 | L | 0.370 |
| VAP-A32E_LOW01C20 / Lower Machodoc Creek / Portion of VDH condemnation notice 005-083B, 12/28/2007 within 005-083S4, 5/15/2022. POTMH | 4A | Enterococcus | 2022 | L | 0.165 |

Lower Machodoc Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.535 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32E-38-EBTOX Nomini Creek**

Cause Location: From the downstream boundary of VDH-DSS condemnation 004-082S125, 1/15/2022 downstream to rivermile 4.24

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2024 cycle, the area of Nomini Creek around station 1ANOM004.74 was impaired of the Aquatic Life Use based on 2022 estuarine probabilistic monitoring The weight-of-evidence approach assigned it as scenario 8, Category 5A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_NOM02C24 / Nomini Creek / From the downstream boundary of VDH-DSS condemnation 004-082S125, 1/15/2022 downstream to rivermile 4.24<br>POTMH | 5A | Sediment Bioassay | 2024 | L | 0.207 |

Nomini Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 0.207 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-01-DO Thompson Branch**

Cause Location: Thompson Branch from its headwaters to the tidal limit.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on dissolved oxygen exceedances at Route 626 (1ATHP001.15), as well as DO exceedances at special study stations in the creek (1/1).

During the 2014 cycle, the segment remained impaired with a DO violation rate of 2/12.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_THP01A06 / Thompson Branch / Headwaters to tidal limit. | 5C | Dissolved Oxygen | 2006 | L | 1.6 |

Thompson Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 1.6 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-01-PH Thompson Branch**

Cause Location: Thompson Branch from its headwaters to the tidal limit.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on pH exceedances at Route 626 (1ATHP001.15), as well as pH exceedances at special study stations in the creek (1/1).

During the 2014 cycle, the segment remained impaired with a pH violation rate of 10/12.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_THP01A06 / Thompson Branch / Headwaters to tidal limit. | 5C | pH | 2006 | L | 1.6 |

Thompson Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 1.6 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-02-BAC Lee Creek**

Cause Location: Lee Creek from its headwaters to the tidal limit.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2012 cycle, Lee Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 4/13 at 1ALEC001.18, which is located at the Route 675 bridge.

The stream is located within the Lower Machodoc Creek watershed. A bacterial TMDL was developed for the watershed to address the shellfish consumption use. The TMDL was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009. It requires a 93% reduction in fecal coliform bacteria into the Lower Machodoc tidal area. These reductions are expected to be sufficient to address the E. coli impairment in Lee Creek; therefore, the impairment is considered to be nested (Category 4A).

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_LEC01A10 / Lee Creek / Headwaters to tidal limit. | 4A | Escherichia coli (E. coli) | 2012 | L | 1.36 |

Lee Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.36 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-03-PH XLK - Nomini Creek, UT**

Cause Location: The unnamed tributary in its entirety.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: During the 2010 cycle, the stream was assessed as not supporting the Aquatic Life Use due to a pH exceedance rate of 2/2 at probabilistic monitoring station 1AXLK000.04.

The impairment was confirmed during the 2016 cycle with an exceedance rate of 2/11.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_XLK01A10 / XLK - Nomini Creek, UT / Headwaters to mouth at Nomini Creek. | 5C | pH | 2010 | L | 1.45 |

XLK - Nomini Creek, UT

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 1.45 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-04-BAC XCJ - Jones Branch, UT**

Cause Location: Tributary XCJ from its headwaters to its mouth at Jones Branch

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2012 cycle, the tributary was impaired of the Recreation Use due to an E. coli violation rate of 4/13 at 1AXCJ000.54, which is located at the Route 618 bridge.

The stream is located within the Lower Machodoc Creek watershed. A bacterial TMDL was developed for the watershed to address the shellfish consumption use. The TMDL was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009. It requires a 93% reduction in fecal coliform bacteria into the Lower Machodoc tidal area. These reductions are expected to be sufficient to address the E. coli impairment in the tributary; therefore, the impairment is considered to be nested (Category 4A).

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_XCJ01A10 / XCJ - Jones Branch, UT / Headwaters to mouth at Jones Branch. | 4A | Escherichia coli (E. coli) | 2012 | L | 1.02 |

XCJ - Jones Branch, UT

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

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-05-BAC Tavern Run**

Cause Location: Tavern Run from its headwaters to the confluence with Newtons Mill Run.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2012 cycle, Tavern Run was impaired of the Recreation Use due to E. coli violations at 1ATAE002.50, which is located at the Route 615 bridge.

Additional monitoring occurred in the 2014 cycle; the impairment was confirmed with exceedance rates of 8/24 at 1ATAE002.50 and 2/12 at 1ATAE003.85.

A bacterial TMDL was developed for the watershed to address the shellfish consumption use. The TMDL was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008. It requires a 68% reduction in fecal coliform bacteria into the upper Nomini Creek tidal area. These reductions are expected to be sufficient to address the E. coli impairment in the stream; therefore, the impairment is considered to be nested (Category 4A).

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_TAE01A12 / Tavern Run / Headwaters to Newtons Mill Run | 4A | Escherichia coli (E. coli) | 2012 | L | 3.28 |

Tavern Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.28 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-05-PH Tavern Run**

Cause Location: Tavern Run from its headwaters to the confluence with Newtons Mill Run.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: During the 2012 cycle, Tavern Run was impaired of the Aquatic Life Use due to pH violations at 1ATAE002.50, which is located at the Route 615 bridge.

Additional monitoring occurred in the 2014 cycle; the impairment was confirmed with exceedance rates of 3/24 at 1ATAE002.50 and 3/12 at 1ATAE003.85.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_TAE01A12 / Tavern Run / Headwaters to Newtons Mill Run | 5C | pH | 2012 | L | 3.28 |

Tavern Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 3.28 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-06-BAC Nontidal Nomini Creek Tributaries**

Cause Location: Marshall Creek, Buena Vista Branch, and Templeman Run.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2014 cycle, monitoring occurred throughout the upper Nomini Creek watershed. Multiple tributaries indicated E. coli exceedances.

3/12 at 1ABUV000.15 4/12 at 1AMAR000.62 3/12 at 1ATEM003.54

Note: Tavern Run is already listed for bacteria (see A32R-05-BAC).

The streams are located within the Nomini Creek watershed. A bacterial TMDL was developed for the watershed to address the shellfish consumption use. The TMDL was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008. It requires a 68% reduction in fecal coliform bacteria into the upper Nomini Creek tidal area. These reductions are expected to be sufficient to address the E. coli impairment in the stream; therefore, the impairment is considered nested in the Nomini Creek Shellfish TMDL (Category 4A).

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_BUV01A14 / Buena Vista Branch / Headwaters to mouth | 4A | Escherichia coli (E. coli) | 2014 | L | 2.27 |
| VAP-A32R_MAR01A14 / Marshall Creek / Headwaters to mouth at Templeman Run | 4A | Escherichia coli (E. coli) | 2014 | L | 2.88 |
| VAP-A32R_TEM01A14 / Templeman Run / Headwaters to tidal limit | 4A | Escherichia coli (E. coli) | 2014 | L | 4.00 |

Nontidal Nomini Creek Tributaries

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.15 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-06-PH Nontidal Nomini Creek Tributaries**

Cause Location: Multiple tributaries throughout the upper Nomini Creek watershed - including Marshall Creek, Buena Vista Branch, Oldham Creek, Newtons Mill Run, Antioch Branch, and Templeman Run.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: During the 2014 cycle, monitoring occurred throughout the upper Nomini Creek watershed. Multiple tributaries indicated low pH - including Nomini Creek, Marshall Creek, Buena Vista Branch, Oldham Creek, Newtons Mill Run, Antioch Branch, and Templeman Run.

4/5 at 1AANT001.31

3/12 at 1ABUV000.15

2/12 at 1AMAR000.62

2/12 at 1ANET001.77

2/12 at 1AOLD000.70

3/12 at 1ATEM003.54

2/12 at 1ANOM012.38

Note: Nomini Creek, UT (XLK) and Tavern Run were already listed for pH (see A32R-03-PH and A32R-05-PH).

Additional monitoring was conducted during the 2016 cycle at 1ANOM0012.38. The pH exceedance rate was acceptable 2/23 and Nomini Creek was partially delisted.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_ANT01A14 / Antioch Branch / Headwaters to mouth at Nomini Creek. | 5C | pH | 2014 | L | 2.06 |
| VAP-A32R_BUV01A14 / Buena Vista Branch / Headwaters to mouth | 5C | pH | 2014 | L | 2.27 |
| VAP-A32R_MAR01A14 / Marshall Creek / Headwaters to mouth at Templeman Run | 5C | pH | 2014 | L | 2.88 |
| VAP-A32R_NET01A14 / Newtons Mill Run / Headwaters to mouth at Tavern Run. | 5C | pH | 2014 | L | 3.18 |
| VAP-A32R_OLD01A14 / Oldham Creek / Headwaters to mouth at Tavern Run. | 5C | pH | 2014 | L | 2.00 |
| VAP-A32R_TEM01A14 / Templeman Run / Headwaters to tidal limit | 5C | pH | 2014 | L | 4.00 |

Nontidal Nomini Creek Tributaries

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 16.39 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-07-DO Marshall Creek**

Cause Location: Marshall Creek from its headwaters to its mouth at Templeman Run.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2014 cycle, Marshall Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/12 at 1AMAR000.62, which is located at the Route 600 bridge.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_MAR01A14 / Marshall Creek / Headwaters to mouth at Templeman Run | 5C | Dissolved Oxygen | 2014 | L | 2.88 |

Marshall Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 2.88 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-08-BAC Barnes Creek**

Cause Location: The nontidal portion of Barnes Creek.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2014 cycle, Barnes Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 1ABAN001.34, which is located at Route 649.

It is considered nested within the Barnes Creek TMDL, which was addressed in the report "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination." The TMDL was approved by the EPA on 8/22/2007 and by the SWCB on 7/31/2008.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_BAN01A14 / Barnes Creek / Headwaters to tidal limit. | 4A | Escherichia coli (E. coli) | 2014 | L | 1.95 |

Barnes Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.95 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-08-DO Barnes Creek**

Cause Location: The nontidal portion of Barnes Creek.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2014 cycle, Barnes Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/12 at 1ABAN001.34, which is located at Route 649.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_BAN01A14 / Barnes Creek / Headwaters to tidal limit. | 5C | Dissolved Oxygen | 2014 | L | 1.95 |

Barnes Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 1.95 |

Sources: Dam or Impoundment; Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-08-PH Barnes Creek**

Cause Location: The nontidal portion of Barnes Creek.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: During the 2014 cycle, Barnes Creek was impaired of the Aquatic Life Use due to a pH exceedance rate of 5/12 at 1ABAN001.34, which is located at Route 649.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_BAN01A14 / Barnes Creek / Headwaters to tidal limit. | 5C | pH | 2014 | L | 1.95 |

Barnes Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 1.95 |

Sources: Dam or Impoundment; Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-09-DO Mount Pleasant Creek**

Cause Location: The nontidal portion of Mount Pleasant Creek.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2014 cycle, Mount Pleasant Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 1AMPB001.00, which is located at Route 612.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_MPB01A14 / Mount Pleasant Branch / Headwaters to tidal limit. | 5C | Dissolved Oxygen | 2014 | L | 2.27 |

Mount Pleasant Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 2.27 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A32R-09-PH Mount Pleasant Creek**

Cause Location: The nontidal portion of Mount Pleasant Creek.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: During the 2014 cycle, Mount Pleasant Creek was impaired of the Aquatic Life Use due to a pH exceedance rate of 3/11 at 1AMBP001.00, which is located at Route 612.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32R_MPB01A14 / Mount Pleasant Branch / Headwaters to tidal limit. | 5C | pH | 2014 | L | 2.27 |

Mount Pleasant Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 2.27 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-02-BAC Jackson Creek**

Cause Location: Tidal portion of Jackson Creek

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2012 cycle, the segment was impaired of the Recreation Use due to an enterococci violation rate of 2/12 at 1AXDW000.08, which is located at the end of Rt. 661.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected due to access issues; therefore, the impairment is carried over.

The area is within the study area for the Jackson Creek Shellfish TMDL, which was approved by the EPA on 7/15/2009 and by the SWCB on 11/14/2009; therefore, the segment is considered nested (Category 4A.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_JCK01A98 / Jackson Creek / Described in VDH condemnation notice 006-143B, 6/15/2022. Split in the 2024 cycle. POTMH | 4A | Enterococcus | 2012 | L | 0.044 |
| VAP-A33E_JCK01B18 / Jackson Creek / Described in VDH condemnation notice 006-143S2, 6/15/2022. Segment extent adjusted in the 2024 cycle. POTMH | 4A | Enterococcus | 2012 | L | 0.034 |
| VAP-A33E_JCK01C20 / Jackson Creek / Portion of VDH condemnation notice 006-143B, 5/5/2005 open in 006-143, 6/15/2022. Size increased in the 2024 cycle. POTMH | 4A | Enterococcus | 2012 | L | 0.027 |
| VAP-A33E_XDW01A24 / XDW - Jackson Creek, UT / Described in VDH condemnation notice 006-143D, 6/15/2022. POTMH | 4A | Enterococcus | 2012 | L | 0.032 |

Jackson Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.137 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-02-SF Jackson Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143B, 5/5/2005

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation Notice 006-143B and -143D, 6/15/2022 VDH-DSS Condemnation Notice 006-143S2, 6/15/2022 (seasonally condemned)

The Shellfish Bacterial TMDL for Jackson Creek was approved by the EPA on 7/15/2009 and by the SWCB on 11/14/2009. The TMDL addressed the maximum extent of the condemnation, which occurred in condemnation 006-143B, 5/5/2005.

The condemnation has expanded and contracted several times.

The condemnation shrank in the 2018 cycle and the downstream portion was partially delisted (Category 2C).

During the 2024 cycle, a portion of the remaining restricted area (006-143B, 6/15/2022) shrank and converted to administratively condemned; it will be partially delisted. 006-143D, 6/15/2022 remains restricted (Category 4A.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_XDW01A24 / XDW - Jackson Creek, UT / Described in VDH condemnation notice 006-143D, 6/15/2022. POTMH | 4A | Fecal Coliform | 1998 | L | 0.032 |

Jackson Creek

**Shellfishing**

| Fecal Coliform - Total Impaired Size by Water Type: | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| | 0.032 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-03-BAC Bonum Creek**

Cause Location: The tidal portion of Bonum Creek.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2012 cycle, Bonum Creek was impaired of the Recreation Use due to an enterococci violation rate of 4/12 at 1ABOM000.46, which is located at the end of Rt. 763.

The Bonum Creek Shellfish TMDL was approved by the EPA on 7/15/2009 and by the EPA on 11/14/2009. The TMDL addressed Bonum Creek to its mouth. As this bacterial impairment is located within the study area for the completed TMDL, the Recreation Use is considered nested (Category 4A.)

The impairment was adjusted slightly in the 2018 cycle to remain coincident with the shellfish condemnation. The exceedance rate was 4/11 in the 2018 cycle.

During the 2020 cycle, the shellfish condemnation shrank and the listing station was now outside of the condemnation. The Recreation Use impairment was adjusted to end at the mouth of Bonum Creek.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; however, re-analysis of the 2018 data confirmed impairment due to two or more STV exceedances within the same 90-day period with <10 samples.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_BOM01A98 / Bonum Creek / Described in the condemnation notice 006-143C, 6/15/2022. Size reduced in the 2024 cycle. POTMH | 4A | Enterococcus | 2012 | L | 0.10 |
| VAP-A33E_BOM01B10 / Bonum Creek / Portion of condemnation notice 143C, 5/5/2005 in 006-143S3, 6/15/2022. POTMH | 4A | Enterococcus | 2020 | L | 0.11 |

Bonum Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.21 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-04-BAC Lodge Creek**

Cause Location: Lodge Creek from its tidal limit to the downstream extent of VDH-DSS condemnation 007-028F, 5/12/1997

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/5A

Cause Description: Lodge Creek from its tidal limit downstream to the end of VDH-DSS condemnation 007-028F, 7/21/2004 has been assessed as not supporting the Recreation Use due to enterococci exceedances at 1ALOG001.20, which is located at the end of Route 712. The segment was expanded during the 2008 cycle to align the boundary with the 5/12/1997 impairment.

During the 2020 cycle, the violation rate was 6/36.

New bacteria criteria were implemented in the 2022 cycle. There has been insufficient information to assess the criteria; therefore, the impairment is carried over.

Note: The bacteria TMDL for shellfish impairments in the Yeocomico River watershed was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. Section 028F was addressed in the report. However, the Recreation Use impairment cannot be nested because the Callao WWTP was not addressed in the TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_LOG01A98 / Lodge Creek / Described in VDH-DSS condemnation notice 007-225D, 3/15/2022.<br>POTMH | 5A | Enterococcus | 2006 | L | 0.030 |
| VAP-A33E_LOG02A98 / Lodge Creek / Portion of condemnation notice 007-225A, 3/15/2022 that is not administratively condemned.<br>Segment expanded in the 2024 cycle.<br>POTMH | 5A | Enterococcus | 2006 | L | 0.176 |
| VAP-A33E_LOG02B10 / Lodge Creek / Portion of condemnation notice 007-225A, 3/15/2022 that is administratively condemned.<br>POTMH | 5A | Enterococcus | 2006 | L | 0.074 |
| VAP-A33E_LOG02C12 / Lodge Creek / Portion of condemnation notice 007-028F, 5/12/1997 that is within 007-225S41, 3/15/2022.<br>Size reduced in the 2024 cycle.<br>POTMH | 5A | Enterococcus | 2006 | L | 0.021 |

Lodge Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.301 | | |

Sources: Non-Point Source; Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-05-SF White Point Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 007-028B, 5/12/1997

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS condemnation 007-028C, 10/15/2022

White Point Creek was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028B, 5/12/1997. The condemnation grew during the 2008 cycle (007-028B, 12/12/2006); however, only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

However, during the 2012 cycle, the entire segment was open for harvest on the 11/1/2010 condemnation; therefore the segment was delisted.

A portion of the area closed again in the 2018 cycle. The open portion remained Category 2C.

Condemnation shortened again in the 2020 cycle.

During the 2024 cycle, the expansion expanded but remains smaller than the TMDL extent. The downstream portion of the TMDL extent is seasonally condemned (Category 2C/2B)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_WHP01A98 / White Point Creek / Described in VDH-DSS condemnation notice 007-028C, 10/15/2022. Merged in the 2024 cycle. POTMH | 4A | Fecal Coliform | 2018 | L | 0.044 |

White Point Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.044 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-07-BAC Hampton Hall Branch**

Cause Location: Tidal Hampton Hall Branch

Cause City/County: Northumberland County; Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2012 cycle, Hampton Hall Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 3/11 at 1AHAM001.92, which is located at Route 202.

The exceedance rate was 2/11 in the 2018 cycle.

New bacteria criteria were implemented in the 2022 cycle. No new data were collected, but re-analysis of the 2018 data confirmed that the segment remained impaired due to two or more STV exceedances in the same 90-day period with <10 samples.

The area is within the study area for the Yeocomico River Watershed TMDL report, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009; therefore, the segment is considered nested (Category 4A).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_HAM01A02 / Hampton Hall Branch / Tidal Hampton Hall Branch Merged in the 2024 cycle. POTMH | 4A | Enterococcus | 2012 | L | 0.274 |

Hampton Hall Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.274 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-07-SF Hampton Hall Branch, Kinsale Branch**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations VDH-DSS Shellfish Condemnation 007-028C, 5/12/1997

Cause City/County: Northumberland County; Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Shellfish Condemnation 007-028A, 10/15/2022

The West Yeocomico River (including Hampton Hall Branch and Kinsale Branch) was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028C, 5/12/1997. The original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. This portion was considered as Category 4A.

The segment shortened dramatically during the 2012 cycle and split into two separate condemnations - Kinsale Branch and Hampton Hall Creek. These areas remained Category 4A. The remainder of the 1998 extent was partially delisted (Category 2C).

The condemnation extended to the TMDL extent in the 2016 cycle.

It shrank and split in the 2020 cycle based on 007-028, 10/2/2018. Condemnations B and D remain closed (Category 4A.) The portion within 007-028S39 is seasonally condemned and was partially delisted (Category 2C/2B.) Condemnation E is now administratively condemned and was partially delisted; the use is considered removed.

In the 2022 cycle, 007-028B expanded slightly. 007-028E 10/2/2018 converted to seasonally condemned (a portion of 007-028S39, 10/15/2020) and was partially delisted (Category 2C/2B.)

During the 2024 cycle, the condemnations merged and expanded downstream to the limit of the TMDL extent.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_HAM01A02 / Hampton Hall Branch / Tidal Hampton Hall Branch<br>Merged in the 2024 cycle.<br>POTMH | 4A | Fecal Coliform | 1998 | L | 0.274 |
| VAP-A33E_KIN01A12 / Kinsale Branch / Tidal limit to mouth<br>POTMH | 4A | Fecal Coliform | 1998 | L | 0.108 |

Hampton Hall Branch, Kinsale Branch

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.382 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-08-EBTOX West Yeocomico River**

Cause Location: Mainstem West Yeocomico River

Cause City/County: Northumberland County; Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: The lower West Yeocomico River was impaired of the Aquatic Life Use in the 2018 cycle due to an altered benthic community at Coastal 2000 station 1AWES000.78 in 2015.

During the 2020 cycle, the impairment was expanded upstream to the start of the West Yeocomico River due to additional monitoring at 2017 Coastal 2000 station 1AWES001.28.

The impairment parameter was corrected to sediment bioassays in the 2024 cycle. The Cause Group Code was changed from A33E-08-EBEN to A33E-08-EBTOX.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_WES01B12 / West Yeocomico River / Portion of the West Yeocomico River mainstem within VDH condemnation notice 007-028C, 5/12/1997<br>POTMH | 5A | Sediment Bioassay | 2020 | L | 0.055 |
| VAP-A33E_WES02A06 / West Yeocomico River / Downstream of condemnations<br>Segment shortened in the 2024 cycle.<br>POTMH | 5A | Sediment Bioassay | 2018 | L | 0.196 |
| VAP-A33E_WES02B22 / West Yeocomico River / Mainstem West Yeocomico River from the downstream limit of VDH condemnation 28C, 5/12/1997 within condemnation 007-028S39, 10/15/2022.<br>Expanded in the 2024 cycle.<br>POTMH | 5A | Sediment Bioassay | 2018 | L | 0.142 |

West Yeocomico River

| Aquatic Life | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 0.393 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-09-SF Mill Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnations 007-225B, 13/15/2022

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation 007-225B, 3/15/2022

The upper part of Mill Creek was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028E, 5/12/1997. It was included in the Yeocomico River Watershed TMDL Report, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

The condemnation size has been adjusted/split/merged in numerous cycles. In the 2022 cycle, the Mill Creek condemnation was smaller than the 1998 area. The upstream portion remained impaired (Category 4A); the lower portion was considered a partial delist (Category 2C.)

The condemnation expanded in the 2024 cycle but remains smaller than the TMDL extent.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_MIA01A98 / Mill Creek / Described in the VDH-DSS condemnation notice 007-225B, 3/15/2022. Merged in the 2024 cycle. POTMH | 4A | Fecal Coliform | 1998 | L | 0.149 |

Mill Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.149 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-10-SF Lodge Creek**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 007-028A, 3/15/2022 which is not administratively condemned

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH-DSS Shellfish Condemnation 007-225A, 3/15/2022

A portion of Lodge Creek was assessed as impaired of the Shellfish Use in 1998 due to VDH condemnation 028F, 5/12/1997. It was subsequently addressed in the bacteria TMDL for shellfish impairments in the Yeocomico River Watershed, which was approved by the EPA on 6/8/2006.

However, during the 2010 cycle, it was determined that the upper portion of the condemnation (007-028E, 11/10/2008) is an administrative closure. Therefore the use was considered removed and the upper portion was partially delisted. The downstream portion remains impaired and is considered Category 4A.

During the 2012 cycle, the condemnation shrank and the downstream-most portion was converted to seasonally condemned; therefore, it was partially delisted.

The condemnation has varied in size; it is currently smaller than the TMDL extent (Category 4A/2C).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_LOG02A98 / Lodge Creek / Portion of condemnation notice 007-225A, 3/15/2022 that is not administratively condemned. Segment expanded in the 2024 cycle. POTMH | 4A | Fecal Coliform | 1998 | L | 0.176 |

Lodge Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.176 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-11-PCB Yeocomico River**

Cause Location: The mainstem of the Yeocomico River.

Cause City/County: Northumberland County; Westmoreland County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/5A

Cause Description: During the 2020 cycle, the Yeocomico River was impaired of the Fish Consumption Use due to exceedances of the fish tissue value in gizzard shad and Atlantic menhaden during 2018 monitoring at station 1AYEO001.15.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_YEO01A02 / Yeocomico River and Tributaries / Yeocomico River mainstem POTMH | 5A | PCBs in Fish Tissue | 2020 | L | 1.878 |

Yeocomico River

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | 1.878 | | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-13-SF Dungan Cove**

Cause Location: Described in VDH-DSS condemnation 007-225C, 3/15/2022

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS condemnation 007-225C, 3/15/2022

A portion of Dungan Cove was assessed as impaired of the Shellfish Use in 1998 due to VDH condemnation 028G, 5/12/1997 (A33E-11-SF). The area was addressed in the bacteria TMDL for shellfish impairments in the Yeocomico River Watershed, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. The condemnation was rescinded during the 2014 cycle; therefore, the impairment was delisted (Category 2C).

A portion was relisted in the 2022 cycle (Category 4A.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_DUA01A04 / Dungan Cove / Described in VDH Shellfish Condemnation 007-225C, 3/15/2022. POTMH | 4A | Fecal Coliform | 2022 | L | 0.021 |

Dungan Cove

**Shellfishing**

| Fecal Coliform - Total Impaired Size by Water Type: | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| | 0.021 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-20-SF Shannon Branch**

Cause Location: Described in VDH-DSS Condemnation Notice 007-028B, 10/15/2022

Cause City/County: Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/5B

Cause Description: VDH-DSS condemnation 007-028B, 10/15/2022

The Shellfish Use impairment was previously considered nested within the neighboring White Point Creek Shellfish TMDL, which was part of the Yeocomico River Watershed Shellfish TMDL Report. It was subsequently delisted. The segment was relisted in the 2024 cycle; however, due to EPA guidance changes the area can no longer be considered nested and will be Category 5B.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_SHA01A98 / Shannon Branch / Described in VDH-DSS condemnation notice 007-028B, 10/15/2022. Merged in the 2024 cycle. POTMH | 5B | Fecal Coliform | 2024 | L | 0.086 |

Shannon Branch

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.086 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A33E-21-EBTOX Yeocomico River**

Cause Location: Yeocomico River to mouth

Cause City/County: Northumberland County; Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2024 cycle, the Yeocomico River was impaired of the Aquatic Life Use based on 2021 monitoring at estuarine probabilistic station 1AYEO000.06. The weight-of-evidence assessment assigned it to scenario 8, Category 5A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_YEO01A02 / Yeocomico River and Tributaries / Yeocomico River mainstem POTMH | 5A | Sediment Bioassay | 2024 | L | 1.878 |

Yeocomico River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 1.878 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A33L-01-DO Hampton Hall, Gardy Millpond**

Cause Location: Hampton Hall, Gardy Millpond entire lake

Cause City/County: Northumberland County; Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2016 cycle an error was discovered from the 2014 cycle. The temperature impairment from 2014 cycle was actually a DO impairment. the violation rate for the DO impairment was 13/69 at station 1AHAM003.08. No new data has been collected since the 2014 cycle.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33L_HAM01A12 / Hampton Hall, Gardy Millpond / From the confluence of Hampton Hall Branch to Rt. 617 | 5C | Dissolved Oxygen | 2016 | L | 45.86 |

Hampton Hall, Gardy Millpond

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | 45.86 | |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-01-BAC Mill Creek**

Cause Location: From its headwaters to the tidal limit.

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2002 cycle, Mill Creek was assessed not supporting of the Recreation Use goal based on fecal coliform exceedances at Route 202 (1AMIA004.12).

During the 2010 cycle, the E. coli violation rate at 1AMIA004.12 was 1/6 (insufficient information for assessment). However, there was additional monitoring downstream at 1AMIA002.34 which showed impairment (2/6). The segment remained listed and was extended downstream to the tidal limit; the impairment converted to E. coli.

In the 2018 cycle, the E. coli exceedance rates were 3/12 at 1AMIA002.34 and 6/24 at 1AMIA004.12.

The Bacteria TMDL for (non-tidal) Mill Creek was approved by the EPA on 7/30/2010 and by the SWCB on 12/13/2010.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; however, the data within the 2022 data window were re-analyzed using the new criteria. The impairment is confirmed at 1AMIA004.12 due to two or more STV exceedances within the same 90-day period with <10 samples. There is insufficient data to assess station 1AMIA002.34; therefore, the impairment is carried over at that station.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_MIA01A00 / Mill Creek / From its headwaters to the tidal limit | 4A | Escherichia coli (E. coli) | 2010 | L | 5 |

Mill Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-02-BAC Lodge Creek**

Cause Location: The free flowing portion of Lodge Creek.

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: During the 2014 cycle, Lodge Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/21 at 1ALOG003.30, which is located at the Route 360 bridge. Monitoring at station 1ALOG003.45 was acceptable (0/3).

Additional monitoring was conducted in the 2018 cycle at 1ALOG003.30; the exceedance rate was 5/21.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_LOG01A04 / Lodge Creek / Headwaters to tidal limit | 5A | Escherichia coli (E. coli) | 2014 | L | 3.45 |

Lodge Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.45 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-02-DO Lodge Creek**

Cause Location: The free flowing portion of Lodge Creek.

Cause City/County: Northumberland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2010 cycle, Lodge Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1ALOG003.30, which is located at the Route 360 bridge. The exceedance rate was 6/21 during the 2018 cycle. Monitoring at station 1ALOG003.45 was acceptable (0/3).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_LOG01A04 / Lodge Creek / Headwaters to tidal limit | 5C | Dissolved Oxygen | 2010 | L | 3.45 |

Lodge Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 3.45 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-03-BAC Gardner Creek**

Cause Location: The free flowing portion of Gardner Creek.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2012 cycle, the segment was considered impaired of the Recreation Use due to an E. coli violation rate of 2/11 at 1AGAD001.73. Note: the violation rate was 0/8 at 1GAD002.54; therefore, additional sampling may be warranted.

The bacterial TMDL for the shellfish impairment on tidal Gardner Creek was approved by the EPA on 7/15/2009 and by the SWCB on 11/14/2009. Because the riverine bacterial impairment is located within the TMDL study watershed, the impairment is considered Nested (Category 4A).

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_GAD01A10 / Gardner Creek / Headwaters to tidal limit | 4A | Escherichia coli (E. coli) | 2012 | L | 1.4 |

Gardner Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.4 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-03-DO Gardner Creek**

Cause Location: The free flowing portion of Gardner Creek.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2010 cycle, Gardner Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1AGAD001.73, which is located at 3352 Coles Point Road. During the 2012 cycle, the violation rate was 4/11 at 1AGAD001.73.

Additional monitoring was conducted in the 2016 cycle at 1AGAD002.54; the dissolved oxygen exceedance rate was 3/11.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_GAD01A10 / Gardner Creek / Headwaters to tidal limit | 5C | Dissolved Oxygen | 2010 | L | 1.4 |

Gardner Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 1.4 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-03-PH Gardner Creek**

Cause Location: The free flowing portion of Gardner Creek.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: During the 2010 cycle, Gardner Creek was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 5/5 at 1AGAD001.73, which is located at 3352 Coles Point Road as well as a pH violation rate of 1/1 at 1AGAD002.54, which is located at the Route 612 bridge.

During the 2012 cycle, the violation rates increased to 11/11 and 7/7, respectively.

Additional monitoring was conducted in the 2016 cycle at 1AGAD002.54; the pH exceedance rate was 11/11.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_GAD01A10 / Gardner Creek / Headwaters to tidal limit | 5C | pH | 2010 | L | 1.4 |

Gardner Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 1.4 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-04-PH XMB - Hampton Hall Creek, UT**

Cause Location: Headwaters to the backwater of Gardys Millpond.

Cause City/County: Northumberland County

Use(s): Aquatic Life

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

Cause Description: During the 2014 cycle, UT XMB was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 1AXMB000.88, which is located at Route 618.

The exceedance rate decreased to 3/24 in the 2018 cycle.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_XMB01A14 / XMB - Hampton Hall Branch, UT / Headwaters to backwater of Gardys Millpond | 5C | pH | 2014 | L | 3.48 |

XMB - Hampton Hall Creek, UT

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 3.48 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-05-DO XLZ - Hampton Hall Creek, UT**

Cause Location: Headwaters to the backwater of Gardys Millpond.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2018 cycle, UT XLZ was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/24 at 1AXLZ002.04, which is located at Route 601.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_XLZ01A14 / XLZ - Hampton Hall Branch, UT / Headwaters to backwater of Gardys Millpond. | 5C | Dissolved Oxygen | 2018 | L | 3.13 |

XLZ - Hampton Hall Creek, UT

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 3.13 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-05-PH XLZ - Hampton Hall Creek, UT**

Cause Location: Headwaters to the backwater of Gardys Millpond.

Cause City/County: Westmoreland County

Use(s): Aquatic Life

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

Cause Description: During the 2014 cycle, UT XLZ was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 1AXLZ002.04, which is located at Route 601.

The exceedance rate decreased to 3/24 in the 2018 cycle.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_XLZ01A14 / XLZ - Hampton Hall Branch, UT / Headwaters to backwater of Gardys Millpond. | 5C | pH | 2014 | L | 3.13 |

XLZ - Hampton Hall Creek, UT

| | | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|---|
| **Aquatic Life** | pH - Total Impaired Size by Water Type: | | | 3.13 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-06-BAC XMA - Hampton Hall Creek, UT**

Cause Location: Headwaters to the mouth at XLZ.

Cause City/County: Westmoreland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2014 cycle, UT XMA was impaired of the Recreation Use due to an E. coli exceedance rate of 3/12 at 1AXMA000.12, which is located at Route 601.

The impairment is considered nested within the Hampton Hall Branch Shellfish TMDL, which was developed as part of the Yeocomico River Watershed TMDL report. The report was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_XMA01A14 / XMA - Hampton Hall Branch, UT / Headwaters to mouth at XLZ. | 4A | Escherichia coli (E. coli) | 2014 | L | 2.07 |

XMA - Hampton Hall Creek, UT

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.07 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A33R-07-BAC XMC - Lodge Creek, UT**

Cause Location: Headwaters to mouth at Lodge Creek.

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: During the 2014 cycle, UT XMC was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/12 at 1AXMC000.92, which is located at the Route 768 bridge.

The impairment is nested in the downstream Yeocomico River Watershed Shellfish TMDL, which was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33R_XMC01A14 / XMC - Lodge Creek, UT / Headwaters to mouth at Lodge Creek. | 4A | Escherichia coli (E. coli) | 2014 | L | 1.69 |

XMC - Lodge Creek, UT

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.69 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-01-SF The Glebe**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 145D, 2/25/1997

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH Shellfish Condemnation 008-213A,3/15/2022

A 0.13 portion of Glebe Creek was initially assessed as impaired of the Shellfish Use due to VDH-DSS Condemnation Notice 145D, 2/25/1997.

In the 2004 cycle, the segment was extended; however, the TMDL was only performed on the 1998 portion. The TMDL was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004. The original impairment is classified as Cat. 4A (TMDL completed). The expansion is addressed in fact sheet A34E-01-SF2.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_GLE01A98 / The Glebe / Described in VDH-DSS condemnation notice 145D, 2/25/1997. POTMH | 4A | Fecal Coliform | 1998 | L | 0.132 |

The Glebe

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.132 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-01-SF2 The Glebe**

Cause Location: Portion of VDH Notice and Description of Shellfish Condemnation 008-213A, 3/15/2022 not included in the 1997 impairment

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH-DSS Condemnation 008-213A, 3/15/2022

A 0.13 portion of Glebe Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to VDH-DSS Condemnation Notice 145D, 2/25/1997. In the 2004 cycle, the segment was extended to match condemnation 145C, 11/27/2002. However, the TMDL was only performed on the 1998 portion.

The condemnation size has increased and decreased over several assessment cycles.

The impairment is considered nested within the Glebe Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_GLE01A04 / The Glebe / Portion of VDH-DSS notice 008-213A, 3/15/2022 open on 145D, 2/25/1997. Merged in the 2024 cycle. POTMH | 4A | Fecal Coliform | 2004 | L | 0.101 |

The Glebe

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.101 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-04-SF XFJ - Coan River, UT (aka Cellars Cove)**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 008-214B, 3/15/2022

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Shellfish Condemnation 008-214B, 3/15/2022

A portion of the tributary was listed in the 1998 cycle due to condemnation 145G, 2/25/1997. The shellfish condemnation for this segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004. The condemnation size has been adjusted through several cycles; however, during the 2012 cycle the condemnation shrunk and it currently matches the 1998 impairment. It is considered Category 4A.

Note: Although the 1998 portion of the tributary is shown on the TMDL map, the TMDL used station 8-33 which is near the mouth of the creek instead of station 8-34, which was located within the 1998 impairment.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_XFJ01A98 / XFJ - Coan River, UT (aka Cellars Cove) / Described in the condemnation notice 008-214B, 3/15/2022. POTMH | 4A | Fecal Coliform | 1998 | L | 0.032 |

XFJ - Coan River, UT (aka Cellars Cove)

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.032 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-05-BAC Coan River**

Cause Location: Coan River mainstem within VDH Shellfish Condemnation Number 145I, 2/25/1997

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2012 cycle, the uppermost portion of the Coan River was assessed as impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 1ACOA004.12, which is located at a private dock at the end of Route 629. As the impairment is located within the study area for the Shellfish bacterial TMDL for the Coan River which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004, the impairment is considered nested (Category 4A).

A portion of nontidal Coan Mill Stream was impaired of the Recreation Use since the 2002 cycle based on E. coli exceedances at 1ACON000.96 (old fact sheet A34R-01-BAC). In the 2014 cycle, it was determined that this station is actually tidally influenced. The impairment is now a part of A34E-05-BAC. The enterococci exceedance rate was 12/24 during the 2014 cycle.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COA01A98 / Coan River / Coan River portion of VDH-DSS Condemnation 145I, 2/25/1997 which is within 008-214A, 3/15/2022. Expanded in the 2024 cycle. POTMH | 4A | Enterococcus | 2012 | L | 0.333 |
| VAP-A34E_COA01B16 / Coan River / Portion of VDH-DSS Condemnation Notice 145I, 2/25/1997 not condemned in 008-214, 3/15/2022. Shrank in the 2024 cycle. POTMH | 4A | Enterococcus | 2012 | L | 0.017 |

Coan River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.35 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-05-SF Headly Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 145H, 2/25/1997

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation Notice 008-214C, 3/15/2022

Headly Cove was assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145I, 2/25/1997. The impairment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004. The segment is classified as Category 4A for shellfish consumption.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_HEA01A98 / Headly Cove / Described in the VDH-DSS Condemnation Notice 008-214C, 3/15/2022. POTMH | 4A | Fecal Coliform | 1998 | L | 0.025 |

Headly Cove

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.025 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-05-SF2 Mill Creek and the Coan River**

Cause Location: Described in VDH-DSS Notice 145I, 2/25/1997

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation 008-214A, 3/15/2022 Portion of VDH-DSS Condemnation 008-214S6, 3/15/2022

Mill Creek and the upstream most portion of the Coan River were assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145I, 2/25/1997. The impairment expanded in several assessment cycles. However only the original segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by the EPA on 12/18/2003 and by the SWCB on 12/02/2004.

During the 2016 cycle, the condemnation shrank significantly and is now smaller than the TMDL extent. The condemned segment is classified as Category 4A; the newly opened portion was partially delisted (Cat 2C).

The condemnation shrank further in the 2020 cycle. It shrank again and split in the 2022 cycle. A portion of Mill Creek was partially delisted.

The condemnations expanded and re-merged in the 2024 cycle. It remains smaller than the TMDL extent (Category 4A/2C).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COA01A98 / Coan River / Coan River portion of VDH-DSS Condemnation 145I, 2/25/1997 which is within 008-214A, 3/15/2022. Expanded in the 2024 cycle. POTMH | 4A | Fecal Coliform | 1998 | L | 0.333 |
| VAP-A34E_MII01A06 / Mill Creek / Tidal Mill Creek to its mouth at the Coan River. Merged in the 2024 cycle. POTMH | 4A | Fecal Coliform | 1998 | L | 0.104 |

Mill Creek and the Coan River

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.437 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-06-EBTOX Coan River**

Cause Location: Coan River mainstem downstream of the VDH-DSS condemnations to rivermile 1ACOA002.37

Cause City/County: Northumberland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2020 cycle, the Coan River was impaired of the Aquatic Life Use around 2017 Coastal 2000 station 1ACOA002.87 due to an altered benthic community (potential chronic effects of cumulative PAHs and metals in sediment).

The impairment parameter was changed from estuarine bioassessments to sediment bioassay in the 2024 cycle. The Cause Group Code was renamed, as well.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COA02B20 / Coan River / From the downstream boundary of SFC 008-214S6, 3/15/2022 to rivermile 2.37. POTMH | 5A | Sediment Bioassay | 2020 | L | 0.532 |

Coan River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 0.532 | | |

Sources: Agriculture; Atmospheric Deposition - Nitrogen; Clean Sediments; Contaminated Sediments; Industrial Point Source Discharge; Internal Nutrient Recycling; Loss of Riparian Habitat; Municipal Point Source Discharges; Sediment Resuspension (Clean Sediment); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-07-SF Cod Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-141A, 2/15/2022

Cause City/County: Northumberland County; Westmoreland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation Notice 009-141A, 2/15/2022

Cod Creek was included on the 1998 303(d) list due to VDH Condemnation 141A, 1/31/1997. The Shellfish TMDL for Cod Creek was developed based on the maximum extent of the impairment (1/31/1997). The TMDL was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010; therefore, Cod Creek is considered Category 4A.

The condemnation shrank slightly during the 2014 cycle and the lower portion was partially delisted (Category 2C).

The condemnation extent has varied slightly but remains smaller than the 1997 extent.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_WES01B12 / West Yeocomico River / Portion of the West Yeocomico River mainstem within VDH condemnation notice 007-028C, 5/12/1997 POTMH | 4A | Fecal Coliform | 2024 | L | 0.055 |
| VAP-A34E_COC01A98 / Cod Creek / Described in the condemnation notice 009-141A, 2/15/2022 POTMH | 4A | Fecal Coliform | 1998 | L | 0.064 |

Cod Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.12 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-08-SF Cod Creek, UT**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-141B, 2/15/2022

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation Notice 009-141B, 2/15/2022

Cod Creek was included on the 1998 303(d) list due to VDH condemnation 141B, 1/31/1997. The Shellfish TMDL for Cod Creek was developed based on the maximum extent of the impairment (1/31/1997). The TMDL was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010; therefore, Cod Creek is considered Category 4A.

The condemnation shrank slightly during the 2014 cycle and the lower portion was partially delisted (Category 2C).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COC01B02 / Cod Creek, UT / Described in VDH shellfish condemnation notice 009-141B, 2/15/2022. POTMH | 4A | Fecal Coliform | 1998 | L | 0.054 |

Cod Creek, UT

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.054 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-09-BAC Presley Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-141C, 6/15/2020

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2012 cycle, Presley Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 2/12 at 1APRE001.58, which is located off Rt. 629.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

The area is within the study area for the Presley Creek Shellfish TMDL, which was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010. It is considered nested (Category 4A).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_PRE01A98 / Presley Creek / Described in VDH-DSS condemnation notice 009-141C, 2/15/2022. POTMH | 4A | Enterococcus | 2012 | L | 0.332 |

Presley Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.332 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-09-SF Presley Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-141C, 3/30/2009

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation Notice 009-141C, 2/15/2022

Presley Creek was included on the 1998 303(d) list due to VDH condemnation 140, 4/27/1989. The Shellfish TMDL for Presley Creek was developed based on the maximum extent of the impairment (009-141C, 3/30/2009). The TMDL was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010; therefore, Presley Creek is considered Category 4A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_PRE01A98 / Presley Creek / Described in VDH-DSS condemnation notice 009-141C, 2/15/2022. POTMH | 4A | Fecal Coliform | 1998 | L | 0.332 |

Presley Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Shellfishing** | | | |
| Fecal Coliform - Total Impaired Size by Water Type: | 0.332 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-12-SF Hull Creek, Floyd Cove, and Spring Cove**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-142A, -B, and -E, 4/15/2021

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnations 009-142A, -B, and -E, 4/15/2021

A portion of Hull Creek was listed as impaired of the Shellfish Use in the 1998 cycle because of VDH-DSS Shellfish Condemnation 142A, 1/31/1997.

The Shellfish TMDL for Hull Creek was developed based on the maximum extent of the impairment (8/21/2000). The TMDL was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010; therefore, Hull Creek is considered Category 4A.

The condemnation subsequently shrank and split segments. Closed segments remain Category 4A; the remainder (including Spring Cove) was partially delisted (Category 2C).

The condemnation grew slightly in the 2018 cycle and Spring Cove was relisted.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_HUL01A02 / Hull Creek and Floyd Cove / Described in VDH condemnations 009-142A and -142E, 4/15/2021, excluding Spring Cove. POTMH | 4A | Fecal Coliform | 1998 | L | 0.252 |
| VAP-A34E_HUL01C12 / Fleets Cove (Hull Creek, UT) / Described in VDH condemnation 009-142B, 4/15/2021. POTMH | 4A | Fecal Coliform | 1998 | L | 0.024 |
| VAP-A34E_SPN01A04 / Spring Cove / Tidal limit to mouth at Hull Creek POTMH | 4A | Fecal Coliform | 2018 | L | 0.010 |

Hull Creek, Floyd Cove, and Spring Cove

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.285 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-13-SF Rogers Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 142C, 4/15/2021

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation Notice 009-142C, 4/15/2021

Rogers Creek was included on the 1998 303(d) list due to VDH condemnation 142B, 1/31/1997. The Shellfish TMDL for Rogers Creek was developed based on the maximum extent of the impairment (3/17/2008). The TMDL was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010.

During the 2016 cycle, the Rogers Creek condemnation shrank. The upstream portion remains impaired (Category 4A); the downstream portion was partially delisted (Category 2C.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_ROG01A98 / Rogers Creek / Described in VDH-DSS condemnation notice 009-142C, 4/15/2021. POTMH | 4A | Fecal Coliform | 1998 | L | 0.035 |

Rogers Creek

**Shellfishing**

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.035 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-14-SF Cubitt Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-161A, 4/27/2018

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Shellfish Condemnation 009-161A, 4/27/2018

Cubitt Creek was impaired during the 1998 cycle due to VDH-DSS Shellfish Condemnation 168, 4/27/1989. The Shellfish TMDL for Cubitt Creek was developed during the 2010 cycle based on the maximum extent of the impairment (5/30/1986). The TMDL was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010; therefore, the creek is considered Category 4A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_CUT01A98 / Cubitt Creek / Described in VDH-DSS condemnation notice 168, 5/30/1986. POTMH | 4A | Fecal Coliform | 1998 | L | 0.225 |

Cubitt Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.225 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-15-SF Cod Creek, Tributary to Little Wicomico River**

Cause Location: Described in VDH condemnation 105A, 6/10/1997

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH Shellfish Condemnation 010-105G, 6/15/2022 Portion of VDH Shellfish Condemnation 010-105S86, 6/15/2022 - seasonally condemned

Cod Creek was assessed as impaired during the 1998 cycle because of VDH-DSS Shellfish Condemnation 105B, 6/10/1997. The TMDL was adopted by the EPA on 12/18/2003 and the SWCB on 12/2/2004. The impairment shortened during the 2012 cycle and a portion of the impairment was partially delisted.

The impairment expanded in the 2014 and 2016 cycles (see fact sheet A34E-11-SF). It shrunk back to the TMDL extent in the 2018 cycle.

The condemnation shrank further in the 2020 cycle and the lower portion is seasonally condemned and was partially delisted (Category 2C/2B.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COO01A98 / Cod Creek / Described in VDH condemnation notice 010-105G, 6/15/2022 CB5MH | 4A | Fecal Coliform | 1998 | L | 0.037 |

Cod Creek, Tributary to Little Wicomico River

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Shellfishing** | | | |
| Fecal Coliform - Total Impaired Size by Water Type: | 0.037 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-16-SF Little Wicomico River**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 105B, 6/10/1997

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH Shellfish Condemnation 010-105A, 6/15/2022

This segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997.

The Little Wicomico River Shellfish TMDL was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

The condemnation extent has expanded and contracted in multiple cycles. It is currently larger than the 1997 / TMDL extent and is Category 4A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_LIS01A98 / Little Wicomico River / Described in the VDH-DSS Condemnation Notice 105B, 6/10/1997 Merged in the 2024 cycle. CB5MH | 4A | Fecal Coliform | 1998 | L | 0.203 |

Little Wicomico River

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.203 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-16-SF2 Little Wicomico River**

Cause Location: Portion of VDH-DSS Condemnation 010-105A, 010-105E, and -010-105H, 6/15/2022 not impaired in 1998

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Portion of VDH-DSS Condemnation 010-105A, 010-105E, and -010-105H, 6/15/2022

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997. During the 2004 cycle, the segment expanded and has subsequently expanded and contracted during various assessment cycles. However, the 2003 TMDL only covered the original 1998 impaired section, which is classified as Cat. 4A. The TMDL for the expansion was due in 2016.

During the 2016 cycle, condemnation 010-105A, 6/9/2014 expanded considerably and several impairments were merged (A34E-16-SF2 and A34E-30-SF).

The condemnation shortened and split in the 2018 cycle; in addition, a seasonally condemned portion (010-105M4) was split off and partially delisted.

In the 2020 cycle, the condemnation shrank further and the mainstem Little Wicomico River condemnation (010-105A, 6/26/2018) is now smaller than the TMDL extent. The tributaries remain listed.

The mainstem condemnation expanded past the TMDL extent in the 2024 cycle.

The impairment is considered nested within the upstream Little Wicomico River Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_LIS01A02 / Little Wicomico River / Portion of VDH-DSS Condemnation 010-105A, 6/15/2022 which was not included in 105B, 6/10/1997, as well as condemnations 010-105E and -010-105H, 6/15/2022. Segment expanded in the 2024 cycle. CB5MH | 4A | Fecal Coliform | 2004 | L | 0.138 |

Little Wicomico River

**Shellfishing**

| Fecal Coliform - Total Impaired Size by Water Type: | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| | 0.138 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-17-SF Bridge Creek**

Cause Location: Described in VDH condemnation 010-105B and 010-105I, 6/26/2018 (open in the 1998 cycle)

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation Notice 010-105B, 6/15/2022

A small portion of the segment was listed in the 2006 cycle due to condemnation 010-105C, 9/15/2004. The segment expanded and merged with another condemnation during the 2008 cycle. Although the other condemnation was listed in 1998 and was later addressed in the shellfish TMDL, this AU represented the portion of the condemnation which was not included in the 2003 TMDL.

The condemnations shrank during the 2020 cycle. In addition, a portion was converted to seasonally condemned and was partially delisted.

The condemned area shrank further in the 2022 cycle and is now limited to one condemnation.

The impairment is considered nested within the Bridge Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_BRI01C98 / Bridge Creek / Described in VDH condemnation 010-105B, 6/15/2022. CB5MH | 4A | Fecal Coliform | 2006 | L | 0.087 |

Bridge Creek

**Shellfishing**

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.087 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-18-SF Bridge Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 180, 6/10/1997

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS Condemnation 010-105D, -105J, and -105K, 6/15/2022

Bridge Creek was impaired of the Shellfish Consumption Use during the 1998 cycle due to VDH-DSS condemnation 180, 6/10/1997. The segment was delisted in 2004 because the area was reopened for harvest, but was closed again in the 2006 cycle.

The segment received a fecal coliform allocation in the "Little Wicomico River Watershed TMDL for Three Shellfish Areas Listed Due to Bacteria Contamination" report which was approved by the EPA on 12/18/2003; therefore, it is considered Cat. 4A for shellfish consumption.

The condemned areas have expanded and contracted over several cycles. The restricted areas are currently smaller than the TMDL area are considered Category 4A. Re-opened and seasonally condemned areas are considered Category 2C and Category 2C/2B, respectively.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_BRI02C98 / Bridge Creek / Described in VDH-DSS condemnation notice 010-105D, -105J, and -105K, 6/15/2022<br>Merged in the 2024 cycle.<br>CB5MH | 4A | Fecal Coliform | 2006 | L | 0.051 |

Bridge Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Shellfishing** | | | |
| Fecal Coliform - Total Impaired Size by Water Type: | 0.051 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-24-BAC Spring Cove**

Cause Location: Tidal Spring Cove

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2010 cycle, Spring Cove was assessed as not supporting of the Recreation Use due to enterococci exceedances at 1ASPN000.08, which is located at the boat ramp off of Route 629.

Because the area is within the study area for the Hull Creek Shellfish TMDL which was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010, the Recreation impairment is considered nested (Category 4A.) The exceedance rate was 6/26 during the 2012 cycle.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_SPN01A04 / Spring Cove / Tidal limit to mouth at Hull Creek POTMH | 4A | Enterococcus | 2010 | L | 0.01 |

Spring Cove

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.01 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-31-BAC Little Wicomico River**

Cause Location: Tidal extent to mouth

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: In the 2006 cycle, the upper tidal portion of the Little Wicomico River was considered impaired of the Recreation Use due to enterococci exceedances at 1ALIS004.20, which is located off the mouth of Spences Creek. The enterococci violation rate was 4/26 during the 2012 cycle.

It was shortened in the 2018 cycle to remain coincident with the shellfish closure since that limit is more stringent.

In the 2020 cycle, monitoring at 1ALIS002.00 was also unacceptable (4/36); therefore, the impairment was extended to include the mainstem of the Little Wicomico River.

New bacteria criteria were implemented in the 2022 cycle. The segment remained impaired at 1ALIS002.00 due to two or more STV exceedances in the same 90-day period with <10 samples.

No additional data has been collected at 1ALIS004.20. There was insufficient information to assess 1ALIS002.00 in the 2024 cycle (no STV exceedances but insufficient data to analyze geomean). The impairment is carried over.

The impairment is considered nested because it is located within the tidal excursion of the upstream Little Wicomico River Shellfish TMDL. The TMDL was approved on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_LIS01A02 / Little Wicomico River / Portion of VDH-DSS Condemnation 010-105A, 6/15/2022 which was not included in 105B, 6/10/1997, as well as condemnations 010-105E and -010-105H, 6/15/2022. Segment expanded in the 2024 cycle. CB5MH | 4A | Enterococcus | 2006 | L | 0.138 |
| VAP-A34E_LIS01A98 / Little Wicomico River / Described in the VDH-DSS Condemnation Notice 105B, 6/10/1997 Merged in the 2024 cycle. CB5MH | 4A | Enterococcus | 2006 | L | 0.203 |
| VAP-A34E_LIS01B12 / Little Wicomico River / Described in VDH-DSS condemnation 010-105M3, 6/15/2022 CB5MH | 4A | Enterococcus | 2020 | L | 0.021 |
| VAP-A34E_LIS02A00 / Little Wicomico River / Boundary of VDH-DSS Condemnation Notice 010-105, 6/15/2022 downstream to Sunnybank Ferry. CB5MH | 4A | Enterococcus | 2020 | L | 0.476 |
| VAP-A34E_LIS02B08 / Little Wicomico River / Described in VDH-DSS condemnation 010-105M2, 6/15/2022 CB5MH | 4A | Enterococcus | 2020 | L | 0.006 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_LIS02C20 / Little Wicomico River / Described in VDH-DSS Condemnation 010-105S11, 6/15/2022. Segment adjusted in the 2024 cycle. CB5MH | 4A | Enterococcus | 2006 | L | 0.152 |
| VAP-A34E_LIS02D22 / Sloop Creek / Described in VDH-DSS Condemnation 010-105SI, 6/15/2022. CB5MH | 4A | Enterococcus | 2006 | L | 0.018 |
| VAP-A34E_LIS03A98 / Little Wicomico River / Confined to approximately the Sunnybank Ferry Route. CB5MH | 4A | Enterococcus | 2020 | L | 0.025 |
| VAP-A34E_LIS04A00 / Little Wicomico River / Mainstem Little Wicomico River downstream of the Sunnybank Ferry Route, except as otherwise segmented. CB5MH | 4A | Enterococcus | 2020 | L | 0.511 |

Little Wicomico River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 1.55 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-36-BAC Hack Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-161B, 4/27/2018

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Enterococcus/4A

Cause Description: During the 2012 cycle, Hack Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 2/11 at 1AHAC000.96, which is located off of Route 644.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

The Shellfish TMDL for Hack Creek was developed based on the maximum extent of the impairment (009-161B, 3/14/2007) and was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010. Because the impairment is within the TMDL study area, the Recreation Use is considered nested (Category 4A).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_HAC01A00 / Hack Creek / Tidal limit to mouth at Potomac River. POTMH | 4A | Enterococcus | 2012 | L | 0.224 |

Hack Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Enterococcus - Total Impaired Size by Water Type: | 0.224 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-36-SF Hack Creek**

Cause Location: Described in VDH Notice and Description of Shellfish Condemnation 009-161B, 3/14/2007

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS condemnation 009-161B, 4/27/2018

Hack Creek was designated as a non-productive shellfish growing area by VDH-DSS in previous summaries, so the use had been considered removed. However, during the 2008 cycle, it was determined that VDH considers the water condemned and Hack Creek was assessed as impaired (161, 4/27/1989.)

The Shellfish TMDL for Hack Creek was developed for the entire creek to its mouth based on the maximum extent of the impairment (009-161B, 3/14/2007). The TMDL was approved by the EPA on 11/16/2009 and by the SWCB on 9/30/2010; therefore, the creek is considered Category 4A.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_HAC01A00 / Hack Creek / Tidal limit to mouth at Potomac River. POTMH | 4A | Fecal Coliform | 2008 | L | 0.224 |

Hack Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Shellfishing** | | | |
| Fecal Coliform - Total Impaired Size by Water Type: | 0.224 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-37-SF Sloop Creek**

Cause Location: Described in VDH-DSS condemnation 010-105I, 6/15/2022

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS condemnation 010-105I, 6/15/2022

Sloop Creek was impaired of the Shellfish Use in the 2022 cycle. The impairment is considered nested within the upstream Little Wicomico River Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_LIS02D22 / Sloop Creek / Described in VDH-DSS Condemnation 010-105SI, 6/15/2022. CB5MH | 4A | Fecal Coliform | 2022 | L | 0.018 |

Sloop Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.018 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-38-EBTOX Bridge Creek**

Cause Location: The lower portion of Bridge Creek below the shellfish condemnation zones.

Cause City/County: Northumberland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2022 cycle, lower Bridge Creek was impaired of the Aquatic Life Use due to 2019 monitoring at estuarine probabilistic station 1ABRI000.43. DEQ-CO assigned the results to Weight of Evidence scenario 1.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_BRI03A22 / Bridge Creek / Portion of VDH-DSS condemnation 010-105S12, 6/15/2022 not included in 180, 6/10/1997. Merged in the 2024 cycle. CB5MH | 5A | Sediment Bioassay | 2022 | L | 0.108 |

Bridge Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 0.108 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-39-SF Wrights Cove, UT**

Cause Location: Described in the VDH-DSS Shellfish Condemnation 08-213C, 3/15/2002

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH Shellfish Condemnation 008-213C, 3/15/2022

The segment was considered impaired of the Shellfish Use during the 2024 cycle. The impairment is proposed for nesting within the Glebe Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_GLE04A04 / Wrights Cove, UT / Described in VDH-DSS Shellfish Condemnation 08-213C, 3/15/2022. POTMH | 4A | Fecal Coliform | 2024 | L | 0.046 |

Wrights Cove, UT

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.046 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-40-SF Kingscote Creek, UT**

Cause Location: Described in VDH-DSS condemnation 008-213B, 3/15/2022

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH-DSS condemnation 008-213B, 3/15/2022

Kingscote Creek was impaired of the Shellfishing Use in the 2024 cycle. The impairment is proposed for nesting within the nearby Killneck Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_KIN04A06 / Kingscote Creek, UT / Described in VDH-DSS condemnation 008-213B, 3/15/2022. POTMH | 4A | Fecal Coliform | 2024 | L | 0.009 |

Kingscote Creek, UT

| | | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|---|
| **Shellfishing** | Fecal Coliform - Total Impaired Size by Water Type: | 0.009 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-41-EBTOX Little Wicomico River**

Cause Location: Described in VDH-DSS condemnation 010-105S11, 6/15/2022

Cause City/County: Northumberland County

Use(s): Aquatic Life

Causes(s)/VA Category: Sediment Bioassay/5A

Cause Description: During the 2024 cycle, a portion of the Little Wicomico River was impaired of the Aquatic Life Use based upon 2022 monitoring at estuarine probabilistic monitoring station 1ALIS004.09. The weight-of-evidence assessment assigned it to Category 5A, scenario 8.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_LIS02C20 / Little Wicomico River / Described in VDH-DSS Condemnation 010-105S11, 6/15/2022. Segment adjusted in the 2024 cycle. CB5MH | 5A | Sediment Bioassay | 2024 | L | 0.152 |

Little Wicomico River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Sediment Bioassay - Total Impaired Size by Water Type: | 0.152 | | |

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); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34E-42-SF Bridgemans Back Creek**

Cause Location: Described in VDH Shellfish Condemnation 010-105F, 6/15/2022.

Cause City/County: Northumberland County

Use(s): Shellfishing

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: VDH Shellfish Condemnation 010-105F, 6/15/2022

A portion of Bridgemans Back Creek is impaired of the Shellfish Use in the 2024 cycle. It is proposed for nesting within the Bridge Creek Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_BBC01A08 / Bridgemans Back Creek / Described in VDH Shellfish Condemnation 010-105F, 6/15/2022. Split in the 2024 cycle. CB5MH | 4A | Fecal Coliform | 2024 | L | 0.021 |

Bridgemans Back Creek

| **Shellfishing** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | 0.021 | | |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: A34R-02-BAC Little Wicomico River**

Cause Location: The nontidal portion of Little Wicomico River.

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: The nontidal portion of the Little Wicomico River was impaired of the Recreation Use in the 2018 cycle due to an E. coli exceedance rate of 4/13 at 1ALIS007.20.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

The segment is within the TMDL study area for the Little Wicomico River Watershed Shellfish TMDL, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004. It is considered nested (Category 4A.)

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34R_LIS01A06 / Little Wicomico River / Headwaters to tidal limit | 4A | Escherichia coli (E. coli) | 2018 | L | 2.34 |

Little Wicomico River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.34 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: A34R-02-PH Little Wicomico River**

Cause Location: The nontidal portion of Little Wicomico River.

Cause City/County: Northumberland County

Use(s): Aquatic Life

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

Cause Description: The nontidal portion of Little Wicomico River was initially considered not supporting the Aquatic Life Use during the 2006 cycle due to a pH exceedance rate of 2/11 at 1ALIS007.20, located at the Route 646 bridge.

During the 2008 cycle, the exceedance rate increased to 3/13.

The exceedance rate was 3/10 in the 2018 cycle.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34R_LIS01A06 / Little Wicomico River / Headwaters to tidal limit | 5C | pH | 2006 | L | 2.34 |

Little Wicomico River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 2.34 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A34R-03-DO XLL - Coan Mill Stream, UT**

Cause Location: The unnamed tributary in its entirety.

Cause City/County: Northumberland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: During the 2010 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1AXLL000.92, which is located west of Route 301.

The exceedance rate was 2/12 during the 2012 cycle.

The site is on private property and cannot be re-sampled.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34R_XLL01A10 / XLL - Coan Mill Stream, UT / Headwaters to mouth at Coan Mill Stream | 5C | Dissolved Oxygen | 2010 | L | 2.1 |

XLL - Coan Mill Stream, UT

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 2.1 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: A34R-04-BAC Coan Mill Stream**

Cause Location: From the headwaters to the confluence with the unnamed tributary at river mile 1.53

Cause City/County: Northumberland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: In the 2012 cycle, Coan Mill Stream was assessed not supporting of the Recreation use goal based on an E. coli exceedance rate of 2/12 at Route 638 (1ACON002.88).

The stream is considered nested within the Shellfish TMDL for the Coan River Watershed, which was approved by the EPA on 12/18/2003 and by the SWCB on 12/2/2004.

New bacteria criteria were implemented in the 2022 cycle. No additional data have been collected; therefore, the impairment is carried over.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34R_CON01B10 / Coan Mill Stream / Headwaters to the confluence with the unnamed tributary at rivermile 1.53. | 4A | Escherichia coli (E. coli) | 2012 | L | 2.93 |

Coan Mill Stream

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.93 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: B02R-01-BAC West Strait Creek**

Cause Location: West Strait Creek from the headwaters downstream to the Monterey STP discharge.

Cause City/County: Highland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station 1AWSC003.79 (3 exceedances of 9 samples for e-coli in 2014, no new data in 2024). Initial Listing Date: 2010

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B02R_WSC03A00 / West Strait Creek / West Strait Creek from the headwaters downstream to the Monterey STP. | 5A | Escherichia coli (E. coli) | 2010 | L | 0.88 |

West Strait Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 0.88 |

Sources: Agriculture; Non-Point Source; Unspecified Domestic Waste; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B02R-01-BEN West Strait Creek**

Cause Location: West Strait Creek from the headwaters downstream to its confluence with Burner's Run.

Cause City/County: Highland County

Use(s): Aquatic Life

Causes(s)/VA Category: Ammonia, Total/4A; Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations 1AWSC003.54 and 1AWSC003.79. Initial Listing Date: 1996. This impairment is included in the EPA approved West Strait Creek/Strait Creek Benthic TMDL. Federal TMDL ID 36924. The TMDL determined that Ammonia, Carbonaceous Biochemical Oxygen Demand (CBOD5), and Sediment are pollutants causing benthic macroinvertebrate community impairment in this waterbody.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B02R_WSC02A00 / West Strait Creek / West Strait Creek from the Monterey STP downstream to its confluence with Burner's Run. | 4A | Ammonia, Total | 1996 | L | 0.37 |
| VAV-B02R_WSC03A00 / West Strait Creek / West Strait Creek from the headwaters downstream to the Monterey STP. | 4A | Ammonia, Total | 1996 | L | 0.88 |

West Strait Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Ammonia, Total - Total Impaired Size by Water Type: | | | 1.25 |

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B02R_WSC02A00 / West Strait Creek / West Strait Creek from the Monterey STP downstream to its confluence with Burner's Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 0.37 |
| VAV-B02R_WSC03A00 / West Strait Creek / West Strait Creek from the headwaters downstream to the Monterey STP. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 0.88 |

West Strait Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1.25 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Grazing in Riparian or Shoreline Zones; Municipal Point Source Discharges; Non-Point Source; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B02R-01-DO West Strait Creek**

Cause Location: West Strait Creek from the Monterey STP discharge downstream to its confluence with Burner's Run.

Cause City/County: Highland County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/4A

Cause Description: This segment is impaired due to excursions of the dissolved oxygen WQS at station: 1AWSC003.54. Initial Listing Date: 2010. This impairment is included in the EPA approved West Strait Creek/Strait Creek Benthic TMDL. Federal TMDL ID 36926

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B02R_WSC02A00 / West Strait Creek / West Strait Creek from the Monterey STP downstream to its confluence with Burner's Run. | 4A | Dissolved Oxygen | 2010 | L | 0.37 |

West Strait Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 0.37 |

Sources: Crop Production (Crop Land or Dry Land); Grazing in Riparian or Shoreline Zones; Municipal Point Source Discharges; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B02R-05-BAC South Branch Potomac River**

Cause Location: South Branch Potomac River from the headwaters downstream to the VA/WV state line.

Cause City/County: Highland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station 1ASOA001.00 (2 of 12 samples exceed e-coli WQS in 2020, no new data 2024) Initial Listing Date: 2020

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B02R_SOA01A00 / South Branch Potomac River / South Branch Potomac River from its confluence with Strait Creek downstream to the VA/WVA state line. | 5A | Escherichia coli (E. coli) | 2020 | L | 1.02 |
| VAV-B02R_SOA01B10 / South Branch Potomac River / South Branch Potomac River 5.27 miles from the VA/WVA state line downstream to the confluence with Strait Creek. | 5A | Escherichia coli (E. coli) | 2020 | L | 4.32 |
| VAV-B02R_SOA02A10 / South Branch Potomac River / South Branch Potomac River from the headwaters downstream (4.9 miles) to a point 5.27 miles above the VA/WVA state line. | 5A | Escherichia coli (E. coli) | 2020 | L | 5.04 |

South Branch Potomac River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.38 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality
# Appendix 4 - Fact Sheets for
# Impaired (Category 4 or 5) Waters in 2024

## Potomac and Shenandoah River Basins

**Cause Group Code: B02R-06-BAC Strait Creek**

Cause Location: Strait Creek from the headwaters downstream to its confluence with West Strait Creek.

Cause City/County: Highland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station 1ASTT000.02 (4 exceedances out of 9 samples in 2006, no new data 2024). Initial Listing Date: 2006

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B02R_STC02A00 / Strait Creek / Strait Creek from the headwaters downstream to its confluence with West Strait Creek. | 5A | Escherichia coli (E. coli) | 2006 | L | 2.78 |

Strait Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.78 |

Sources: Agriculture; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B03R-03-BAC South Fork South Branch Potomac River**

Cause Location: South Fork South Branch Potomac River from the headwaters downstream to the VA/WVA State Line.

Cause City/County: Highland County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1ASFP002.56 (2 exceedances out of 12 samples in 2012, no new data 2024). Initial Listing Date: 2012.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B03R_SFP01A00 / South Fork South Branch Potomac River / South Fork South Branch Potomac River from the headwaters downstream to the VA/WVA state line. | 5A | Escherichia coli (E. coli) | 2012 | L | 2.71 |

South Fork South Branch Potomac River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.71 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B04R-01-BAC Middle Fork Sleepy Creek**

Cause Location: Middle Fork Sleepy Creek from the headwaters downstream to the VA/WVA state line.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1AMIS010.45 (4 exceedances of 10 samples in 2020, no new data 2024) Initial Listing Date: 2020

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B04R_MIS01A14 / Middle Fork Sleepy Creek / Middle Fork Sleepy Creek from the headwaters downstream to the VA/WVA state line. | 5A | Escherichia coli (E. coli) | 2020 | L | 2.93 |

Middle Fork Sleepy Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.93 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B04R-02-BAC Sleepy Creek**

Cause Location: Sleepy Creek from the headwaters downstream to the VA/WVA state line.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1ASLP034.20 (2 exceedances of 12 samples for e-coli in 2020, no new data 2024) Initial Listing Date: 2016.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B04R_SLP01A00 / Sleepy Creek / Sleepy Creek from the headwaters downstream to the VA/WVA state line. | 5A | Escherichia coli (E. coli) | 2016 | L | 7.73 |

Sleepy Creek

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

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B04R-03-BAC Middle Fork Sleepy Creek X-trib**

Cause Location: Middle Fork Sleepy Creek X-trib from the headwaters downstream to its confluence with Middle Fork Sleepy Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1AXMS000.08 (3 out of 11 samples in 2014, no new data in 2024). Initial Listing Date: 2014

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B04R_XSM01A18 / Middle Fork Sleepy Creek X-trib / Middle Fork Sleepy Creek X-trib from the headwaters downstream to its confluence with Middle Fork Sleepy Creek. | 5A | Escherichia coli (E. coli) | 2014 | L | 2.55 |

Middle Fork Sleepy Creek X-trib

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.55 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B05R-01-BAC Back Creek**

Cause Location: Back Creek from the headwaters downstream to its confluence with Isaacs Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1ABAR041.11 (2 of 12 samples in 2010, 3 of 12 samples in 2016, no new data 2024). Initial Listing Date: 2010.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B05R_BAR01B10 / Back Creek / Back Creek from the Route 600 bridge crossing downstream to its confluence with Isaacs Creek. | 5A | Escherichia coli (E. coli) | 2010 | L | 2.47 |
| VAV-B05R_BAR02A04 / Back Creek / Back Creek from Rock Enon Spring downstream to the Route 600 bridge crossing. | 5A | Escherichia coli (E. coli) | 2010 | L | 10.94 |

Back Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 13.41 |

Sources: Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B05R-01-TEMP Back Creek**

Cause Location: Back Creek from the headwaters downstream to its confluence with Rock Enon Spring.

Cause City/County: Frederick County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5A

Cause Description: This segment of Back Creek is assessed as impaired for aquatic life based on stockable trout waters temperature WQS exceedances (2 out of 13 samples in 2022, no new data 2024) at station 1ABAR052.96. Initial Listing Date: 2022

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B05R_BAR03A10 / Back Creek / Back Creek from the headwaters downstream to its confluence with Rock Enon Spring. | 5A | Temperature | 2022 | L | 4.2 |

Back Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | | 4.2 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B05R-02-BAC Little Isaacs Creek**

Cause Location: Little Isaacs Creek from the Timber Ridge School STP downstream (including an unnamed tributary originating near Reynolds Store) to its confluence with Isaacs Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station 1ALIG001.84 (2 exceedances of 11 samples in 2008, no new data in 2024). Initial Listing Cycle: 2008

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B05R_LIG01A00 / Little Isaacs Creek / Little Isaacs Creek from the Timber Ridge School STP downstream (including unnamed tributary originating near Reynolds Store) to its confluence with Isaacs Creek. | 5A | Escherichia coli (E. coli) | 2008 | L | 9.93 |

Little Isaacs Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.93 |

Sources: Agriculture; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B05R-03-BAC Isaacs Creek**

Cause Location: Isaacs Creek from its confluence with Little Isaacs Creek downstream to its confluence with Back Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station 1AISC001.77 (2 exceedances of 11 samples in 2016, no new data 2024) Initial Listing Date: 2016.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B05R_ISC01A00 / Isaacs Creek / Isaacs Creek from its confluence with Little Isaacs Creek downstream to its confluence with Back Creek. | 5A | Escherichia coli (E. coli) | 2016 | L | 2.84 |

Isaacs Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.84 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B05R-03-BEN Issacs Creek**

Cause Location: Issacs Creek from the headwaters downstream to its confluence with Little Isaacs Creek.

Cause City/County: Frederick County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) <60) at station 1AISC004.64, located 0.4 miles upstream of Faughts Lane. No new data collected in the 2024 cycle. Initial Listing Cycle: 2022.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B05R_ISC02A16 / Isaacs Creek / Issacs Creek from the dam at Lake Holiday downstream to its confluence with Little Isaacs Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2022 | L | 3.45 |

Issacs Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.45 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B06R-02-BAC Hogue Creek**

Cause Location: Hogue Creek from the headwaters downstream to its confluence with Back Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1AHOC006.23; no new data in 2024. Additional data collected in 2024 cycle at 1AHOC003.67 (two or more STV hits in the same 90-day period with < 10 samples). Initial Listing Cycle: 2002. This segment is included in the EPA approved Hogue Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B06R_HOC01A00 / Hogue Creek / Hogue Creek from the Route 679 bridge crossing downstream to its confluence with Back Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 6.44 |
| VAV-B06R_HOC02A10 / Hogue Creek / Hogue Creek from Route 679 upstream 6 miles to the Forks below Route 612. | 4A | Escherichia coli (E. coli) | 2008 | L | 6.29 |
| VAV-B06R_HOC03A10 / Hogue Creek / Hogue Creek from the headwaters downstream approximately 4.5 miles to the Forks below Route 612 | 4A | Escherichia coli (E. coli) | 2008 | L | 4.54 |

Hogue Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 17.27 |

Sources: Agriculture; Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B07R-01-BAC Back Creek**

Cause Location: Back Creek from its confluence with Hogue Creek downstream to its confluence with Babbs Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1ABAR037.84 (3 exceedances of 13 samples in 2018; 2024 cycle- The recreation use impairment remains with insufficient data collected (one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean). Initial Listing Cycle: 2018

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B07R_BAR02A10 / Back Creek / Back Creek from its confluence with Hogue Creek downstream to its confluence with Babbs Creek. | 5A | Escherichia coli (E. coli) | 2018 | L | 4.92 |

Back Creek

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

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B08R-01-BAC Opequon Creek**

Cause Location: Opequon Creek from the headwaters downstream to its confluence with Abrams Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1AOPE036.13 (11 exceedances of 32 samples in 2008; insufficient data collected (one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024); Initial Listing Date: 2004; This segment is included in the EPA approved Opequon Creek bacteria TMDL. Federal TMDL ID 20941

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B08R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hoge Run downstream to its confluence with Abrams Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 12.84 |
| VAV-B08R_OPE02A10 / Opequon Creek / Opequon Creek from the first Route 620 crossing downstream to its confluence with Hoge Run. | 4A | Escherichia coli (E. coli) | 2004 | L | 9.00 |
| VAV-B08R_OPE03A10 / Opequon Creek / Opequon Creek from the first Route 620 crossing to the headwaters. | 4A | Escherichia coli (E. coli) | 2004 | L | 1.38 |

Opequon Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 23.22 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B08R-01-BEN Opequon Creek**

Cause Location: Opequon Creek from the headwaters downstream to its confluence with Abrams Creek.

Cause City/County: Frederick County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station 1AOPE036.13. Initial Listing Date: 2010.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B08R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hoge Run downstream to its confluence with Abrams Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 12.84 |
| VAV-B08R_OPE02A10 / Opequon Creek / Opequon Creek from the first Route 620 crossing downstream to its confluence with Hoge Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 9.00 |
| VAV-B08R_OPE03A10 / Opequon Creek / Opequon Creek from the first Route 620 crossing to the headwaters. | 5A | Benthic Macroinvertebrates Bioassessments | 2010 | L | 1.38 |

Opequon Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 23.22 |

Sources: Agriculture; Municipal Point Source Discharges; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B09R-01-BAC Abrams Creek**

Cause Location: Abrams Creek from the headwaters downstream to is confluence with Opequon Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1AABR000.78 (3 exceedances of 23 samples in 2008, two or more STV hits in the same 90-day period with < 10 samples in 2022, no new data 2024). Initial Listing Date: 1996. This segment is included in the EPA approved Abrams Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B09R_ABR01A00 / Abrams Creek / Abrams Creek from its headwaters downstream to its confluence with Opequon Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 11.18 |

Abrams Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.18 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B09R-01-BEN Abrams Creek**

Cause Location: Abrams Creek from the headwaters downstream to is confluence with Opequon Creek.

Cause City/County: Frederick County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1AABR000.78; no data 2024 cycle; Initial Listing Date: 1996; This segment is included in the EPA approved Abrams Creek benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B09R_ABR01A00 / Abrams Creek / Abrams Creek from its headwaters downstream to its confluence with Opequon Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 11.18 |

Abrams Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 11.18 |

Sources: Agriculture; Channel Erosion/Incision from Upstream Hydromodifications; Construction; Municipal (Urbanized High Density Area)

## Potomac and Shenandoah River Basins

**Cause Group Code: B09R-02-BAC Opequon Creek**

Cause Location: Opequon Creek from its confluence with Abrams Creek downstream to the VA/WV state line.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at: DEQ stations 1AOPE025.10 (6 exceedances of 24 samples in 2008; no new data 2024). Additional data collected at Friends of the Shenandoah River level III station 1AOPE-FCOC-FOSR (2024 cycle- geomean exceedance in any 90-day period). Initial Listing Date: 1996 (fecal coliform)/2008 (E.coli); This segment is part of the EPA approved Abrams/Opequon Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B09R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hot Run downstream to the VA/WVA state line. | 4A | Escherichia coli (E. coli) | 2008 | L | 3.03 |
| VAV-B09R_OPE02A10 / Opequon Creek / Opequon Creek from its confluence with Abrams Creek downstream to its confluence with Hot Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 6.03 |

Opequon Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.06 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B09R-02-BEN Opequon Creek**

Cause Location: Opequon Creek from its confluence with Abrams Creek downstream to the VA/WV state line.

Cause City/County: Frederick County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1AOPE028.72. Initial Listing Date: 1996; This segment is part of the EPA approved Abrams/Opequon Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B09R_OPE01A00 / Opequon Creek / Opequon Creek from its confluence with Hot Run downstream to the VA/WVA state line. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 3.03 |
| VAV-B09R_OPE02A10 / Opequon Creek / Opequon Creek from its confluence with Abrams Creek downstream to its confluence with Hot Run. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 6.03 |

Opequon Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.06 |

Sources: Channel Erosion/Incision from Upstream Hydromodifications; Channelization; Municipal (Urbanized High Density Area)

## Potomac and Shenandoah River Basins

**Cause Group Code: B09R-03-BAC Lick Run**

Cause Location: Lick Run (also known as Hiatt Run) from its headwaters downstream to its confluence with Opequon Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1ALIR000.95 (no new data in 2024); Initial Listing Date: 2006; This segment is included in the EPA approved TMDL for the Abrams/Opequon watershed.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B09R_LIR01A00 / Lick Run / Lick Run (also known as Hiatt Run) from its headwaters downstream to its confluence with Opequon Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 8.22 |

Lick Run

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 8.22 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B09R-04-BAC Redbud Run**

Cause Location: Redbud Run and tributary from the headwaters downstream to its confluence with Opequon Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station 1ARED000.46 (4 exceedances of 9 samples in 2008; no new data 2024). Additional data collected at FOSR level III stations in 2020: E. coli exceedances: 7/11 at 1ARED-SVB03-FOSR and 9/12 at 1ARED-SVB02-FOSR. Initial Listing Date: 2004 (fecal coliform)/2008 (E.coli); The segment is nested into the EPA approved Abrams/Opequon Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B09R_RED01A00 / Redbud Run / Redbud Run from a point 4.4 miles upstream of its confluence with Opequon Creek downstream to its confluence with Opequon Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 4.50 |
| VAV-B09R_RED02A10 / Redbud Run / Redbud Run from its headwaters downstream to a point 4.4 miles upstream of its confluence with Opequon Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.00 |
| VAV-B09R_XRD01A10 / Redbud Run x-trib / Redbud Run x-trib from the headwaters downstream to its confluence with Redbud Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 1.55 |

Redbud Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 8.05 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Urban Runoff/Storm Sewers; Wastes from Pets; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B09R-04-BEN Redbud Run**

Cause Location: Redbud Run and tributary from the headwaters downstream to its confluence with Opequon Creek.

Cause City/County: Frederick County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1ARED000.46. Initial Listing Date: 2004. This segment is included in the EPA approved Abrams/Opequon Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B09R_RED01A00 / Redbud Run / Redbud Run from a point 4.4 miles upstream of its confluence with Opequon Creek downstream to its confluence with Opequon Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 4.50 |
| VAV-B09R_RED02A10 / Redbud Run / Redbud Run from its headwaters downstream to a point 4.4 miles upstream of its confluence with Opequon Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 2.00 |
| VAV-B09R_XRD01A10 / Redbud Run x-trib / Redbud Run x-trib from the headwaters downstream to its confluence with Redbud Run. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 1.55 |

Redbud Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 8.05 |

Sources: Agriculture; Channel Erosion/Incision from Upstream Hydromodifications; Industrial/Commercial Site Stormwater Discharge (Permitted); Municipal (Urbanized High Density Area); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: B10R-01-BEN Cockran Spring Branch**

Cause Location: Cockran Spring Branch from the spring downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: The benthic community at this site was not assessed during the 2024 cycle and the impaired status carries from previous assessments. This assessment unit is included in an EPA approved TMDL for Streams Impacted by Fish Farms. Initial Listing Date: 1996.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B10R_XDN01A00 / Cockran Spring Branch / Cockran Spring Branch from the spring downstream to its confluence with Middle River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 0.58 |

Cockran Spring Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 0.58 |

Sources: Aquaculture (Permitted)

## Potomac and Shenandoah River Basins

**Cause Group Code: B10R-02-BAC Middle River**

Cause Location: Middle River from the headwaters downstream to its confluence with Jennings Branch.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BMDL060.48 (12 exceedances out of 20 samples in 2004; two or more STV hits in the same 90-day period with less than 10 samples in 2022); 1BMDL051.36 (5 exceedances of 11 samples in 2008, no new data 2024); 1BMDL047.90 (2 exceedances of 10 samples in 2010, no E.coli STV exceedances but having insufficient data to analyze geomean in 2024). Initial Listing Date: 2004; This segment is included in the EPA approved Middle River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B10R_MDL01A00 / Middle River / Middle River from its confluence with Back Creek downstream to its confluence with Eidson Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 4.79 |
| VAV-B10R_MDL02A00 / Middle River / Middle River from its confluence with Cockran Spring Branch downstream to its confluence with Back Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 9.30 |
| VAV-B10R_MDL03A00 / Middle River / Middle River from the headwaters downstream to its confluence with Cockran Spring Branch. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.97 |
| VAV-B11R_MDL01A00 / Middle River / Middle River from its confluence with Buffalo Branch downstream to its confluence with Jennings Branch. | 4A | Escherichia coli (E. coli) | 2010 | L | 3.37 |
| VAV-B11R_MDL02A00 / Middle River / Middle River from its confluence with Eidson Creek downstream to its confluence with Buffalo Branch. | 4A | Escherichia coli (E. coli) | 2008 | L | 3.49 |

Middle River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 23.92 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B10R-02-BEN Middle River**

Cause Location: Middle River from the headwaters downstream to its confluence with Eidson Creek.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BMDL066.05 and 1BMDL066.84. Initial Listing Date: 1998; This segment is included in the EPA approved Middle River Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B10R_MDL01A00 / Middle River / Middle River from its confluence with Back Creek downstream to its confluence with Eidson Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 4.79 |
| VAV-B10R_MDL02A00 / Middle River / Middle River from its confluence with Cockran Spring Branch downstream to its confluence with Back Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 9.30 |
| VAV-B10R_MDL03A00 / Middle River / Middle River from the headwaters downstream to its confluence with Cockran Spring Branch. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 2.97 |

Middle River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 17.06 |

Sources: Agriculture; Grazing in Riparian or Shoreline Zones; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B10R-03-BAC Back Creek**

Cause Location: Back Creek from the headwaters downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BBAK001.74 (5 exceedances of 5 samples in 2008, 6 exceedances of 12 samples in 2014, no new data in 2024). Initial Listing Date: 2004 (fecal coliform)/2008 (E.coli); This segment is nested within the EPA approved Middle River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B10R_BAK01A00 / Back Creek / Back Creek from the headwaters downstream to its confluence with Middle River. | 4A | Escherichia coli (E. coli) | 2004 | L | 10.73 |

Back Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.73 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B10R-04-BAC Eidson Creek**

Cause Location: Eidson Creek from the headwaters downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BEDN003.67 (3 exceedances of 5 samples in 2008; no new data in 2024). Initial Listing Date: 2004 (fecal coliform)/2008 (E.coli); This segment is nested within the EPA approved Middle River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B10R_EDN01A00 / Eidson Creek / Eidson Creek from the headwaters downstream to its confluence with Middle River. | 4A | Escherichia coli (E. coli) | 2004 | L | 8.85 |

Eidson Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 8.85 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B11R-02-BEN Middle River**

Cause Location: Middle River from its confluence with Buffalo Branch downstream to its confluence with Jennings Branch.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BMDL047.90. Initial Listing Date: 2022

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B11R_MDL01A00 / Middle River / Middle River from its confluence with Buffalo Branch downstream to its confluence with Jennings Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2022 | L | 3.37 |

Middle River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.37 |

Sources: Agriculture; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B11R-03-BEN Jennings Branch**

Cause Location: Jennings Branch from its confluence with McKittricks Branch downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BJEN000.30 and 1BJEN000.59. Initial Listing Cycle: 2022

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B11R_JEN01A00 / Jennings Branch / Jennings Branch from its confluence with McKittricks Branch downstream to its confluence with Middle River. | 5A | Benthic Macroinvertebrates Bioassessments | 2022 | L | 4.11 |

Jennings Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.11 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B12R-01-BAC Lewis Creek**

Cause Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River.

Cause City/County: Augusta County; Staunton

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BLEW002.91 (24 exceedances out of 33 samples in 2004; no new data 2024), additional E.coli exceedances collected at station(s): 1BLEW000.61 (2024 cycle- two or more STV hits in the same 90-day period with < 10 samples); 1BLEW006.95 (10 exceedances of 12 samples for e-coli in 2018, no new data 2024). Initial Listing Date: 2004; This segment is included in the EPA approved Lewis Creek TMDL for Bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. | 4A | Escherichia coli (E. coli) | 2004 | L | 10.07 |

Lewis Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.07 |

Sources: Municipal (Urbanized High Density Area); Non-Point Source; Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B12R-01-BEN Lewis Creek**

Cause Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River.

Cause City/County: Augusta County; Staunton

Use(s): Aquatic Life; Wildlife

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A; Lead/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BLEW006.95; additional impaired VSCI data collected at station(s) 1BLEW000.61 and 1BLEW009.19. Initial Listing Date: 1996; This segment is included in the EPA approved Lewis Creek Benthic TMDL. The EPA approved TMDL determined that Lead is a pollutant causing benthic macroinvertebrate community impairment in this segment of Lewis Creek.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 10.07 |

Lewis Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 10.07 |

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. | 4A | Lead | 1996 | L | 10.07 |

Lewis Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Lead - Total Impaired Size by Water Type: | | | 10.07 |

Lewis Creek

| **Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Lead - Total Impaired Size by Water Type: | | | 10.07 |

Sources: Contaminated Sediments; Illegal Dumps or Other Inappropriate Waste Disposal; Municipal Point Source Discharges; Non-Point Source; Sediment Resuspension (Contaminated Sediment); Streambank Erosion; Unpermitted Discharge (Industrial/commercial Wastes); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: B12R-01-PCB Lewis Creek**

Cause Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River.

Cause City/County: Augusta County; Staunton

Use(s): Aquatic Life; Fish Consumption; Wildlife

Causes(s)/VA Category: PCBs in Fish Tissue/4A; Polychlorinated biphenyls (PCBs)/4A

Cause Description: This segment is included in the VDH Fish Consumption Advisory for Polychlorinated Biphenyls (PCBs), effective 12/13/04. Visit https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/fish-consumption-advisory/ for more information.

Exceedances of the WQS based PCB fish tissue value of 18 ppb were found in recent fish tissue collections. Fish tissue collected at station 1BLEW005.24 on 8/28/2017 (PCB exceedances: White Sucker (17 fish) at 32 ppb) and on 9/23/2020 (PCB exceedances: Bluehead Chub (13 fish) at 20 ppb).

Five PCB water column samples were collected during the 2022 data window at station 1BLEW000.61 (three excursions of the 580 pg/L human health criterion occurred). The PCB impairment is included in the EPA approved Lewis Creek PCB TMDL (approved 02/04/2022).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. | 4A | PCBs in Fish Tissue | 2004 | L | 10.07 |

Lewis Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 10.07 |

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B12R_LEW01A00 / Lewis Creek / Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. | 4A | Polychlorinated biphenyls (PCBs) | 2022 | L | 10.07 |

Lewis Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type: | | | 10.07 |

Lewis Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type: | | | 10.07 |

Lewis Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Wildlife** | | | |
| Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type: | | | 10.07 |

Sources: Contaminated Sediments; Illegal Dumps or Other Inappropriate Waste Disposal; Municipal Point Source Discharges; Non-Point Source; Sediment Resuspension (Contaminated Sediment); Streambank Erosion; Unpermitted Discharge (Industrial/commercial Wastes); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: B12R-02-BAC Middle River**

Cause Location: Middle River from the quarry discharge west of Franks Mill downstream to its confluence with Christians Creek.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BMDL043.35 (4 exceedences of 12 samples in 2018; in 2024 no E.coli STV exceedances occurred but there is insufficient data to analyze geomean, thus the impairment remains). Original Initial Listing Date: 2008, segment de-listed in 2016, re-listed in 2018 as Cause ID B12-02-BAC. In 2022 this segment was extended to include one additional downstream segment with exceedances of the E.coli WQS at stations 1BMDL036.08 and 1BMDL037.63 (impaired with two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Additional data collected at 1BMDL033.03 in 2024 (impaired with a geomean exceedance in any 90-day period). This segment is nested into the EPA approved Middle River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B12R_MDL01A00 / Middle River / Middle River from its confluence with Moffett Creek downstream to its confluence with Christians Creek. | 4A | Escherichia coli (E. coli) | 2022 | L | 23.16 |
| VAV-B12R_MDL01B10 / Middle River / Middle River from the quarry discharge west of Franks Mill downstream to its confluence with Moffett Creek. | 4A | Escherichia coli (E. coli) | 2018 | L | 2.92 |

Middle River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 26.08 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B12R-02-PCB Lewis Creek**

Cause Location: Lewis Creek from the headwaters near Rt. 252 downstream approximately 2.5 miles to just south of the Staunton City line near the power line crossing.

Cause City/County: Augusta County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A

Cause Description: This segment is included in the VDH Fish Consumption Advisory for Polychlorinated Biphenyls (PCBs), effective 12/13/04. Visit https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/fish-consumption-advisory/ for more information. The PCB impairment is included in the EPA approved Lewis Creek PCB TMDL (approved 02/04/2022).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B12R_LEW02A00 / Lewis Creek / Lewis Creek from the headwaters downstream to just south of the Staunton City line near the power line crossing. | 4A | PCBs in Fish Tissue | 2020 | L | 2.47 |

Lewis Creek

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 2.47 |

Sources: Illegal Dumps or Other Inappropriate Waste Disposal; Municipal Point Source Discharges; Sediment Resuspension (Contaminated Sediment); Unpermitted Discharge (Industrial/commercial Wastes); Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: B13R-01-BAC Moffett Creek**

Cause Location: Moffett Creek from the headwaters downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BMFT001.43 (4 exceedances of 10 samples in 2008, two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Additional data collected at station 1BMFT006.20 (two or more STV hits in the same 90-day period with less than 10 samples in 2022). Initial Listing Date: 2004 (fecal coliform)/2008 (E.coli); This segment is included in the EPA approved Moffetts Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B13R_MFT01A00 / Moffett Creek / Moffett Creek from the headwaters downstream to its confluence with Middle River. | 4A | Escherichia coli (E. coli) | 2008 | L | 9.91 |

Moffett Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.91 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B13R-01-BEN Moffett Creek**

Cause Location: Moffett Creek from the headwaters downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BMFT006.24; additional data collected at downstream station 1BMFT002.46 (Fully supporting VSCI in 2024). Initial Listing Date: 1996; This segment is included in the EPA approved Moffetts Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B13R_MFT01A00 / Moffett Creek / Moffett Creek from the headwaters downstream to its confluence with Middle River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 9.91 |

Moffett Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.91 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Grazing in Riparian or Shoreline Zones; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B13R-02-BAC Elk Run**

Cause Location: Elk Run from the headwaters downstream to its confluence with Moffett Creek.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BEKR000.25 (6 exceedances of 11 samples for e-coli in 2008, no new data in 2024). Initial Listing Date: 2004 (fecal coliform)/2008 (E.coli); This segment is nested into the EPA approved Moffatts Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B13R_ELK01A00 / Elk Run / Elk Run from the headwaters downstream to its confluence with Moffett Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 4.13 |

Elk Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.13 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B13R-03-BEN Tunnel Hollow X-trib**

Cause Location: Tunnel Hollow X-trib from the headwaters downstream to its confluence with Tunnel Hollow.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4C

Cause Description: This segment is impaired due to exceedances of the General Standard for Benthics at the U.S. Forest Service station 2021. This assessment unit, located within the George Washington National Forest, was deemed to be impaired due to natural conditions due to the regional 4 year drought (1998 - 2002). Initial Listing Date: 2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B13R_XEI02A02 / Tunnel Hollow x-trib / Tunnel Hollow x-trib from the headwaters downstream to its confluence with Tunnel Hollow | 4C | Benthic Macroinvertebrates Bioassessments | NA | NA | 0.58 |

Tunnel Hollow X-trib

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 0.58 |

Sources: Drought-related Impacts

## Potomac and Shenandoah River Basins

**Cause Group Code: B14R-01-BAC Christians Creek**

Cause Location: Christians Creek from the headwaters downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BCST000.13 (2 exceedance of 11 samples for e-coli in 2020, no new data in 2022); 1BCST007.42 (5 exceedances of 12 samples for e-coli in 2018, no new data 2022); 1BCST012.32 (2024 cycle- impairment remains with two or more E.coli STV hits in the same 90-day period with less than 10 samples); 1BCST016.48 (9 exceedances of 12 samples for e-coli in 2018, no new data 2022); and 1BCST021.76 (2024 cycle- impairment remains with two or more E.coli STV hits in the same 90-day period with less than 10 samples). Initial Listing Date: 1996; This segment is part of the EPA approved Christians Creek Bacteria TMDL for bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B14R_CST01A00 / Christians Creek / Christians Creek from its confluence with Folly Mills Creek downstream to its confluence with Middle River. | 4A | Escherichia coli (E. coli) | 2004 | L | 18.61 |
| VAV-B14R_CST02A00 / Christians Creek / Christians Creek from the headwaters downstream to its confluence with Folly Mills Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 14.34 |

Christians Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 32.95 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B14R-01-BEN Christians Creek**

Cause Location: Christians Creek from the headwaters downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station 1BCST007.42. Initial Listing Date 1996. This segment is included in the EPA approved Christians Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B14R_CST01A00 / Christians Creek / Christians Creek from its confluence with Folly Mills Creek downstream to its confluence with Middle River. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 18.61 |
| VAV-B14R_CST02A00 / Christians Creek / Christians Creek from the headwaters downstream to its confluence with Folly Mills Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 14.34 |

Christians Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 32.95 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B14R-02-BAC Folly Mills Creek**

Cause Location: Folly Mills Creek and tributary from the headwaters downstream to its confluence with Christians Creek.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BFMC003.57 (10 exceedances of 12 samples in 2012, no new data in 2024). Initial Listing Date: 2004 (fecal coliform)/2012 (E.coli); This segment is nested into the EPA approved Christians Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B14R_FMC01A00 / Folly Mills Creek / Folly Mills Creek from a point 2.4 miles upstream of Christians Creek downstream to its confluence with Christians Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 2.48 |
| VAV-B14R_FMC02A10 / Folly Mills Creek / Folly Mills Creek from the headwaters downstream to a point 2.4 miles upstream of Christians Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 7.34 |
| VAV-B14R_XFM01A10 / Folly Mills Creek X-trib / Folly Mills Creek X-trib from the headwaters downstream to its confluence with Folly Mills Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 4.32 |

Folly Mills Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 14.14 |

Sources: Agriculture; Grazing in Riparian or Shoreline Zones; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B14R-03-BAC Long Meadow Run**

Cause Location: Long Meadow Run and tributary from the headwaters downstream to its confluence with Christians Creek.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BMDW000.18 (4 exceedances of 12 samples in 2006, one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024). Initial Listing Date: 2006; This segment is nested into the EPA approved Christians Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B14R_MDW01A00 / Long Meadow Run / Long Meadow Run and tributary (Coleytown Run) from the headwaters downstream to its confluence with Christians Creek. | 4A | Escherichia coli (E. coli) | 2006 | L | 11.06 |

Long Meadow Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.06 |

Sources: Agriculture; Grazing in Riparian or Shoreline Zones; Impervious Surface/Parking Lot Runoff; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: B15R-01-BAC Middle River**

Cause Location: Middle River from the confluence with Christians Creek downstream to its confluence with North River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BMDL001.30 (2024 cycle- one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean). Initial Listing Date: 1996. This segment is included in the EPA approved Middle River bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B15R_MDL01A00 / Middle River / Middle River from its confluence with Christians Creek downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2008 | L | 17.85 |

Middle River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 17.85 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B15R-02-BAC Polecat Draft**

Cause Location: Polecat Draft and tributary from the headwaters downstream to its confluence with Middle River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BPCD000.20 (7 exceedances of 8 samples in 2008, 32 exceedances of 45 samples for e-coli in 2018, no new data 2024). Initial Listing Date: 1996 (fecal coliform)/2008 (E.coli); This segment is included in the EPA approval Polecat Draft TMDL for Bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B15R_PCD01A00 / Polecat Draft / Polecat Draft and tributary from the headwaters downstream to its confluence with Middle River. | 4A | Escherichia coli (E. coli) | 2004 | L | 7.9 |

Polecat Draft

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.9 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B16L-01-TEMP Elkhorn Lake**

Cause Location: Elkhorn Lake from it's headwaters to the dam.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5A

Cause Description: This lake is impaired for aquatic life due to exceedances of the Class V: Stockable Trout Waters temperature WQS at station: 1BNTH045.36 (22 exceedances of 73 samples in 2010; 18 exceedances of 131 samples in 2020, no new data 2024). Initial Listing Cycle: 2010.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B16L_NTH01A04 / Elkhorn Lake / Elkhorn Lake | 5A | Temperature | 2010 | L | 52.67 |

Elkhorn Lake

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | 52.67 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B16L-02-TEMP Staunton Dam Lake**

Cause Location: Staunton Dam Lake from the headwaters to dam.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5A

Cause Description: This lake is impaired due to exceedances of the Class VI - Natural Trout Waters Temperature WQS at station: 1BNTH043.48 (31 exceedances of 141 samples in 2022, no new data 2024). Initial Listing Cycle: 2022.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B16L_01 / Staunton Dam Lake / Staunton Dam Lake | 5A | Temperature | 2022 | L | 20.71 |

Staunton Dam Lake

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | 20.71 | |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B16R-01-PH North River**

Cause Location: North River from its confluence with Little River downstream to its confluence with Freemason Run.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This is impaired due to excursions of the pH WQS at station: 1BNTH036.96 (7 excursions of 15 samples in 2002; 3 excursions of 9 samples in 2010; no new data in 2024). Initial Listing Cycle: 2002

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B17R_NTH04A00 / North River / North River from its confluence with Little River downstream to its confluence with Freemason Run. | 5A | pH | 2002 | L | 4.46 |

North River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 4.46 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B16R-02-PH North River**

Cause Location: North River from the headwaters downstream to the upper end of Elkhorn Lake.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the natural trout waters pH WQS at DEQ station 1BNTH053.89 (3 excursions of 12 samples in 2022). No new data 2024. Initial Listing Cycle: 2022.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B16R_NTH03A00 / North River / North River from the headwaters downstream to the upper end of Elkhorn Lake. | 5A | pH | 2022 | L | 10.25 |

North River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 10.25 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B17R-01-BAC North River**

Cause Location: North River from its confluence with Freemason Run downstream to its confluence with South River.

Cause City/County: Augusta County; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli bacteria WQS at stations: 1BNTH029.30 (3 exceedances of 6 samples in 2012, no new data 2024) and 1BNTH022.25 (5 exceedances of 12 samples in 2014, no new data 2024); additional E.coli samples showing impairment include 1BNTH026.23 (3 exceedances of 10 samples for e-coli in 2020); 1BNTH014.08 (10 exceedances of 27 samples in 2004, no E.coli STV exceedances but with insufficient data to analyze geomean in 2024) and 1BNTH015.45 (impaired with two STV hits in the same 90-day period with less than 10 samples in 2022) Initial Listing Date: 2004; This segment is included in the EPA approved North River TMDL for Bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B17R_NTH01A00 / North River / North River from its confluence with Briery Branch downstream to its confluence with Dry River. | 4A | Escherichia coli (E. coli) | 2014 | L | 3.49 |
| VAV-B17R_NTH02A00 / North River / North River 5 miles above the Bridgewater Public Water Intake downstream to its confluence with Briery Branch. | 4A | Escherichia coli (E. coli) | 2012 | L | 1.32 |
| VAV-B17R_NTH03A00 / North River / North River from its confluence with Freemason Run downstream to the 5 mile PWS limit for the Bridgewater Public Water Intake. | 4A | Escherichia coli (E. coli) | 2012 | L | 5.77 |
| VAV-B23R_NTH01A04 / North River / North River from its confluence with Middle River downstream to its confluence with South River. | 4A | Escherichia coli (E. coli) | 2004 | L | 4.70 |
| VAV-B23R_NTH01B10 / North River / North River from its confluence with Naked Creek downstream to its confluence with Middle River. | 4A | Escherichia coli (E. coli) | 2004 | L | 4.25 |
| VAV-B23R_NTH02A04 / North River / North River from its confluence with Cooks Creek downstream to its confluence with Naked Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 6.88 |
| VAV-B23R_NTH03A04 / North River / North River from the Harrisonburg Public Water Intake downstream to its confluence with Cooks Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 3.33 |
| VAV-B23R_NTH04A04 / North River / North River from its confluence with Dry River downstream to the Harrisonburg Public Water Intake. | 4A | Escherichia coli (E. coli) | 2012 | L | 2.22 |

North River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 31.96 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B17R-02-BAC Thorny Branch**

Cause Location: Thorny Branch and tributaries from the headwaters downstream to its confluence with North River.

Cause City/County: Augusta County; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: This segment remains impaired due to exceedances of the fecal coliform bacteria WQS at station: 1BTRN000.38 (4 exceedances of 8 samples in 2004). No new data has been collected since the 2006 cycle. Initial Listing Date: 2004; This segment is nested into the EPA approved North River TMDL for Bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B17R_TRN01A00 / Thorny Branch / Thorny Branch and tributaries from the headwaters downstream to its confluence with North River. | 4A | Fecal Coliform | 2004 | L | 7.76 |

Thorny Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | | | 7.76 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

## Potomac and Shenandoah River Basins

**Cause Group Code: B18R-01-BEN Wolf Run**

Cause Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch.

Cause City/County: Augusta County; Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: USFS 2019. No new data available for the 2024 assessment window. Initial Listing Cycle: 2002.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B18R_WFR01A02 / Wolf Run / Wolf Run from the Forest Service Road crossing downstream to its confluence with Briery Branch. | 5A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 1.19 |
| VAV-B18R_WFR02A02 / Wolf Run / Wolf Run from the headwaters downstream to the Forest Service Road crossing. | 5A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 2.12 |

Wolf Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.31 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B18R-01-PH Wolf Run**

Cause Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch.

Cause City/County: Augusta County; Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: UVA VT56 (12 excursions of 12 samples in 2006, no new data 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B18R_WFR01A02 / Wolf Run / Wolf Run from the Forest Service Road crossing downstream to its confluence with Briery Branch. | 5A | pH | 2006 | L | 1.19 |
| VAV-B18R_WFR02A02 / Wolf Run / Wolf Run from the headwaters downstream to the Forest Service Road crossing. | 5A | pH | 2006 | L | 2.12 |

Wolf Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 3.31 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B18R-04-BAC Beaver Creek**

Cause Location: Beaver Creek from the headwaters downstream to its confluence with Briery Branch.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired for recreational use based on bacteria WQS exceedances at 1BBVR003.60 (3 fecal coliform WQS exceedances out of 12 samples, 2002 cycle; one E.coli WQS exceedance out of four samples, insufficient to change the assessment status, 2008 cycle). There is no new E.coli data in the 2024 cycle. Initial Listing Date: 2002. This segment is included in the EPA approved Beaver Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B18R_BVR01A00 / Beaver Creek / Beaver Creek from its confluence with Waggys Creek downstream to its confluence with Briery Branch. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.66 |
| VAV-B18R_BVR02A00 / Beaver Creek / Beaver Creek from the headwaters (including Redbanks Run) downstream to its confluence with Waggys Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 3.64 |

Beaver Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.3 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B18R-04-TEMP Beaver Creek**

Cause Location: Beaver Creek from the headwaters downstream to its confluence with Briery Branch.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/4C

Cause Description: This segment is impaired due to exceedances of the temperature WQS at station: 1BBVR003.60. Initial Listing Date: 2002; Temperature readings used to determine this assessment unit as impaired were based on readings at station 1BBVR003.60 and has been determined to be natural. By letter from the Virginia Department of Wildlife Resources, this stream is considered a warm water stream and should not be considered Class V - Stockable Trout. This segment became Category 4C - Impaired, but not needing a TMDL due to natural conditions in the 2006 cycle. New data needed to consider de-listing.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B18R_BVR01A00 / Beaver Creek / Beaver Creek from its confluence with Waggys Creek downstream to its confluence with Briery Branch. | 4C | Temperature | NA | NA | 2.66 |
| VAV-B18R_BVR02A00 / Beaver Creek / Beaver Creek from the headwaters (including Redbanks Run) downstream to its confluence with Waggys Creek. | 4C | Temperature | NA | NA | 3.64 |

Beaver Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | | 6.3 |

Sources: Natural Sources

## Potomac and Shenandoah River Basins

**Cause Group Code: B18R-05-BAC Briery Branch**

Cause Location: Briery Branch from its confluence with Beaver Creek downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli bacteria WQS at station: 1BBRY001.22 (5 exceedances of 12 samples in 2014, no new data 2024). Initial Listing Date: 2004 (fecal coliform)/2014 (E.coli). This segment is nested into the EPA approved North River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B18R_BRY01A02 / Briery Branch / Briery Branch from the 5 mile upper limit of the Bridgewater raw water intake (confluence with Beaver Creek) downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2014 | L | 1.47 |

Briery Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.47 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B18R-06-PH Rocky Run**

Cause Location: Rocky Run from the headwaters downstream to its confluence with Briery Branch.

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: RH33-UVA (12 excursions of 12 samples in 2006, no new data for 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B18R_ROB01A02 / Rocky Run / Rocky Run from the headwaters downstream to its confluence with Briery Branch. | 5A | pH | 2006 | L | 1.94 |

Rocky Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 1.94 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B18R-07-PH Union Springs Run**

Cause Location: Union Springs Run from the headwaters downstream to its confluence with Red Banks Run.

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: RH34-UVA (12 excursions of 12 samples in 2006, no new data for 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B18R_USB01A00 / Union Springs Run / Union Springs Run from a point 3 miles upstream of Beaver Creek downstream to its confluence with Beaver Creek at Redbanks Run. | 5A | pH | 2006 | L | 3.07 |
| VAV-B18R_USB02A10 / Union Springs Run / Union Springs Run from the headwaters downstream to a point 3 miles upstream of Beaver Creek at Redbanks Run. | 5A | pH | 2006 | L | 0.67 |

Union Springs Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 3.74 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B19R-01-BAC Mossy Creek**

Cause Location: Mossy Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Augusta County; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BMSS001.35 (13 exceedances of 31 samples in 2004, two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Initial Listing Date: 1996 (fecal coliform)/2004 (E.coli); The segment is included in the EPA approved Mossy Creek TMDL for Bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B19R_MSS01A00 / Mossy Creek / Mossy Creek from the Rockingham/Augusta county line downstream to its confluence with North River (previously associated with PWS designation but now Mossy Creek is not designated as PWS). | 4A | Escherichia coli (E. coli) | 2004 | L | 2.29 |
| VAV-B19R_MSS02A00 / Mossy Creek / Mossy Creek from a point 7.1 miles upstream of the confluence with North River downstream to the Rockingham/Augusta county line (the downstream AU was previously associated with PWS designation but now Mossy Creek is not designated as PWS). | 4A | Escherichia coli (E. coli) | 2004 | L | 5.10 |
| VAV-B19R_MSS03A10 / Mossy Creek / Mossy Creek from the headwaters downstream to a point 7.1 miles upstream of the confluence with North River. | 4A | Escherichia coli (E. coli) | 2004 | L | 3.07 |

Mossy Creek

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.46 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B19R-01-BEN Mossy Creek**

Cause Location: Mossy Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Augusta County; Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BMSS003.01. Initial Listing Date 1998; This segment is included in the EPA approved Mossy Creek TMDL for Benthics.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B19R_MSS01A00 / Mossy Creek / Mossy Creek from the Rockingham/Augusta county line downstream to its confluence with North River (previously associated with PWS designation but now Mossy Creek is not designated as PWS). | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 2.29 |
| VAV-B19R_MSS02A00 / Mossy Creek / Mossy Creek from a point 7.1 miles upstream of the confluence with North River downstream to the Rockingham/Augusta county line (the downstream AU was previously associated with PWS designation but now Mossy Creek is not designated as PWS). | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 5.10 |
| VAV-B19R_MSS03A10 / Mossy Creek / Mossy Creek from the headwaters downstream to a point 7.1 miles upstream of the confluence with North River. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 3.07 |

Mossy Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 10.46 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations)

## Potomac and Shenandoah River Basins

**Cause Group Code: B20R-01-PH Dry River**

Cause Location: Dry River from its confluence with Little Laurel Run downstream to its confluence with Blacks Run. This segment was shortened in 2014 due to a downstream assessment unit returning for fully supporting status.

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: 1BDUR016.66 (3 excursions of 16 samples in 2002; no new data 2024); additional data collected at 1BDUR017.26 in 2020 (0 excursions of 11 samples) shows support of pH. Follow-up monitoring at the listing station is requested in order to consider a delist of this aquatic life use impairment. Initial Listing Cycle: 2002.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B20R_DUR01A00 / Dry River / Dry River from the City of Harrisonburg water intake downstream to its confluence with Blacks Run. | 5A | pH | 2002 | L | 1.52 |
| VAV-B20R_DUR02A00 / Dry River / Dry River from its confluence with Skidmore Fork downstream to the City of Harrisonburg Water Intake. | 5A | pH | 2002 | L | 4.32 |
| VAV-B20R_DUR02B10 / Dry River / Dry River from the 5 miles PWS designation downstream to its confluence with Skidmore Fork. | 5A | pH | 2008 | L | 0.64 |
| VAV-B20R_DUR03A00 / Dry River / Dry River from its confluence with Little Laurel Run downstream to the 5 mile PWS designation for the City of Harrisonburg Water Intake. | 5A | pH | 2002 | L | 3.70 |

Dry River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 10.18 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B21R-01-BAC Dry River**

Cause Location: Dry River from the Route 613 bridge at Lilly downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BDUR000.02 (8 exceedances of 29 samples in 2004, one E.coli STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean in 2024). Initial Listing Date: 1998 (fecal coliform)/2004 (E.coli); This segment is included in the EPA approved Dry River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B21R_DUR01A00 / Dry River / Dry River from its confluence with Muddy Creek downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.70 |
| VAV-B21R_DUR02A00 / Dry River / Dry River from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Muddy Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.21 |
| VAV-B21R_DUR03A00 / Dry River / Dry River from the Route 613 bridge downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake. | 4A | Escherichia coli (E. coli) | 2004 | L | 1.66 |

Dry River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.57 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B21R-02-BAC Honey Run**

Cause Location: Honey Run from the headwaters downstream to its confluence with Dry River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: This segment is impaired due to exceedances of the fecal coliform bacteria WQS at DEQ station 1BHNY003.76 (3 exceedances of 4 samples in 2004, no new data 2024). Initial Listing Date: 2004. This segment is nested into the EPA approved Dry River TMDL for Bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B21R_HNY01A02 / Honey Run / Honey Run from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Supply Intake downstream to its confluence with Dry River. | 4A | Fecal Coliform | 2004 | L | 1.15 |
| VAV-B21R_HNY02A02 / Honey Run / Honey Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake. | 4A | Fecal Coliform | 2004 | L | 3.12 |

Honey Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | | | 4.27 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B22R-01-BAC Muddy Creek**

Cause Location: Muddy Creek from the headwaters downstream to its confluence with Dry River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BMDD000.40 (20 exceedances out of 27 samples in 2004, two STV hits in the same 90-day period with less than 10 samples in 2022) and 1BMDD005.81 (20 exceedances out of 30 samples in 2004, two or more STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Date: 1996 (fecal coliform)/2004 (E.coli); This segment is included in the EPA approved Muddy Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B22R_MDD01A00 / Muddy Creek / Muddy Creek from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Dry River. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.34 |
| VAV-B22R_MDD02A00 / Muddy Creek / Muddy Creek from its confluence with War Branch downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake. | 4A | Escherichia coli (E. coli) | 2004 | L | 1.34 |
| VAV-B22R_MDD03A00 / Muddy Creek / Muddy Creek from the headwaters downstream to its confluence with War Branch. | 4A | Escherichia coli (E. coli) | 2004 | L | 7.47 |

Muddy Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.15 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B22R-01-BEN Muddy Creek**

Cause Location: Muddy Creek from the headwaters downstream to its confluence with Dry River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BMDD002.10 and 1BMDD005.81. Initial Listing Date: 1996; This unit is included in the EPA approved Muddy Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B22R_MDD01A00 / Muddy Creek / Muddy Creek from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Dry River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 2.34 |
| VAV-B22R_MDD02A00 / Muddy Creek / Muddy Creek from its confluence with War Branch downstream to the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 1.34 |
| VAV-B22R_MDD03A00 / Muddy Creek / Muddy Creek from the headwaters downstream to its confluence with War Branch. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 7.47 |

Muddy Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 11.15 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B24R-01-BAC Long Glade Creek**

Cause Location: Long Glade Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Augusta County; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BLGC000.96 (7 exceedances out of 10 samples in 2008, two or more STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Date: 2004 (fecal coliform)/2008 (E.coli). This segment is included in the EPA approved Mossy Creek/Long Glade Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B24R_LGC01A00 / Long Glade Creek / Long Glade Creek from the headwaters downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2008 | L | 11.22 |

Long Glade Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.22 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B25R-01-BAC Cooks Creek**

Cause Location: Cooks Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BCKS003.10 (24 exceedances of 31 samples in 2004, 23 exceedances of 41 samples for e-coli 2020, no new data in 2024). Initial Listing Date: 1996 (fecal coliform)/2004 (E.coli); This segment is included in the EPA approved Cooks Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B25R_CKS01A00 / Cooks Creek / Cooks Creek from its confluence with Silver Creek (at Route 701 Slab Crossing) downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2004 | L | 7.75 |
| VAV-B25R_CKS02A04 / Cooks Creek / Cooks Creek from the headwaters downstream to its confluence with Silver Creek (at the Route 701 Slab Crossing). | 4A | Escherichia coli (E. coli) | 2004 | L | 6.64 |

Cooks Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 14.39 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B25R-01-BEN Cooks Creek**

Cause Location: Cooks Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BCKS003.04. Additional impaired data collected at 1BCKS001.03 in 2024. Initial Listing Date: 1996; This segment is included in the EPA approved Cooks Creek/Blacks Run Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B25R_CKS01A00 / Cooks Creek / Cooks Creek from its confluence with Silver Creek (at Route 701 Slab Crossing) downstream to its confluence with North River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 7.75 |
| VAV-B25R_CKS02A04 / Cooks Creek / Cooks Creek from the headwaters downstream to its confluence with Silver Creek (at the Route 701 Slab Crossing). | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 6.64 |

Cooks Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 14.39 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B25R-02-BAC Silver Creek**

Cause Location: Silver Creek from the Silver Lake dam outfall downstream to its confluence with Cooks Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: This segment remains impaired due to exceedances of the fecal coliform WQS during the 2004 cycle. No new data in the 2024 cycle. Initial Listing Date: 2004; This segment is included in the EPA approved Cooks Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B25R_SLV01A04 / Silver Creek / Silver Creek from the Silver Lake dam outfall downstream to its confluence with Cooks Creek. | 4A | Fecal Coliform | 2004 | L | 0.21 |

Silver Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | | | 0.21 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B25R-03-BAC Sunset Heights Branch**

Cause Location: Sunset Heights Branch from the headwaters downstream to its confluence with Cooks Creek.

Cause City/County: Harrisonburg; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: This segment remains impaired due to exceedances of the fecal coliform WQS at station 1BXBU004.00 during the 2002 cycle. No new data collected in the 2024 cycle. Initial Listing Date: 2004; This segment is nested into the EPA approved Cooks Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B25R_XBU01A02 / Sunset Heights Branch / Sunset Heights Branch from the headwaters downstream to its confluence with Cooks Creek. | 4A | Fecal Coliform | 2002 | L | 4.74 |

Sunset Heights Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | | | 4.74 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B26R-01-BAC Blacks Run**

Cause Location: Blacks Run from the headwaters downstream to its confluence with Cooks Creek.

Cause City/County: Harrisonburg; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BBLK000.38 (27 exceedances out of 32 samples in 2004, 12 exceedances of 41 samples in 2020, no new data 2024). Initial Listing Date: 1996 (fecal coliform)/2004 (E.coli); This segment is included in the EPA approved Blacks Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B26R_BLK01A00 / Blacks Run / Blacks Run from the headwaters downstream to its confluence with Cooks Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 11.64 |

Blacks Run

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.64 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Non-Point Source; Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B26R-01-BEN Blacks Run**

Cause Location: Blacks Run from the headwaters downstream to its confluence with Cooks Creek.

Cause City/County: Harrisonburg; Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BBLK005.62. Initial Listing Date: 1996; This segment is included in the EPA approved Blacks Run Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B26R_BLK01A00 / Blacks Run / Blacks Run from the headwaters downstream to its confluence with Cooks Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 11.64 |

Blacks Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 11.64 |

Sources: Municipal (Urbanized High Density Area); Non-Point Source; Streambank Erosion; Urban Development in Riparian Buffer

## Potomac and Shenandoah River Basins

**Cause Group Code: B27R-01-BAC Pleasant Run**

Cause Location: Pleasant Run from the headwaters downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BPLR000.16 (27 exceedances out of 27 samples in 2004, two or more E.coli STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Date: 1996 (fecal coliform)/2004 (E.coli); This segment is included in the EPA approved Pleasants Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B27R_PLR01A00 / Pleasant Run / Pleasant Run from the headwaters downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2004 | L | 6.74 |

Pleasant Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.74 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B27R-01-BEN Pleasant Run**

Cause Location: Pleasant Run from the headwaters downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BPLR000.08. Initial Listing Date: 1996; This segment is included in the EPA approved Pleasants Run Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B27R_PLR01A00 / Pleasant Run / Pleasant Run from the headwaters downstream to its confluence with North River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 6.74 |

Pleasant Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.74 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B28R-01-BAC Naked Creek**

Cause Location: Naked Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Augusta County; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: (1BNKD000.80 (19 exceedances of 25 samples in 2004, 35 exceedences of 48 samples in 2020, no new data 2024). Initial Listing Date: 1996 (fecal coliform)/2004 (E.coli); This segment is located within the EPA approved Naked Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B28R_NKD01A00 / Naked Creek / Naked Creek from the Route 696 bridge crossing downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2004 | L | 3.79 |
| VAV-B28R_NKD02A10 / Naked Creek / Naked Creek from the headwaters downstream to the Route 696 bridge crossing. | 4A | Escherichia coli (E. coli) | 2004 | L | 3.33 |

Naked Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.12 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B28R-02-BAC North Fork Naked Creek**

Cause Location: North Fork Naked Creek from the headwaters downstream to its confluence with Naked Creek.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BNKN-NC2-FOSR (10 exceedances of 18 samples in 2012, no new data 2024); 1BNKN-NC3-FOSR (9 exceedances of 18 samples in 2012, no new data 2024). Initial Listing 2012. This segment is nested into the EPA approved Naked Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B28R_NKN01A00 / North Fork Naked Creek / North Fork Naked Creek from the headwaters downstream to its confluence with Naked Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 5.25 |

North Fork Naked Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.25 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B29R-01-BAC Congers Creek/Duck Run/Mill Creek**

Cause Location: Congers Creek from the headwaters downstream to its confluence with Duck Run; Duck Run from the headwaters downstream to its confluence with Mill Creek, Mill Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A; Fecal Coliform/4A

Cause Description: These segments remain impaired for recreational use based on exceedances of the fecal coliform and e-coli bacteria standards at station(s) 1BCNG000.03 (4 exceedances of 4 samples in 2004, no new data 2024), 1BDRK000.18 (4 exceedances of 4 samples in 2004, no new data 2024) and 1BMIC001.00 (17 exceedances of 30 samples for e-coli in 2004, no new data 2024). Initial Listing Date: 2004; These segments are included in the EPA approved Mill Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B29R_CNG01A00 / Congers Creek / Congers Creek from the Lake Shenandoah Dam outfall downstream to its confluence with Mill Creek. | 4A | Fecal Coliform | 2004 | L | 3.20 |
| VAV-B29R_CNG02A10 / Congers Creek / Congers Creek from the headwaters downstream to the upper end of Lake Shenandoah. | 4A | Fecal Coliform | 2004 | L | 2.79 |
| VAV-B29R_DKR01A00 / Duck Run / Duck Run from its headwaters downstream to its confluence with Mill Creek. | 4A | Fecal Coliform | 1996 | L | 2.88 |

Congers Creek/Duck Run/Mill Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | | | 8.87 |

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B29R_MIC01A00 / Mill Creek / Mill Creek from its confluence with Duck Run downstream to its confluence with the South Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.79 |
| VAV-B29R_MIC02A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with Duck Run. | 4A | Escherichia coli (E. coli) | 2004 | L | 3.47 |

Congers Creek/Duck Run/Mill Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.26 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B29R-01-BEN Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with North River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BMIC001.00. Initial Listing Date: 1996; This segment is included in the EPA approved Mill Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B29R_MIC01A00 / Mill Creek / Mill Creek from its confluence with Duck Run downstream to its confluence with the South Fork Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 2.79 |
| VAV-B29R_MIC02A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with Duck Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 3.47 |

Mill Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.26 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B30R-01-BAC South River**

Cause Location: South River from the headwaters downstream to its confluence with Stony Run.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BSTH041.68 (7 exceedances of 11 samples for e-coli in 2008, no new data 2024) and 1BSTH044.90 (4 exceedances of 6 samples for e-coli in 2016, no data in 2024). Initial Listing Date: 1996; This segment was included in the EPA approved Middle River/South River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B30R_STH01A00 / South River / South River from the headwaters downstream to its confluence with Stony Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 12.43 |

South River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 12.43 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B30R-02-PH Loves Run**

Cause Location: Loves Run from the headwaters downstream to its confluence with the South River.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: UVA AU14 (12 excursions of 12 samples in 2006, no new data 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B30R_LOV01A00 / Loves Run / Loves Run from a point 2.7 miles upstream of South River downstream to its confluence with South River. | 5A | pH | 2006 | L | 2.70 |
| VAV-B30R_LOV02A10 / Loves Run / Loves Run from the headwaters downstream to a point 2.7 miles upstream of its confluence with South River. | 5A | pH | 2006 | L | 2.94 |

Loves Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 5.64 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B30R-03-BAC Pine Run**

Cause Location: Pine Run from the headwaters downstream to its confluence with the South River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BPNE000.04 (3 exceedances of 10 samples in 2006, no data in 2024). Initial Listing Date: 2006. This segment is included in the EPA approved South River bacteria TMDL. Federal TMDL ID 7700

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B30R_PNE01A00 / Pine Run / Pine Run and tributaries from the headwaters downstream to its confluence with South River. | 4A | Escherichia coli (E. coli) | 2006 | L | 20.39 |

Pine Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 20.39 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B30R-03-BEN Pine Run**

Cause Location: Pine Run from the headwaters downstream to its confluence with the South River.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BPNE001.60. Initial Listing Date: 2014

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B30R_PNE01A00 / Pine Run / Pine Run and tributaries from the headwaters downstream to its confluence with South River. | 5A | Benthic Macroinvertebrates Bioassessments | 2014 | L | 20.39 |

Pine Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 20.39 |

Sources: Agriculture; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B31L-01-PH Coles Run Reservoir**

Cause Location: Coles Run Reservoir (Total Impaired Size: 10.84 Acres)

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This lake is impaired due to excursions of the pH WQS at station: 1BCLS003.60 (89 excursions of 89 samples in 2008 cycle; 109 excursions of 109 samples in 2022 cycle). No new data 2024 cycle. Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31L_00 / Coles Run Reservoir / Coles Run Reservoir | 5A | pH | 2008 | L | 10.85 |

Coles Run Reservoir

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | 10.85 | |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-01-BAC Back Creek**

Cause Location: Back Creek from its confluence with Toms Branch downstream to the confluence with South River.

Cause City/County: Augusta County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station 1BBCK000.78. (2 exceedances of 9 samples in 2012; one E.coli STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean in 2024). Initial Listing Date: 2012.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_BCK01A00 / Back Creek / Back Creek from its confluence with Toms Branch downstream to its confluence with South River. | 4A | Escherichia coli (E. coli) | 2012 | L | 6.02 |

Back Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.02 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-01-BEN Back Creek**

Cause Location: Back Creek from its confluence with Toms Branch downstream to the confluence with South River.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station 1BBCK000.78. Initial Listing Date 2002.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_BCK01A00 / Back Creek / Back Creek from its confluence with Toms Branch downstream to its confluence with South River. | 5A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 6.02 |

Back Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 6.02 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-02-BEN Mills Creek**

Cause Location: Mills Creek from the headwaters downstream to its confluence with Back Creek.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality general standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at USFS Station: 5116. Data collected at 1BMLS002.37 in 2024 with two consecutive samples collected: one sample impaired and one supporting, assessment remains unchanged). Initial Listing Cycle: 2002.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_MLS01A02 / Mills Creek / Mills Creek from a point 1.8 miles upstream of Back Creek downstream to its confluence with Back Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 1.66 |
| VAV-B31R_MLS02A10 / Mills Creek / Mills Creek from the South River Sanitary District's raw water intake downstream to a point 1.8 miles upstream of Back Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 2.45 |
| VAV-B31R_MLS03A10 / Mills Creek / Mills Creek from the headwaters downstream to the South River Sanitary District's raw water intake. | 5A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 5.03 |

Mills Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.14 |

Sources: Atmospheric Deposition - Acidity; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-02-PH Mills Creek**

Cause Location: Mills Creek from the headwaters downstream to its confluence with Back Creek.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station 1BMLS002.37 (2 excursions of 6 samples in 2018; 1 excursion of 2 samples in 2024, impairment remains). Initial Listing Cycle: 2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_MLS01A02 / Mills Creek / Mills Creek from a point 1.8 miles upstream of Back Creek downstream to its confluence with Back Creek. | 5A | pH | 2018 | L | 1.66 |
| VAV-B31R_MLS02A10 / Mills Creek / Mills Creek from the South River Sanitary District's raw water intake downstream to a point 1.8 miles upstream of Back Creek. | 5A | pH | 2018 | L | 2.45 |
| VAV-B31R_MLS03A10 / Mills Creek / Mills Creek from the headwaters downstream to the South River Sanitary District's raw water intake. | 5A | pH | 2018 | L | 5.03 |

Mills Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Aquatic Life** | | | |
| pH - Total Impaired Size by Water Type: | | | 9.14 |

Sources: Atmospheric Deposition - Acidity; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-03-BEN Toms Branch**

Cause Location: Toms Branch from the headwaters downstream to its confluence with Back Creek.

Cause City/County: Augusta County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4C

Cause Description: This segment is considered impaired for aquatic life use based on benthic assessment performed by the U.S. Forest Service at station 5104 in the 2004 assessment. Data collected in 2012 indicates improvement at this site, however, at least two consecutive supporting samples are needed for de-listing. This impairment was determined to be natural in the 2004 assessment based on prolonged drought conditions. Initial Listing Date: 2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_TMS01A02 / Toms Branch / Toms Branch from a point 1.1 miles upstream of Back Creek downstream to its confluence with Back Creek. | 4C | Benthic Macroinvertebrates Bioassessments | NA | NA | 1.15 |
| VAV-B31R_TMS02A10 / Toms Branch / Toms Branch from the headwaters downstream to a point 1.1 miles upstream of Back Creek. | 4C | Benthic Macroinvertebrates Bioassessments | NA | NA | 2.34 |

Toms Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 3.49 |

Sources: Drought-related Impacts

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-04-PH Coles Run**

Cause Location: Coles Run from the headwaters downstream to its confluence with South River.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: AU16-UVA (12 excursions of 12 samples in 2006, no new data in 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_CLS01A00 / Coles Run / Coles Run from the South River Sanitary District's raw water intake (Coles Run Dam) downstream to its confluence with South River. | 5A | pH | 2006 | L | 4.26 |
| VAV-B31R_CLS02A10 / Coles Run / Coles Run from the headwaters downstream to the upper end of the Coles Run Reservoir. | 5A | pH | 2006 | L | 2.64 |

Coles Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 6.9 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-05-PH Johns Run**

Cause Location: Johns Run from the headwaters downstream its confluence with South River.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: AU15-UVA (12 excursions of 12 samples in 2006, no new data in 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_JHN01A00 / Johns Run / Johns Run from the headwaters downstream to its confluence with South River. | 5A | pH | 2006 | L | 5.46 |

Johns Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 5.46 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-06-PH Kennedy Creek**

Cause Location: Kennedy Creek and tributaries from the headwaters downstream to its confluence with South River.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at UVA station: VT39-UVA (12 excursions of 12 samples in 2006, 24 excursions of 24 Level II samples in 2018 indicating continued impairment, no new data 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_KND01A00 / Kennedy Creek / Kennedy Creek and tributaries from the headwaters downstream to its confluence with South River. | 5A | pH | 2006 | L | 15.48 |

Kennedy Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 15.48 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B31R-07-PH Orebank Creek**

Cause Location: Orebank Creek from the headwaters downstream to its confluence with Back Creek.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: AU35-UVA (12 excursions of 12 samples in 2006, no new data available in 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_ORE01A02 / Orebank Creek / Orebank Creek from the headwaters downstream to its confluence with Back Creek. | 5A | pH | 2006 | L | 3.56 |

Orebank Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 3.56 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B32R-01-BEN South River**

Cause Location: South River from its confluence with the Coiner Springs intermittent run downstream to its confluence with Stull Run. (The impairment is shortened in 2024)

Cause City/County: Augusta County; Waynesboro

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BSTH012.71; 1BSTH021.59 (VSCI shows improvement in 2024 but additional samples are needed to consider delisting the aquatic life use impairment), 1BSTH025.70, and 1BSTH026.73. Initial Listing Date: 1996. This impairment is included in the EPA approved South River Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B32R_STH02A04 / South River / South River from its confluence with Porterfield Run downstream to its confluence with Stull Run. | 4A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 11.55 |
| VAV-B32R_STH03A04 / South River / South River from the Lycra Company (formerly Dupont Company) discharge downstream to its confluence with Porterfield Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 7.44 |
| VAV-B32R_STH04A04 / South River / South River from its confluence with Coiner Spring intermittent run downstream to the Lycra Company (formerly Dupont Company) discharge. | 4A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 2.12 |

South River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 21.11 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Grazing in Riparian or Shoreline Zones; Industrial Point Source Discharge; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B32R-02-BAC South River**

Cause Location: South River from its confluence with Stony Creek downstream to its confluence with the North River. Impairment lengthened in 2012 with additional upstream assessment unit.

Cause City/County: Augusta County; Rockingham County; Waynesboro

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BSTH002.14 (2 exceedances of 12 samples for e-coli in 2014, no new data 2024); 1BSTH007.80 (8 exceedances of 27 samples in 2006, no STV exceedances but insufficient data to analyze geomean in 2024); 1BSTH023.73 (2 exceedances of 6 samples for e-coli in 2012, no new data 2024); 1BSTH027.85 (6 exceedances of 57 samples in 2010, no STV exceedances in any 90-day periods but insufficient data to analyze geomean in 2024) and 1BSTH036.84 (5 exceedances of 6 samples for e-coli in 2012, no data in 2024).
Additional data collected at station(s) 1BSTH019.52 (one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024); BSTH020.85 (9 exceedances of 58 samples for e-coli in 2020); 1BSTH031.45 (no STV exceedances but insufficient data to analyze geomean in 2022). Initial Listing Date: 1996. This impairment is included in the EPA approved South River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B31R_STH01A00 / South River / South River from its confluence with Stony Creek downstream to its confluence with Back Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 10.79 |
| VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River. | 4A | Escherichia coli (E. coli) | 2014 | L | 5.38 |
| VAV-B32R_STH02A04 / South River / South River from its confluence with Porterfield Run downstream to its confluence with Stull Run. | 4A | Escherichia coli (E. coli) | 2006 | L | 11.55 |
| VAV-B32R_STH03A04 / South River / South River from the Lycra Company (formerly Dupont Company) discharge downstream to its confluence with Porterfield Run. | 4A | Escherichia coli (E. coli) | 2012 | L | 7.44 |
| VAV-B32R_STH04A04 / South River / South River from its confluence with Coiner Spring intermittent run downstream to the Lycra Company (formerly Dupont Company) discharge. | 4A | Escherichia coli (E. coli) | 2010 | L | 2.12 |
| VAV-B32R_STH05A04 / South River / South River from its confluence with Back Creek downstream to its confluence with Coiner Spring intermittent run. | 4A | Escherichia coli (E. coli) | 2006 | L | 2.83 |

South River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 40.11 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B32R-02-HG South River/South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River**

Cause Location: South River from the Lycra Company discharge (former DuPont Company) downstream to its confluence with the South Fork Shenandoah River; the entire South Fork Shenandoah River; North Fork Shenandoah River from old Riverton Dam (removed) downstream to its confluence with the South Fork Shenandoah River; and the Shenandoah River to its confluence with Craig Run.

Cause City/County: Augusta County; Clarke County; Page County; Rockingham County; Warren County; Waynesboro

Use(s): Fish Consumption

Causes(s)/VA Category: Mercury in Fish Tissue/4A

Cause Description: This segment is within a VDH Fish Consumption Advisory for Mercury Contamination, effective 5/17/89; modified 12/13/04. For more information visit https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/fish-consumption-advisory/

Exceedances of the mercury WQS based tissue value of 0.30 parts per million (ppm) were found in these recent fish tissue samples: 1BSTH002.14 (South River at Grottoes Town Park)- sampled on 9/17/2020: redbreast sunfish at 1.61 ppm and smallmouth bass at 2.33 ppm and 3.99 ppm; 1BSSF000.19 (South Fork Shenandoah River below Rt 340)- sampled on 8/26/2020: smallmouth bass at 1.30 ppm, redbreast sunfish at 0.56 ppm and 0.48 ppm, and channel catfish at 0.39 ppm, 0.46 ppm, 0.52 ppm, and 0.31 ppm; 1BSSF010.33 (South Fork Shenandoah River at Karo)- sampled on 10/7/2020: channel catfish at 0.66 ppm, 0.54 ppm, and 0.75 ppm, smallmouth bass at 0.96 ppm, redbreast sunfish at 0.67 ppm, and white sucker at 0.32 ppm; 1BSSF037.60 (South Fork Shenandoah near Rt 684)- sampled on 9/10/2020: smallmouth bass at 0.77 ppm, channel catfish at 0.72 ppm, 0.61 ppm, 0.63 ppm, 0.45 ppm, and 0.51 ppm, redbreast sunfish at 0.41 ppm; 1BSSF063.17 (South Fork Shenandoah at Newport boat launch)- sampled on 6/15/2020: smallmouth bass at 0.63 ppm, redbreast sunfish at 0.42 ppm, white sucker at 0.59 ppm, northern hogsucker at 0.57 ppm, and channel catfish at 0.52 ppm; 1BSSF078.24 (South Fork Shenandoah at Rt 602)- sampled on 6/15/2020: Channel catfish at 1.41 ppm and 1.32 ppm, smallmouth bass at 0.94 ppm, redbreast sunfish at 0.48 ppm, and white sucker at 0.64 ppm; 1BSSF096.03 (South Fork Shenandoah at Rt 652)- sampled on 9/28/2020: fallfish at 0.75 ppm, redbreast sunfish at 0.58 ppm, and smallmouth bass at 1.10 ppm, 1.03 ppm, and 4.0 ppm; 1BNFS000.57 (North Fork Shenandoah at Rt 340)- sampled on 8/26/2020: largemouth bass at 0.53 ppm and 0.98 ppm and channel catfish at 0.69 ppm; 1BSHN028.15 (Shenandoah River at Lockes Landing)- sampled on 9/9/2020: carp at 0.67 ppm and 0.81 ppm, channel catfish at 0.64 ppm, 0.74 ppm, and 0.63 ppm, and smallmouth bass at 0.96 ppm; 1BSHN038.27 (Shenandoah River at Rt 50)- sampled on 9/9/2020: smallmouth bass at 0.71 ppm and 0.73 ppm, walleye at 1.28 ppm, redbreast sunfish at 0.33 ppm, carp at 0.62 ppm, and channel catfish at 0.60 ppm, 1BSHN053.63 (Shenandoah River downstream of I-66)- sampled on 9/21/2020: largemouth bass at 0.96 ppm and 0.49 ppm, redbreast sunfish at 0.49 ppm and 0.38 ppm, carp at 0.64 ppm, channel catfish at 0.66 ppm, and rock bass at 0.42 ppm.

Initial Listing Date: 1998. Included in the EPA approved South Fork Shenandoah River Mercury (Fish Tissue) TMDL. Historical information can be found in previous integrated report factsheets.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River. | 4A | Mercury in Fish Tissue | 1998 | L | 5.38 |
| VAV-B32R_STH02A04 / South River / South River from its confluence with Porterfield Run downstream to its confluence with Stull Run. | 4A | Mercury in Fish Tissue | 1998 | L | 11.55 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B32R_STH03A04 / South River / South River from the Lycra Company (formerly Dupont Company) discharge downstream to its confluence with Porterfield Run. | 4A | Mercury in Fish Tissue | 1998 | L | 7.44 |
| VAV-B33R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run. | 4A | Mercury in Fish Tissue | 1998 | L | 7.89 |
| VAV-B35R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Dry Run downstream to its confluence with Naked Creek. | 4A | Mercury in Fish Tissue | 1998 | L | 3.56 |
| VAV-B35R_SSF01B14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Hawksbill Creek downstream to its confluence with Dry Run. | 4A | Mercury in Fish Tissue | 1998 | L | 4.04 |
| VAV-B35R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Big Run downstream to its confluence with Hawksbill Creek. | 4A | Mercury in Fish Tissue | 1998 | L | 7.09 |
| VAV-B37R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cub Run downstream to its confluence with Stony Run just below the Route 340 bridge at Alma. | 4A | Mercury in Fish Tissue | 1998 | L | 4.99 |
| VAV-B37R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from the Shenandoah STP outfall downstream to its confluence with Cub Run. | 4A | Mercury in Fish Tissue | 1998 | L | 12.16 |
| VAV-B37R_SSF02B14 / South Fork Shenandoah River / South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall. | 4A | Mercury in Fish Tissue | 1998 | L | 1.98 |
| VAV-B38R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Whitehouse Landing downstream to its confluence with Hawksbill Creek. | 4A | Mercury in Fish Tissue | 1998 | L | 10.46 |
| VAV-B38R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Stony Run downstream to the Whitehouse Landing. | 4A | Mercury in Fish Tissue | 1998 | L | 5.98 |
| VAV-B40R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Andy Guest State Park STP outfall downstream to its confluence with Gooney Run. | 4A | Mercury in Fish Tissue | 2006 | L | 6.61 |
| VAV-B40R_SSF01B14 / South Fork Shenandoah River / South Fork Shenandoah River from the Bentonville Landing Bridge downstream to the Andy Guest State Park STP outfall. | 4A | Mercury in Fish Tissue | 1998 | L | 2.18 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B40R_SSF01C14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Dry Mine Run downstream to the Bentonville Landing Bridge. | 4A | Mercury in Fish Tissue | 1998 | L | 10.35 |
| VAV-B40R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from Seekford's Ford downstream to its confluence with Dry Mine Run. | 4A | Mercury in Fish Tissue | 1998 | L | 1.23 |
| VAV-B40R_SSF03A14 / South Fork Shenandoah River / South Fork Shenandoah River from the Foster's Landing Rapids downstream to Seekford's Ford. | 4A | Mercury in Fish Tissue | 1998 | L | 5.39 |
| VAV-B40R_SSF04A14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Hawksbill Creek downstream to the Foster's Landing Rapids | 4A | Mercury in Fish Tissue | 1998 | L | 6.96 |
| VAV-B41R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cabin Run downstream to its confluence with the North Fork Shenandoah River. | 4A | Mercury in Fish Tissue | 2002 | L | 1.85 |
| VAV-B41R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Rivermont Drive Bridge downstream to its confluence with Cabin Run. | 4A | Mercury in Fish Tissue | 2002 | L | 2.45 |
| VAV-B41R_SSF03A00 / South Fork Shenandoah River / South Fork Shenandoah River from the 5 mile upper limit of the PWS designation for the Front Royal Public Water Intake downstream to the Rivermont Drive Bridge. | 4A | Mercury in Fish Tissue | 1998 | L | 1.55 |
| VAV-B41R_SSF04A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Gooney Run downstream approximately 4.5 miles. | 4A | Mercury in Fish Tissue | 1998 | L | 4.47 |
| VAV-B51R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from the old dam site at the boat ramp downstream to its confluence with the South Fork Shenandoah River. | 4A | Mercury in Fish Tissue | 2002 | L | 0.71 |
| VAV-B55R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Oregon Hollow downstream to its confluence with Long Branch. | 4A | Mercury in Fish Tissue | 2008 | L | 8.52 |
| VAV-B55R_SHN01B10 / Shenandoah River / Shenandoah River from the power plant dam near Front Royal downstream to its confluence with Oregon Hollow. | 4A | Mercury in Fish Tissue | 2008 | L | 4.42 |
| VAV-B55R_SHN02A00 / Shenandoah River / Shenandoah River from the confluence of the North and South Fork's downstream to the power plant dam near Front Royal. | 4A | Mercury in Fish Tissue | 1998 | L | 3.66 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_SHN01A00 / Shenandoah River / Shenandoah River from the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake downstream to its confluence with Craig Run. | 4A | Mercury in Fish Tissue | 2008 | L | 5.00 |
| VAV-B57R_SHN02A22 / Shenandoah River / Shenandoah River from its confluence with Long Branch downstream to the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake. | 4A | Mercury in Fish Tissue | 2008 | L | 6.44 |

South River/South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Mercury in Fish Tissue - Total Impaired Size by Water Type: | | | 154.31 |

Sources: Contaminated Sediments; Industrial Point Source Discharge; Sediment Resuspension (Contaminated Sediment); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B32R-02-PCB South River**

Cause Location: South River from its confluence with Stull Run downstream to its confluence with North River.

Cause City/County: Augusta County; Rockingham County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A

Cause Description: This segment is impaired due to the presence of Polychlorinated Biphenyls (PCBs) in fish tissue at station 1BSTH000.19. Exceedances of the WQS based PCB tissue value occurred on 8/9/2005: Carp (1 fish) at 269 ppb and Redhorse Sucker (3 fish) at 139 ppb. Initial Listing Date: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B32R_STH01A04 / South River / South River from its confluence with Stull Run downstream to its confluence with North River. | 4A | PCBs in Fish Tissue | 2008 | L | 5.38 |

South River

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 5.38 |

Sources: Contaminated Sediments; Industrial Point Source Discharge; Sediment Resuspension (Contaminated Sediment); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B32R-03-PH Paine Run**

Cause Location: Paine Run from the headwaters downstream to its confluence with South River.

Cause City/County: Augusta County; Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at UVA Trout Sensitivity Study station: PAIN-UVA (12 excursions of 12 Level III samples in 2006; 272 excursions of 272 Level II samples in 2022, no data 2024). Additional data collection in 2020 cycle at DEQ station 1BPAN000.20 (6 excursions of 22 samples). Initial Listing Cycle: 2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B32R_PAN01A00 / Paine Run / Paine Run from a point 1.7 miles upstream of South River downstream to its confluence with South River. | 5A | pH | 2004 | L | 1.91 |
| VAV-B32R_PAN02A10 / Paine Run / Paine Run from the headwaters downstream to a point 1.7 miles upstream of South River. | 5A | pH | 2004 | L | 4.84 |

Paine Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 6.75 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B32R-04-PH Meadow Run**

Cause Location: Meadow Run from the headwaters downstream its confluence with South River.

Cause City/County: Augusta County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at UVA Trout Sensitivity Study station: VT36-UVA (12 excursions of 12 samples for pH in 2006 cycle, 8 excursions of 8 Level II samples in 2022, no data 2024). Initial Listing Cycle: 2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B32R_LMR01A00 / Meadow Run / Meadow Run and tributary from the headwaters downstream to its confluence with South River. | 5A | pH | 2004 | L | 8.82 |

Meadow Run

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Aquatic Life** | | | |
| pH - Total Impaired Size by Water Type: | | | 8.82 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B32R-05-BAC Steele Run**

Cause Location: Steele Run from the headwaters downstream to its confluence with South River.

Cause City/County: Augusta County; Waynesboro

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BSTL002.14 (8 exceedances of 12 samples in 2016, no new data 2024). Initial Listing Date: 2016. This segment is included in the South River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B32R_STL01A16 / Steele Run / Steele Run from the headwaters downstream to its confluence with South River. | 4A | Escherichia coli (E. coli) | 2016 | L | 3.78 |

Steele Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.78 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B33R-01-BAC South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BSSF0100.10 (9 exceedances of 72 samples in 2018, two STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Date: 2002, delisted in 2014, relisted in 2018. This impairment is included in the EPA approved South Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B33R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 7.89 |

South Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.89 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B33R-01-BEN South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with North and South Rivers downstream to its confluence with Hawksbill Creek.

Cause City/County: Page County; Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BSSF100.10,1BSSF078.18 and 1BSSF053.05. Initial Listing Date: 1998. Included in the EPA approved South Fork Shenandoah River Benthic TMDL. EPA Approved TMDLs determined that Total Phosphorus and Sediment are the pollutants causing benthic macroinvertebrate community impairment in this waterbody.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B33R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with the North & South Rivers downstream to its confluence with Big Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 7.89 |
| VAV-B35R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Dry Run downstream to its confluence with Naked Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 3.56 |
| VAV-B35R_SSF01B14 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Hawksbill Creek downstream to its confluence with Dry Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 4.04 |
| VAV-B35R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Big Run downstream to its confluence with Hawksbill Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 7.09 |
| VAV-B37R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cub Run downstream to its confluence with Stony Run just below the Route 340 bridge at Alma. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 4.99 |
| VAV-B37R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from the Shenandoah STP outfall downstream to its confluence with Cub Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 12.16 |
| VAV-B37R_SSF02B14 / South Fork Shenandoah River / South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 1.98 |
| VAV-B38R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Whitehouse Landing downstream to its confluence with Hawksbill Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 10.46 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B38R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Stony Run downstream to the Whitehouse Landing. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 5.98 |

South Fork Shenandoah River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 58.15 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B33R-02-PH Deep Run**

Cause Location: Deep Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: DR01-UVA (12 excursions of 12 Level III samples in 2006 cycle; 7 excursions of 7 samples in 2022; no new data 2024); additional data collected at 1BDPR000.60 (3 excursions of 7 samples in 2020) and 1BDPR002.09 *co-located with the DR01-UVA listing station (21 excursions of 22 samples in 2020). Initial Listing Cycle: 2004.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B33R_DPR01A00 / Deep Run / Deep Run from a point 1.8 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River. | 5A | pH | 2004 | L | 1.87 |
| VAV-B33R_DPR02A10 / Deep Run / Deep Run from the headwaters downstream to point 1.8 miles upstream of the South Fork Shenandoah River. | 5A | pH | 2004 | L | 2.62 |

Deep Run

| Aquatic Life | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 4.49 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B33R-03-PH Lower Lewis Run**

Cause Location: Lower Lewis Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: UVA RH47 (12 excursions of 12 samples in 2006, no new data 2024); one additional sample collected at 1BLLW000.62 (1 excursion of 1 sample in 2018). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B33R_LLW01A00 / Lower Lewis Run / Lower Lewis Run from the Shenandoah National Park boundary downstream to its confluence with the South Fork Shenandoah River. | 5A | pH | 2006 | L | 1.90 |
| VAV-B33R_LLW02A10 / Lower Lewis Run / Lower Lewis Run from the headwaters downstream to the Shenandoah National Park boundary. | 5A | pH | 2006 | L | 2.04 |

Lower Lewis Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 3.94 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B34R-01-BAC Cub Run**

Cause Location: Cub Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BCBR000.80 (3 exceedances of 10 samples for e-coli in 2018, no new data 2024) and 1BCBR007.42 (4 exceedances of 12 samples for e-coli in 2018, no new data 2022). Initial Listing Date: 1998; This segment is included in the EPA approved Cub Run bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B34R_CBR01A00 / Cub Run / Cub Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2004 | L | 14.89 |

Cub Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 14.89 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wastes from Pets; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-01-BAC Boone Run**

Cause Location: Boone Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment remains impaired for recreational use due to exceedances of the e-coli bacteria WQS at station: 1BBON000.60 (8 exceedances of 24 samples in 2010 cycle; 13 exceedences of 23 samples in 2020, no new data 2024); additional data collected at 1BBON001.46 (12 exceedances of 17 samples in 2020). Initial Listing Cycle: 2010.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_BON01A00 / Boone Run / Boone Run from the vicinity of Route 637 at East Point and tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2010 | L | 6.53 |
| VAV-B35R_BON02A10 / Boone Run / Boone Run and tributaries from the headwaters downstream to its confluence with an unnamed tributary in the vicinity of Route 637 at East Point. | 5A | Escherichia coli (E. coli) | 2010 | L | 7.29 |

Boone Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 13.82 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-01-DO Two Mile Run**

Cause Location: Two Mile Run from the headwaters downstream to a point approximately 1.4 miles upstream of the South Fork Shenandoah River (Natural Trout Waters).

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: This segment is impaired due to excursions of the Dissolved Oxygen WQS at station: 1BTWO001.79 (3 samples fall below the minimum DO criteria out of 21 total samples in 2022). Initial Listing Date: 2022.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_TWO02A10 / Two Mile Run / Two Mile Run from the headwaters downstream to a point approximately 1.4 miles upstream of the South Fork Shenandoah River. | 5A | Dissolved Oxygen | 2022 | L | 3.52 |

Two Mile Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 3.52 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-01-TEMP Boone Run**

Cause Location: Boone Run and tributaries from the headwaters downstream to its confluence with an unnamed tributary in the vicinity of Route 637 at East Point.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5A

Cause Description: This segment is impaired for aquatic life use due to exceedances of the Temperature WQS for Natural Trout Waters at DEQ stations 1BBON000.60 (6 exceedances of 31 samples 2024) and 1BBON001.46 (5 exceedances of 30 samples 2024). Initial Listing Date: 2022

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_BON02A10 / Boone Run / Boone Run and tributaries from the headwaters downstream to its confluence with an unnamed tributary in the vicinity of Route 637 at East Point. | 5A | Temperature | 2022 | L | 7.29 |

Boone Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | | 7.29 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-02-BAC Quail Run**

Cause Location: Quail Run from the headwaters downstream to the Massanutten STP discharge.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BQAL005.29 (4 exceedances of 24 samples in 2010; 6 exceedences of 35 samples in 2020, no new data 2024). Initial Listing Cycle: 2010 (shortened 2018).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_QAL03A00 / Quail Run / Quail Run from the headwaters downstream to the Massanutten STP discharge. | 5A | Escherichia coli (E. coli) | 2010 | L | 1.46 |

Quail Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.46 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-02-BEN Quail Run**

Cause Location: Quail Run from the Massanutten STP discharge downstream to its confluence with Boone Run.

Cause City/County: Rockingham County

Use(s): Aquatic Life; Wildlife

Causes(s)/VA Category: Ammonia, Total/4A; Benthic Macroinvertebrates Bioassessments/4A; Chlorine/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BQAL004.30. Initial Listing Date: 1998; This segment is included in the EPA approved Quail Run benthic TMDL. The EPA approved TMDL determined that Chlorine and Ammonia are pollutants causing the benthic macroinvertebrate community impairment in this waterbody.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_QAL01A00 / Quail Run / Quail Run from the Bloomer Springs Road bridge downstream to its confluence with Boone Run. | 4A | Ammonia, Total | 1998 | L | 4.40 |
| VAV-B35R_QAL02A00 / Quail Run / Quail Run from the Massanutten STP discharge downstream to the Bloomer Springs Road bridge. | 4A | Ammonia, Total | 1998 | L | 0.74 |

Quail Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Ammonia, Total - Total Impaired Size by Water Type: | | | 5.14 |

Quail Run

| **Wildlife** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Ammonia, Total - Total Impaired Size by Water Type: | | | 5.14 |

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_QAL01A00 / Quail Run / Quail Run from the Bloomer Springs Road bridge downstream to its confluence with Boone Run. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 4.40 |
| VAV-B35R_QAL02A00 / Quail Run / Quail Run from the Massanutten STP discharge downstream to the Bloomer Springs Road bridge. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 0.74 |

Quail Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.14 |

# Virginia Department of Environmental Quality
# Appendix 4 - Fact Sheets for
# Impaired (Category 4 or 5) Waters in 2024

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_QAL01A00 / Quail Run / Quail Run from the Bloomer Springs Road bridge downstream to its confluence with Boone Run. | 4A | Chlorine | 1998 | L | 4.40 |
| VAV-B35R_QAL02A00 / Quail Run / Quail Run from the Massanutten STP discharge downstream to the Bloomer Springs Road bridge. | 4A | Chlorine | 1998 | L | 0.74 |

Quail Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Chlorine - Total Impaired Size by Water Type: | | | 5.14 |

Sources: Municipal Point Source Discharges

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-03-BAC Elk Run**

Cause Location: Elk Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BELK001.00 (two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). This impairment is nested into the South Fork Shenandoah River Bacteria TMDL. Initial Listing Date: 2022

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_ELK01A00 / Elk Run / Elk Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2022 | L | 19.47 |

Elk Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 19.47 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-03-BEN Quail Run**

Cause Location: Quail Run from the headwaters downstream to the Massanutten STP discharge.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5C

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BQAL005.09. Initial Listing Cycle: 2002.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_QAL03A00 / Quail Run / Quail Run from the headwaters downstream to the Massanutten STP discharge. | 5C | Benthic Macroinvertebrates Bioassessments | 2002 | L | 1.46 |

Quail Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1.46 |

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-04-BAC Stony Run**

Cause Location: Stony Run from a point 4.1 miles upstream of its confluence with the South Fork Shenandoah River and a tributary from the headwaters, downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BSNN000.18 (two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Initial Listing Date: 2022 This impairment is nested into the South Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_SNN01A00 / Stony Run / Stony Run from a point 4.1 miles upstream of its confluence with the South Fork Shenandoah River and a tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2022 | L | 7.36 |

Stony Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.36 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-04-PH Two Mile Run**

Cause Location: Two Mile Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS UVA station VT53-UVA (3 excursions of 12 Level III samples in 2006; 39 excursions of 39 Level II samples in 2022, no new data 2024). Additional data collected in 2017 at DEQ stations 1BTWO000.95 (12 excursions of 12 samples) and 1BTWO001.79 (20 excursions of 20 samples). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_TWO01A00 / Two Mile Run / Two Mile Run from a point approximately 1.4 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River. | 5A | pH | 2006 | L | 1.54 |
| VAV-B35R_TWO02A10 / Two Mile Run / Two Mile Run from the headwaters downstream to a point approximately 1.4 miles upstream of the South Fork Shenandoah River. | 5A | pH | 2006 | L | 3.52 |

Two Mile Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 5.06 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B35R-05-PH One Mile Run**

Cause Location: One Mile Run from the headwaters downstream to its confluence with the South Fork Shenandoah River

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: UVA RH52 (6 excursions of 6 samples in 2010, no new data 2024); additional data collected at station 1BONE000.71 (9 excursions of 10 samples in 2020). Initial Listing Cycle: 2010

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B35R_ONE01A00 / One Mile Run / One Mile Run from a point approximately 1.5 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River. | 5A | pH | 2010 | L | 1.63 |
| VAV-B35R_ONE02A10 / One Mile Run / One Mile Run and tributaries from the headwaters downstream to a point approximately 1.5 miles upstream of the South Fork Shenandoah River. | 5A | pH | 2010 | L | 7.54 |

One Mile Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 9.17 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B36R-01-BEN Naked Creek**

Cause Location: Naked Creek including the East Branch from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Page County; Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4C

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BNAK001.24. Initial Listing Date: 1998. This impairment has been determined to be natural and is considered 4C by letter received from the EPA dated July 13, 2009.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B36R_NAK01A00 / Naked Creek / Naked Creek from its confluence with the East Branch Naked Creek downstream to its confluence with the South Fork Shenandoah River. | 4C | Benthic Macroinvertebrates Bioassessments | NA | NA | 6.67 |
| VAV-B36R_NKE01A10 / East Branch Naked Creek / East Branch Naked Creek from its headwaters downstream to its confluence with Naked Creek. | 4C | Benthic Macroinvertebrates Bioassessments | NA | NA | 6.15 |

Naked Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 12.82 |

Sources: Natural Sources

## Potomac and Shenandoah River Basins

**Cause Group Code: B37R-01-BAC Cub Run**

Cause Location: Cub Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Page County; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired for recreation use due to exceedances of the E.coli WQS at DEQ station: 1BCUB000.40 (2022- two STV hits in the same 90-day period with less than 10 samples, no new data 2024). This impairment is nested into the EPA approved South Fork Shenandoah Bacteria TMDL. Initial listing date: 2022

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B37R_CUB01A00 / Cub Run / Cub Run from its confluence with Pitt Spring Run downstream to its confluence with the South Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2022 | L | 2.88 |
| VAV-B37R_CUB02A10 / Cub Run / Cub Run from the headwaters downstream to its confluence with Pitt Spring Run. | 4A | Escherichia coli (E. coli) | 2022 | L | 6.93 |

Cub Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.81 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B37R-01-PCB South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with Naked Creek downstream to its confluence with Stony Creek just above the Route 340 bridge at Alma.

Cause City/County: Page County; Rockingham County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A

Cause Description: This segment is impaired due to exceedances of the WQS based Polychlorinated Biphenyls (PCBs) fish tissue value collected at stations 1BSSF063.17 (4/6/2005): Largemouth Bass at 59.12 ppb (3 fish) and Redbreast Sunfish at 24.31 ppb (5 fish) and 1BSSF078.24 (4/5/2005): Smallmouth Bass at 46.83 ppb (5 fish), Redbreast Sunfish at 29.37 ppb (5 fish), and White Sucker at 78.99 ppb (5 fish).

Exceedances of the WQS based PCB fish tissue value of 18 ppb were found in recent fish tissue samples. Fish tissue collected at 1BSSF078.24 on 6/15/2020: Channel Catfish with 91.91 ppb (1 fish) and 30.65 ppb (2 fish composite). Smallmouth Bass, Redbreast Sunfish, and White Suckers collected at this station did not exceed the WQS based PCB fish tissue value. Fish tissue collected at 1BSSF063.17 on 6/15/2020 shows no exceedances of the WQS based PCB fish tissue value in Smallmouth Bass, Redbreast Sunfish, White Sucker, Northern Hogsucker, and Channel Catfish samples.

Initial Listing Date: 2010. The PCB impairment is nested in the EPA approved Shenandoah River Watershed TMDL for Polychlorinated biphenyls (PCBs).

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B37R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cub Run downstream to its confluence with Stony Run just below the Route 340 bridge at Alma. | 4A | PCBs in Fish Tissue | 2010 | L | 4.99 |
| VAV-B37R_SSF02A10 / South Fork Shenandoah River / South Fork Shenandoah River from the Shenandoah STP outfall downstream to its confluence with Cub Run. | 4A | PCBs in Fish Tissue | 2010 | L | 12.16 |
| VAV-B37R_SSF02B14 / South Fork Shenandoah River / South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall. | 4A | PCBs in Fish Tissue | 2010 | L | 1.98 |

South Fork Shenandoah River

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 19.13 |

Sources: Contaminated Sediments; Industrial Point Source Discharge; Sediment Resuspension (Contaminated Sediment); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B37R-02-BAC Line Run**

Cause Location: Line Run from the headwaters downstream to its confluence with Honey Run.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BLIN001.60 (3 exceedances of 12 samples in 2006; no new data 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B37R_LIN01A06 / Line Run / Line Run from the headwaters downstream to its confluence with Honey Run. | 5A | Escherichia coli (E. coli) | 2006 | L | 4.94 |

Line Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.94 |

Sources: Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B37R-03-BAC Honey Run**

Cause Location: Honey Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BHDY000.91 (2 exceedances of 12 samples in 2008; 2 exceedances of 12 samples in 2016, no new data 2024). Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B37R_HDY01A00 / Honey Run / Honey Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2008 | L | 5.11 |

Honey Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.11 |

Sources: Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B37R-04-BAC South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall.

Cause City/County: Page County; Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria at DEQ station 1BSSF078.20: (two or more STV exceedances in the same 90-day period represented by greater than 10 samples in 2024). Initial Listing Date: 2024

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B37R_SSF02B14 / South Fork Shenandoah River / South Fork Shenandoah River from Naked Creek downstream to the Shenandoah STP outfall. | 4A | Escherichia coli (E. coli) | 2024 | L | 1.98 |

South Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1.98 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B38R-01-BAC Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BMLC000.40 (8 exceedances of 12 samples in 2008, no new data 2024). Initial Listing Date: 1998; This segment is included in the EPA approved Mill Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B38R_MLC01A00 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with South Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 7.07 |

Mill Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.07 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B38R-02-BAC Big Run**

Cause Location: Big Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BBIG000.48 (10 exceedances of 11 samples in 2006; 21 exceedances of 23 samples in 2014, no data in 2024). Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B38R_BIG01A00 / Big Run / Big Run from the headwaters downstream to its confluence with South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2006 | L | 6.41 |

Big Run

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.41 |

Sources: Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B39R-01-BAC Pass Run**

Cause Location: Pass Run from the headwaters downstream to its confluence with Hawksbill Creek.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BPSS000.64 (2 exceedances of 12 samples for e-coli in 2014, no new data 2024). Initial Listing Date: 2002; The segment is included in the EPA approved Hawksbill Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B39R_PSS01A00 / Pass Run / Pass Run from the headwaters downstream to its confluence with Hawksbill Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 9.48 |

Pass Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.48 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B39R-02-BAC Hawksbill Creek**

Cause Location: Hawksbill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BHKS000.96 (21 exceedances of 48 samples for e-coli in 2020, no new data 2024) and 1BHKS009.58 (two exceedances of six samples in 2004, two or more STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Date: 2002 (fecal coliform)/2004 (E.coli). This segment is included in the EPA approved Hawksbill Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B39R_HKS01A00 / Hawksbill Creek / Hawksbill Creek from the Route 211 bypass downstream to its confluence with the South Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2006 | L | 6.05 |
| VAV-B39R_HKS01B10 / Hawksbill Creek / Hawksbill Creek from its confluence with East Hawksbill Creek downstream to the Route 211 bypass. | 4A | Escherichia coli (E. coli) | 2006 | L | 1.31 |
| VAV-B39R_HKS02A00 / Hawksbill Creek / Hawksbill Creek from a point near the Route 340 and Route 624 intersection downstream to its confluence with East Hawksbill Creek. | 4A | Escherichia coli (E. coli) | 2004 | L | 5.91 |
| VAV-B39R_HKS03A10 / Hawksbill Creek / Hawksbill Creek from a point near the St. Georges Church at Pine Grove downstream to a point near the intersection of Route 340 and Route 624. | 4A | Escherichia coli (E. coli) | 2004 | L | 3.84 |
| VAV-B39R_HKS04A10 / Hawksbill Creek / Hawksbill Creek from the headwaters downstream to a point near the St. Georges Church at Pine Grove. | 4A | Escherichia coli (E. coli) | 2004 | L | 2.78 |

Hawksbill Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 19.89 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B39R-03-BAC East Hawksbill Creek**

Cause Location: East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BEHC001.18 (3 exceedances of 12 samples in 2006; no new data 2024). Initial Listing Date: 2006; This segment is included in the EPA approved Hawksbill Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B39R_EHC01A00 / East Hawksbill Creek / East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek. | 4A | Escherichia coli (E. coli) | 2006 | L | 9.38 |

East Hawksbill Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.38 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B39R-03-BEN East Hawksbill Creek**

Cause Location: East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek.

Cause City/County: Page County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BEHC001.18. Initial Listing Date: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B39R_EHC01A00 / East Hawksbill Creek / East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 9.38 |

East Hawksbill Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.38 |

Sources: Agriculture; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B39R-03-PH Rocky Branch**

Cause Location: Rocky Branch from the headwaters downstream to its confluence with Pass Run .

Cause City/County: Page County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at USGS station: 0163054325 (2 excursions of 2 samples in 2004, no new data in 2024). Initial Listing Cycle: 2004

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B39R_RKB01A00 / Rocky Branch / Rocky Branch from the headwaters downstream to its confluence with Pass Run. | 5A | pH | 2004 | L | 4.25 |

Rocky Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 4.25 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B39R-03-TEMP Pass Run**

Cause Location: Pass Run from the headwaters downstream to its confluence with Hawksbill Creek.

Cause City/County: Page County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5A

Cause Description: This segment is impaired due to exceedances of the temperature WQS at station: 1BPSS-FP17-FOSR (18 exceedances of 47 samples in 2010; 1 exceedance of 8 level III samples in 2024, insufficient to change impairment due to the small sample size). Initial Listing Date: 2010

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B39R_PSS01A00 / Pass Run / Pass Run from the headwaters downstream to its confluence with Hawksbill Creek. | 5A | Temperature | 2010 | L | 9.48 |

Pass Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | | 9.48 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B39R-04-BEN Dry Run**

Cause Location: Dry Run from the outfall of Lake Arrowhead downstream to its confluence with Hawksbill Creek.

Cause City/County: Page County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4C

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BDRI000.21. Initial Listing Date: 2012. Based on the evidence described in the Stressor Identification Analysis for Dry Run and East Hawksbill Creek in Page County, Virginia (October 2024), this segment of Dry Run, downstream of Lake Arrowhead, is re-categorized as 4C due to flow insufficiency: water is impaired or threatened for one or more designated uses but does not require a TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B39R_DRI01A00 / Dry Run / Dry Run from the Lake Arrowhead outfall downstream to its confluence with Hawksbill Creek. | 4C | Benthic Macroinvertebrates Bioassessments | NA | NA | 5.52 |

Dry Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 5.52 |

Sources: Baseflow Depletion from Groundwater Withdrawals; Natural Sources

## Potomac and Shenandoah River Basins

**Cause Group Code: B40R-01-BAC Jeremys Run**

Cause Location: Jeremys Run from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Page County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BJER000.62 (5 exceedances of 12 samples in 2012; 26 exceedances of 60 samples in 2020, no new data 2024). Initial Listing Cycle: 2012

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B40R_JER01A00 / Jeremy's Run / Jeremy's Run from the Shenandoah National Park boundary downstream to its confluence with the South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2012 | L | 4.55 |
| VAV-B40R_JER02A10 / Jeremy's Run / Jeremy's Run from the headwaters downstream to the Shenandoah National Park boundary. | 5A | Escherichia coli (E. coli) | 2012 | L | 7.15 |

Jeremys Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.7 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B40R-02-BAC Flint Run**

Cause Location: Flint Run and tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment remains impaired due to exceedances of the e-coli WQS at station: 1BFNT002.16 (7 exceedances of 12 samples in 2016; 41 exceedances of 60 samples in 2020, no new data 2024). Initial Listing Cycle: 2016

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B40R_FNT01A00 / Flint Run / Flint Run from a point 4 miles upstream of the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2016 | L | 4.10 |
| VAV-B40R_FNT02A10 / Flint Run / Flint Run from the headwaters downstream to a point 4 miles upstream of the South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2016 | L | 3.35 |
| VAV-B40R_XFT01A10 / Flint Run X-trib / Flint Run X-trib from the headwaters downstream to its confluence with Flint Run. | 5A | Escherichia coli (E. coli) | 2016 | L | 5.13 |

Flint Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 12.58 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B40R-03-BAC Gooney Run**

Cause Location: Gooney Run and tributaries (Greasy Run, Lands Run, Smith Creek) from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BGNY000.04 (2 exceedances of 13 samples in 2010 cycle; 2024 cycle-insufficient E.coli information with no STV exceedances but insufficient data to analyze geomean). Initial Listing Cycle: 2010.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B40R_GNY01A00 / Gooney Run / Gooney Run from its confluence with Broad Run downstream to its confluence with the South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2010 | L | 6.73 |
| VAV-B40R_GNY02A10 / Gooney Run / Gooney Run from its headwaters downstream to its confluence with Broad Run. | 5A | Escherichia coli (E. coli) | 2010 | L | 3.39 |
| VAV-B40R_GRS01A10 / Greasy Run / Greasy Run from the headwaters downstream to its confluence with Gooney Run. | 5A | Escherichia coli (E. coli) | 2010 | L | 3.65 |
| VAV-B40R_LND01A10 / Lands Run / Lands Run from its headwaters downstream to its confluence with Gooney Run. | 5A | Escherichia coli (E. coli) | 2010 | L | 3.97 |
| VAV-B40R_SMC02A10 / Smith Creek / Smith Creek from the headwaters downstream to its confluence with Gooney Run. | 5A | Escherichia coli (E. coli) | 2010 | L | 2.44 |

Gooney Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 20.18 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B40R-03-TEMP Gooney Run**

Cause Location: Gooney Run and tributary (Lands Run) from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Warren County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5A

Cause Description: This segment is impaired due to exceedances of the Class V-Stockable Trout Waters Temperature WQS at station: 1BGNY000.04 (4 exceedances of 36 samples in 2018, 5 exceedances of 36 samples in 2024). Initial Listing Cycle: 2006; relisted in 2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B40R_GNY01A00 / Gooney Run / Gooney Run from its confluence with Broad Run downstream to its confluence with the South Fork Shenandoah River. | 5A | Temperature | 2006 | L | 6.73 |
| VAV-B40R_GNY02A10 / Gooney Run / Gooney Run from its headwaters downstream to its confluence with Broad Run. | 5A | Temperature | 2008 | L | 3.39 |
| VAV-B40R_LND01A10 / Lands Run / Lands Run from its headwaters downstream to its confluence with Gooney Run. | 5A | Temperature | 2008 | L | 3.97 |

Gooney Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | | 14.09 |

Sources: Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B41R-01-BAC Happy Creek**

Cause Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli WQS at station: 1BHPY001.29. (3 exceedances of 12 samples in 2014, no new data 2024) Initial Listing Date: 2004 (fecal coliform)/ 2014 (E.coli). This segment is included in the EPA approved Happy Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B41R_HPY01A00 / Happy Creek / Happy Creek from the Front Royal Public Water Intake downstream to its confluence with the South Fork Shenandoah River. (non-PWS waters) | 4A | Escherichia coli (E. coli) | 2014 | L | 5.71 |
| VAV-B41R_HPY02A00 / Happy Creek / Happy Creek from the headwaters downstream to the Front Royal Public Water Intake. | 4A | Escherichia coli (E. coli) | 2014 | L | 2.85 |

Happy Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 8.56 |

Sources: Agriculture; Impervious Surface/Parking Lot Runoff; Non-Point Source; Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B41R-02-PCB South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River**

Cause Location: South Fork Shenandoah River from the Rivermont Drive Bridge downstream to the VA/WV state line on the Shenandoah River (inclusive of the North Fork Shenandoah River from its confluence with Passage Creek downstream to its confluence with the South Fork Shenandoah River).

Cause City/County: Clarke County; Warren County

Use(s): Fish Consumption

Causes(s)/VA Category: PCBs in Fish Tissue/4A

Cause Description: This segment is included in the VDH Fish Consumption Advisory for Polychlorinated Biphenyls (PCBs), effective 5/17/89; modified 12/13/04. For more information visit https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/fish-consumption-advisory/ Exceedances of the WQS based PCB fish tissue value of 18 ppb were found in recent fish tissue collections. 1BSSF000.19 fish tissue collected on 8/26/2020 (Channel Catfish exceeds at 24 ppb and 55 ppb); 1BSHN053.63 fish tissue collected on 9/21/2020 (Carp exceeds at 752 ppb (2 fish) and Channel Catfish exceeds at 25 ppb (5 fish)); 1BSHN028.15 fish tissue collected on 9/9/2020 (Carp exceeds at 141 ppb and 672 ppb, Channel Catfish exceeds at 88 ppb, 76 ppb, and 26 ppb); 1BSHN038.27 fish tissue collected on 9/9/2020 (Carp exceeds at 145 ppb (3 fish), Walleye exceeds at 30 ppb (3 fish), & Channel Catfish exceeds at 55 ppb (5 fish)).
This segment is included in the EPA approved Shenandoah River PCB TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B41R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cabin Run downstream to its confluence with the North Fork Shenandoah River. | 4A | PCBs in Fish Tissue | 1998 | L | 1.85 |
| VAV-B41R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Rivermont Drive Bridge downstream to its confluence with Cabin Run. | 4A | PCBs in Fish Tissue | 1998 | L | 2.45 |
| VAV-B51R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from the old dam site at the boat ramp downstream to its confluence with the South Fork Shenandoah River. | 4A | PCBs in Fish Tissue | 1998 | L | 0.71 |
| VAV-B51R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Passage Creek downstream to the old dam site at the boat ramp. | 4A | PCBs in Fish Tissue | 1998 | L | 4.71 |
| VAV-B55R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Oregon Hollow downstream to its confluence with Long Branch. | 4A | PCBs in Fish Tissue | 1998 | L | 8.52 |
| VAV-B55R_SHN01B10 / Shenandoah River / Shenandoah River from the power plant dam near Front Royal downstream to its confluence with Oregon Hollow. | 4A | PCBs in Fish Tissue | 1998 | L | 4.42 |
| VAV-B55R_SHN02A00 / Shenandoah River / Shenandoah River from the confluence of the North and South Fork's downstream to the power plant dam near Front Royal. | 4A | PCBs in Fish Tissue | 1998 | L | 3.66 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_SHN01A00 / Shenandoah River / Shenandoah River from the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake downstream to its confluence with Craig Run. | 4A | PCBs in Fish Tissue | 1998 | L | 5.00 |
| VAV-B57R_SHN02A22 / Shenandoah River / Shenandoah River from its confluence with Long Branch downstream to the 5 mile upper limit of the PWS designation for the Berryville Public Water Intake. | 4A | PCBs in Fish Tissue | 1998 | L | 6.44 |
| VAV-B58R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Dog Run downstream to the VA/WVA State Line. | 4A | PCBs in Fish Tissue | 1998 | L | 5.11 |
| VAV-B58R_SHN02A00 / Shenandoah River / Shenandoah River from its confluence with Craig Run downstream to its confluence with Dog Run. | 4A | PCBs in Fish Tissue | 1998 | L | 2.81 |

South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| PCBs in Fish Tissue - Total Impaired Size by Water Type: | | | 45.68 |

Sources: Contaminated Sediments

## Potomac and Shenandoah River Basins

**Cause Group Code: B41R-03-BEN Happy Creek**

Cause Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River.

Cause City/County: Warren County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BHPY001.29. Initial Listing Date: 2008. Additional impaired benthic data collected at 1BHPY002.67. This segment is included in the EPA approved Happy Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B41R_HPY01A00 / Happy Creek / Happy Creek from the Front Royal Public Water Intake downstream to its confluence with the South Fork Shenandoah River. (non-PWS waters) | 4A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 5.71 |
| VAV-B41R_HPY02A00 / Happy Creek / Happy Creek from the headwaters downstream to the Front Royal Public Water Intake. | 4A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 2.85 |

Happy Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 8.56 |

Sources: Agriculture; Erosion and Sedimentation; Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Non-Point Source; Streambank Erosion

# Virginia Department of Environmental Quality
# Appendix 4 - Fact Sheets for
# Impaired (Category 4 or 5) Waters in 2024

## Potomac and Shenandoah River Basins

**Cause Group Code: B41R-04-BAC South Fork Shenandoah River**

Cause Location: South Fork Shenandoah River from its confluence with Gooney Run downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BSSF003.56 (6 violations of 39 samples for e-coli in 2012; one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024); and 1BSSF009.58 (2 exceedances of 13 samples in 2010, no new data 2024). Additional data collected at Friends of the Shenandoah River high frequency bacteria station 1BSSF-FW14-FOSR (two or more STV exceedances in the same 90-day period represented by 10+ samples in 2024). Initial Listing Date: 2010

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B41R_SSF01A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Cabin Run downstream to its confluence with the North Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2012 | L | 1.85 |
| VAV-B41R_SSF02A00 / South Fork Shenandoah River / South Fork Shenandoah River from the Rivermont Drive Bridge downstream to its confluence with Cabin Run. | 5A | Escherichia coli (E. coli) | 2012 | L | 2.45 |
| VAV-B41R_SSF03A00 / South Fork Shenandoah River / South Fork Shenandoah River from the 5 mile upper limit of the PWS designation for the Front Royal Public Water Intake downstream to the Rivermont Drive Bridge. | 5A | Escherichia coli (E. coli) | 2012 | L | 1.55 |
| VAV-B41R_SSF04A00 / South Fork Shenandoah River / South Fork Shenandoah River from its confluence with Gooney Run downstream approximately 4.5 miles. | 5A | Escherichia coli (E. coli) | 2010 | L | 4.47 |

South Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.32 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B42R-01-BAC Crab Run**

Cause Location: Crab Run from the VA/WVA line downstream to its confluence with the German River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BCRB000.18 (2 exceedances of 11 samples for e-coli in 2010, no new data 2024). The bacteria impairment is nested into the EPA approved North Fork Shenandoah Bacteria TMDL. Initial Listing Date: 2010

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B42R_CRB01A00 / Crab Run / Crab Run from the VA/WVA state line downstream to its confluence with the German River. | 4A | Escherichia coli (E. coli) | 2010 | L | 3.93 |

Crab Run

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.93 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B42R-02-BAC North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with the German River downstream to its confluence with Capon Run

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BNFS-EC01-FOSR (2 exceedances of 9 samples for e-coli in 2018, no new data 2024). This impairment is nested into the EPA approved North Fork Shenandoah Bacteria TMDL. Initial Listing Date: 2018

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B42R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with the German River downstream to its confluence with Capon Run. | 4A | Escherichia coli (E. coli) | 2018 | L | 2.59 |

North Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.59 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B44R-01-BAC Runions Creek**

Cause Location: Runions Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BRUN001.09 (4 exceedances of 12 samples for e-coli in 2010, no new data available in 2024). Initial Listing Date: 2010 This segment is nested into the EPA approved North Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B44R_RUN01A00 / Runion Creek / Runion Creek and tributary from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2010 | L | 14.8 |

Runions Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 14.8 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B44R-03-BAC North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with Little Dry River downstream to its confluence with Runion Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BNFS096.53 (two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Initial listing date: 2022. The E.coli impairment is included in the EPA approved North Fork Shenandoah River TMDL for bacteria.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B44R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Little Dry River downstream to its confluence with Runion Creek. | 4A | Escherichia coli (E. coli) | 2022 | L | 4.22 |

North Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.22 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-01-BAC Long Meadow Run**

Cause Location: Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BLOM001.45 (9 exceedances of 9 samples in 2018, no new data 2024). Additional impaired data collected at 1BLOM000.24 (two or more STV hits in the same 90-day period with < 10 samples in 2024). Initial Listing Date: 2002; This segment was included in the EPA approved North Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_LOM01A00 / Long Meadow Run / Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 9.85 |

Long Meadow Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.85 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-01-BEN Long Meadow Run**

Cause Location: Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BLOM000.24. Initial Listing Date 2008. This segment is included in the EPA Approved Long Meadow Run Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_LOM01A00 / Long Meadow Run / Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 9.85 |

Long Meadow Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.85 |

Sources: Agriculture; Groundwater Loadings; Livestock (Grazing or Feeding Operations); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-02-BAC Turley Creek**

Cause Location: Turley Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli bacteria WQS at station: 1BTRL000.02 (13 exceedances of 30 samples for e-coli in 2018, no new data 2024). Initial Listing Date: 2002. This segment is included in the EPA approved North Fork Shenandoah River bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_TRL01A00 / Turley Creek / Turley Creek from just above its confluence with an unnamed tributary originating near Turleytown downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2010 | L | 2.20 |
| VAV-B45R_TRL02A00 / Turley Creek / Turley Creek from the headwaters downstream to just above an unnamed tributary originating near Turleytown. | 4A | Escherichia coli (E. coli) | 2010 | L | 1.84 |

Turley Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.04 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-02-BEN Turley Creek**

Cause Location: Turley Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BTRL000.02. Initial Listing Date: 2002. This segment is included in the EPA approved Turley Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_TRL01A00 / Turley Creek / Turley Creek from just above its confluence with an unnamed tributary originating near Turleytown downstream to its confluence with the North Fork Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 2.20 |
| VAV-B45R_TRL02A00 / Turley Creek / Turley Creek from the headwaters downstream to just above an unnamed tributary originating near Turleytown. | 4A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 1.84 |

Turley Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.04 |

Sources: Agriculture; Groundwater Loadings; Livestock (Grazing or Feeding Operations); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-03-BAC Holmans Creek**

Cause Location: Holmans Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BHMN002.09 (15 exceedances of 30 samples in 2008, two or more STV hits in the same 90-day period with < 10 samples in 2024). Initial Listing Date: 1996 (fecal coliform)/ 2008 (E.coli); This impairment is included in the EPA approved Holmans Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_HMN01A00 / Holmans Creek / Holmans Creek from its confluence with an unnamed tributary at the Quicksburg Road bridge downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 5.23 |
| VAV-B45R_HMN02A00 / Holmans Creek / Holmans Creek from the Flat Rock Road bridge near Moores Store downstream to its confluence with an unnamed tributary at the Quicksburg Road bridge crossing. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.65 |
| VAV-B45R_HMN03A00 / Holmans Creek / Holmans Creek from the headwaters downstream to the Flat Rock Road bridge crossing near Moores Store. | 4A | Escherichia coli (E. coli) | 2008 | L | 3.22 |

Holmans Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.1 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-03-BEN Holmans Creek**

Cause Location: Holmans Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BHMN002.09 and 1BHMN007.59. Initial Listing Date: 1996; This segment is included in the EPA approved Holmans Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_HMN01A00 / Holmans Creek / Holmans Creek from its confluence with an unnamed tributary at the Quicksburg Road bridge downstream to its confluence with the North Fork Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 5.23 |
| VAV-B45R_HMN02A00 / Holmans Creek / Holmans Creek from the Flat Rock Road bridge near Moores Store downstream to its confluence with an unnamed tributary at the Quicksburg Road bridge crossing. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 2.65 |
| VAV-B45R_HMN03A00 / Holmans Creek / Holmans Creek from the headwaters downstream to the Flat Rock Road bridge crossing near Moores Store. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 3.22 |

Holmans Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 11.1 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-04-BAC North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with Turley Creek downstream to the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BNFS-NR02-FOSR (Friends of Shenandoah 3 exceedances of 18 samples in 2012, no new data 2024); 1BNFS-NS10_FOSR (2 exceedances of 18 samples for e-coli in 2012, no new data 2024); 1BNFS087.02 (geomean exceedance in any 90-day period in 2024); 1BNFS081.42 (8 exceedances of 36 samples for e-coli in 2008, no new data 2024); 1BNFS073.75 (3 exceedances of 12 samples for e-coli in 2012, no new data 2024); additional impaired data collected at 1BNFS070.67 (one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024); 1BNFS-FSMB-FOSR (2 or more STV exceedances in the same 90-day period and a geomean exceedance in any 90-day period represented by 10+ samples in 2022). Initial Listing Date: 1996; This assessment unit was included in the EPA approved North Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Holmans Creek downstream to its confluence with Smith Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 3.59 |
| VAV-B45R_NFS01B14 / North Fork Shenandoah River / North Fork Shenandoah River from Route 728, New Mkt Depot Road, downstream to its confluence with Holmans Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 5.52 |
| VAV-B45R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Fort Run downstream to Route 728, New Mkt Depot Road. | 4A | Escherichia coli (E. coli) | 2008 | L | 6.03 |
| VAV-B45R_NFS02B08 / North Fork Shenandoah River / North Fork Shenandoah River from the dam near Timberville downstream to the confluence with Fort Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 1.06 |
| VAV-B45R_NFS02C10 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Linville Creek downstream to the dam near Timberville. | 4A | Escherichia coli (E. coli) | 2008 | L | 0.93 |
| VAV-B45R_NFS03A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Turley Creek downstream to its confluence with Linville Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 2.94 |
| VAV-B48R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Smith Creek downstream to its confluence with Stony Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 12.25 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B50R_NFS04A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Stony Creek downstream to the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake. | 4A | Escherichia coli (E. coli) | 2012 | L | 4.29 |

North Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 36.61 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B45R-05-BEN North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with Linville Creek downstream to its confluence with Holmans Creek.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BNFS087.35 and 1BNFS088.81. Initial Listing Date: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B45R_NFS01B14 / North Fork Shenandoah River / North Fork Shenandoah River from Route 728, New Mkt Depot Road, downstream to its confluence with Holmans Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 5.52 |
| VAV-B45R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Fort Run downstream to Route 728, New Mkt Depot Road. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | L | 6.03 |
| VAV-B45R_NFS02B08 / North Fork Shenandoah River / North Fork Shenandoah River from the dam near Timberville downstream to the confluence with Fort Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 1.06 |
| VAV-B45R_NFS02C10 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Linville Creek downstream to the dam near Timberville. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | L | 0.93 |

North Fork Shenandoah River

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 13.54 |

Sources: Industrial Point Source Discharge; Municipal (Urbanized High Density Area); Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B46R-01-BAC Linville Creek**

Cause Location: Linville Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BLNV001.22 (2 or more STV hits in the same 90-day period with less than 10 samples in 2024) and 1BLNV006.49 (48 exceedances of 71 samples for e-coli in 2020, no new data 2024). Initial Listing Date: 1996; This impairment was included in the EPA approved Linville Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B46R_LNV01A00 / Linville Creek / Linville Creek from the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2004 | L | 5.38 |
| VAV-B46R_LNV02A04 / Linville Creek / Linville Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake. | 4A | Escherichia coli (E. coli) | 2004 | L | 9.00 |

Linville Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 14.38 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B46R-01-BEN Linville Creek**

Cause Location: Linville Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BLNV000.16 (this station replaced original listing station 1BLNV000.71 in calendar year 2017 due to access issues). Initial Listing Date: 1996; This impairment was included in the EPA approved Linville Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B46R_LNV01A00 / Linville Creek / Linville Creek from the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake downstream to its confluence with the North Fork Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 5.38 |
| VAV-B46R_LNV02A04 / Linville Creek / Linville Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake. | 4A | Benthic Macroinvertebrates Bioassessments | 1996 | L | 9.00 |

Linville Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 14.38 |

Sources: Agriculture; Impervious Surface/Parking Lot Runoff; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B46R-02-BAC Daphna Creek**

Cause Location: Daphna Creek from the headwaters downstream to its confluence with Linville Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at Friends of the Shenandoah River station: 1BDPH-LC05-FOSR (4 exceedences of 4 samples in 2018 (Level III data), no new data 2024). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B46R_DPH01A00 / Daphna Creek / Daphna Creek from the headwaters downstream to its confluence with Linville Creek. | 4A | Escherichia coli (E. coli) | 2018 | L | 3.25 |

Daphna Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.25 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B46R-03-BAC Joes Creek**

Cause Location: Joes Creek from the headwaters downstream to its confluence with Linville Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at Friends of the Shenandoah River station: 1BJOE-LC004-FOSR (4 exceedances of 4 samples in 2018 (level III data), no new data 2024). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B46R_JOE01A00 / Joe's Creek / Joes Creek from the headwaters downstream to its confluence with Linville Creek. | 4A | Escherichia coli (E. coli) | 2018 | L | 7.05 |

Joes Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.05 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B46R-04-BAC West Fork Linville Creek**

Cause Location: West Fork Linville Creek from the headwaters downstream to its confluence with Linville Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at Friends of the Shenandoah River station: 1BLVW-LC01-FOSR (4 exceedances of 4 samples in 2018 (level III data), no new data 2024). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B46R_LVW01A18 / West Fork Linville Creek. / West Fork Linville Creek from the headwaters downstream to its confluence with Linville Creek. | 4A | Escherichia coli (E. coli) | 2018 | L | 5.62 |

West Fork Linville Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.62 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B46R-05-BAC Tide Spring Branch**

Cause Location: Tide Spring Branch from the headwaters downstream to its confluence with Linville Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BTSB-LC03-FOSR (4 exceedances of 4 samples for e-coli in 2018, no new data 2024). Initial Listing Date: 2018. This impairment is included in the EPA Approved Linville Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B46R_TSB01A00 / Tide Spring Branch / Tide Spring Branch from the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake downstream to its confluence with Linville Creek. | 4A | Escherichia coli (E. coli) | 2018 | L | 0.68 |
| VAV-B46R_TSB02A04 / Tide Spring Branch / Tide Spring Branch from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Broadway Public Water Intake. | 4A | Escherichia coli (E. coli) | 2018 | L | 2.20 |

Tide Spring Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.88 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-01-BEN Fridley Run**

Cause Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired due to exceedances of the General Standard for Benthics at USFS station: 4074 (Impaired for USFS MAIS Benthic Macro Invertebrate survey in 2002). Additional data collected at DEQ station 1BFDY000.02 in 2020 (Impaired for the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60)). Initial Listing Cycle: 2002.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_FDY01A02 / Fridley Run / Fridley Run from the headwaters downstream to its confluence with Mountain Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 2.39 |

Fridley Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 2.39 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-01-PH Fridley Run**

Cause Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run.

Cause City/County: Rockingham County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: 1BFDY000.02 (35 excursions of 40 samples for pH in 2020, no new data 2024). Initial Listing Date: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_FDY01A02 / Fridley Run / Fridley Run from the headwaters downstream to its confluence with Mountain Run. | 5A | pH | 2006 | L | 2.39 |

Fridley Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 2.39 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-02-BAC Mountain Run/Smith Creek/War Branch**

Cause Location: Mountain Run from the headwaters downstream to its confluence with Smith Creek; Smith Creek from the headwaters (including x-trib) downstream to its confluence with the North Fork Shenandoah River; War Branch from the headwaters downstream to its confluence with Smith Creek.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: These segments are impaired due to exceedances of the e-coli bacteria WQS at stations: 1BMTR000.93 (3 exceedances of 13 samples in 2006, two STV hits in the same 90-day period with less than 10 samples in 2024); 1BSMT004.60 (13 exceedances of 34 samples in 2008, two or more STV hits in the same 90-day period with less than 10 samples in 2024); 1BSMT023.18 (2 exceedances of 9 samples in 2008, two or more STV hits in the same 90-day period with less than 10 samples in 2024); 1BSMT026.41 (7 exceedances of 12 samples in 2012, two or more STV hits in the same 90-day period with less than 10 samples in 2024); 1BXSG-SC 1-FOSR (10 exceedances of 12 Level III samples for e-coli in 2012, no new data 2024); 1BXSG-SC-2-FOSR (13 exceedances of 17 Level III samples for e-coli in 2012, no new data 2024); 1BWAR003.88 (4 exceedances of 9 samples in 2008, two or more STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Dates: 2006 (Mountain Run), 1996 (Smith Creek), 2012 (Smith Creek X-trib), 2008 (War Branch); These segments are included in the EPA approved Smith Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_MTR01A00 / Mountain Run / Mountain Run and tributary from Route 722 downstream to its confluence with Smith Creek. | 4A | Escherichia coli (E. coli) | 2006 | L | 4.13 |
| VAV-B47R_MTR01B22 / Mountain Run / Mountain Run from its confluence with Fridley Run downstream to Route 722. | 4A | Escherichia coli (E. coli) | 2006 | L | 1.57 |
| VAV-B47R_MTR02A00 / Mountain Run / Mountain Run from the headwaters downstream to its confluence with Fridley Run. | 4A | Escherichia coli (E. coli) | 2006 | L | 0.95 |
| VAV-B47R_SMT01A00 / Smith Creek / Smith Creek from the New Market Public Water Intake downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 14.10 |
| VAV-B47R_SMT02A00 / Smith Creek / Smith Creek from its confluence with War Branch downstream to the New Market Public Water Intake. | 4A | Escherichia coli (E. coli) | 2008 | L | 5.44 |
| VAV-B47R_SMT03A00 / Smith Creek / Smith Creek from its confluence with Dry Fork downstream to its confluence with War Branch. | 4A | Escherichia coli (E. coli) | 2008 | L | 6.89 |
| VAV-B47R_SMT04A00 / Smith Creek / Smith Creek from the headwaters downstream to its confluence with Dry Fork. | 4A | Escherichia coli (E. coli) | 2012 | L | 9.22 |
| VAV-B47R_WAR01A00 / War Branch / War Branch from the headwaters downstream to its confluence with Smith Creek. | 4A | Escherichia coli (E. coli) | 2008 | L | 7.11 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_XSG01A12 / X-trib to Smith Creek / X-trib to Smith Creek from the headwaters downstream to its confluence with Smith Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 1.16 |

Mountain Run/Smith Creek/War Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 50.57 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-03-BAC Lacey Spring Branch**

Cause Location: Lacey Spring Branch from the spring downstream to its confluence with Smith Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli WQS at the Friends of Shenandoah station: 1BLAC-LAC-FOSR (7 exceedances of 22 samples for e-coli in 2018 (Level III data), no new data 2024). Initial Listing Date: 2014; This impairment is included in the EPA approved Smith Creek Bacteria TMDL

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_LAC01A00 / Lacey Spring Branch / Lacey Spring Branch from the spring downstream to its confluence with Smith Creek. | 4A | Escherichia coli (E. coli) | 2014 | L | 0.6 |

Lacey Spring Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 0.6 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-03-BEN Lacey Spring Branch**

Cause Location: Lacey Spring Branch from the spring downstream to its confluence with Smith Creek.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use due to severely impaired benthic ratings collected at station 1BLAC000.14. No new data was collected in 2024. Initial Listing Date: 1998; The aquatic life impairment is included in the EPA approved TMDL for Commercial Fish Farms.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_LAC01A00 / Lacey Spring Branch / Lacey Spring Branch from the spring downstream to its confluence with Smith Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 0.6 |

Lacey Spring Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 0.6 |

Sources: Aquaculture (Permitted)

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-05-BEN Smith Creek**

Cause Location: Smith Creek from the Shenandoah Fisheries outfall downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BSMT06.62 (2024-remains impaired). Additional data collected at 1BSMT024.19 (Full support in 2024). The listing station site appears to be improving and additional data collection will occur in 2023 to consider delisting the aquatic life use impairment. Initial Listing Date: 1998; This segment is included in the EPA approved Smith Creek Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_SMT01A00 / Smith Creek / Smith Creek from the New Market Public Water Intake downstream to its confluence with the North Fork Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 14.10 |
| VAV-B47R_SMT02A00 / Smith Creek / Smith Creek from its confluence with War Branch downstream to the New Market Public Water Intake. | 4A | Benthic Macroinvertebrates Bioassessments | 2006 | L | 5.44 |
| VAV-B47R_SMT03A00 / Smith Creek / Smith Creek from its confluence with Dry Fork downstream to its confluence with War Branch. | 4A | Benthic Macroinvertebrates Bioassessments | 2004 | L | 6.89 |

Smith Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 26.43 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-06-BAC Dry Fork**

Cause Location: Dry Fork from the headwaters downstream to its confluence with Smith Creek.

Cause City/County: Rockingham County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli bacteria WQS at station: 1BDFK000.76 (two or more STV hits in the same 90-day period with < 10 samples- 2024). Initial Listing Date: 2004. This impairment is addressed in the EPA approved Smith Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_DFK01A00 / Dry Fork / Dry Fork and tributary from the headwaters downstream to its confluence with Smith Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 10.85 |

Dry Fork

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.85 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B47R-07-BEN Dry Fork**

Cause Location: Dry Fork from the headwaters downstream to its confluence with Smith Creek.

Cause City/County: Rockingham County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BDFK003.82 and 1BDFK004.03 in the 2010 cycle, no new data in 2024. Initial Listing Date: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B47R_DFK01A00 / Dry Fork / Dry Fork and tributary from the headwaters downstream to its confluence with Smith Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2006 | L | 10.85 |

Dry Fork

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 10.85 |

Sources: Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B48R-01-BAC Mill Creek**

Cause Location: Mill Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Rockingham County; Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A; Fecal Coliform/4A

Cause Description: This segment remains impaired due to exceedances of the bacteria WQS at stations: 1BMIL002.20 (3 exceedances of 12 samples for e-coli in 2012, no new data 2024) and 1BMIL005.67 (2 exceedances of 13 samples for fecal coliform in 2008, no new data 2024). Additional data collected at 1BMIL000.33 (one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024). . Initial Listing Date: 2002 (fecal coliform)/ 2012 (E.coli); This segment is included in the EPA approved Mill Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B48R_MIL01A00 / Mill Creek / Mill Creek from its confluence with Crooked Run downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2012 | L | 2.89 |
| VAV-B48R_MIL02A04 / Mill Creek / Mill Creek from a point 3.5 miles above Mt. Jackson downstream to its confluence with Crooked Run. | 4A | Escherichia coli (E. coli) | 2012 | L | 1.67 |

Mill Creek

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

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B48R_MIL02B10 / Mill Creek / Mill Creek from its confluence with Straight Run downstream to a point 3.5 miles above Mt. Jackson. | 4A | Fecal Coliform | 2002 | L | 3.24 |
| VAV-B48R_MIL03A04 / Mill Creek / Mill Creek from the headwaters downstream to its confluence with Straight Run. | 4A | Fecal Coliform | 2002 | L | 7.88 |

Mill Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Fecal Coliform - Total Impaired Size by Water Type: | | | 11.12 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B48R-02-BEN Crooked Run**

Cause Location: Crooked Run from the headwaters downstream to its confluence with Mill Creek.

Cause City/County: Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BCKD000.38. Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B48R_CKD01A00 / Crooked Run / Crooked Run from its headwaters downstream to its confluence with Mill Creek. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 4.08 |

Crooked Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.08 |

Sources: Agriculture; Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B49L-01-DO Lake Laura**

Cause Location: Lake Laura

Cause City/County: Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/4C

Cause Description: Remains impaired for aquatic life use due to excursions of the Dissolved Oxygen WQS at station 1BSTY023.05 (58 excursions out of 135 samples in the 2022 cycle). All TSI calculations <60, therefore the DO impairment is due to pollution from natural sources- No TMDL needed.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B49L_STY01A10 / Lake Laura / Lake Laura | 4C | Dissolved Oxygen | NA | NA | 46.25 |

Lake Laura

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | 46.25 | |

Sources: Natural Sources

## Potomac and Shenandoah River Basins

**Cause Group Code: B49R-01-BAC Stony Creek**

Cause Location: Stony Creek from the Lake Laura dam downstream to its confluence with the North Fork Shenandoah River. This impaired segment was lengthened in 2024 to include the section of Stony Creek immediately below the Lake Laura dam.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BSTY001.22 (12 exceedances of 36 samples in 2008; no STV exceedances but insufficient data to analyze geomean in 2024) and 1BSTY013.85 (2 exceedances of 12 samples in 2008; no new data 2024); Initial Listing Date: 1998; This segment is included in the EPA approved Stony Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B49R_STY01A00 / Stony Creek / Stony Creek from the Route 682 (Wakemans Grove Road) bridge crossing downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 4.59 |
| VAV-B49R_STY02A00 / Stony Creek / Stony Creek from the Georges Chicken discharge downstream to the Route 682 (Wakemans Grove Road) bridge crossing. | 4A | Escherichia coli (E. coli) | 2008 | L | 1.27 |
| VAV-B49R_STY03A00 / Stony Creek / Stony Creek from its confluence with Yellow Spring Run downstream to the Georges Chicken discharge. | 4A | Escherichia coli (E. coli) | 2012 | L | 3.44 |
| VAV-B49R_STY04A04 / Stony Creek / Stony Creek from its confluence with Riles Run downstream to its confluence with Yellow Spring Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 4.69 |
| VAV-B49R_STY05A04 / Stony Creek / Stony Creek from the Lake Laura Dam downstream to its confluence with Riles Run. | 4A | Escherichia coli (E. coli) | 2008 | L | 9.46 |

Stony Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 23.45 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Rural (Residential Areas); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B49R-01-BEN Stony Creek**

Cause Location: Stony Creek from its confluence with Yellow Spring Run downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at stations: 1BSTY004.24 and 1BSTY005.91. Additional impaired benthic data collected at 1BSTY004.68. Initial Listing Date: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B49R_STY01A00 / Stony Creek / Stony Creek from the Route 682 (Wakemans Grove Road) bridge crossing downstream to its confluence with the North Fork Shenandoah River. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 4.59 |
| VAV-B49R_STY02A00 / Stony Creek / Stony Creek from the Georges Chicken discharge downstream to the Route 682 (Wakemans Grove Road) bridge crossing. | 5A | Benthic Macroinvertebrates Bioassessments | 2008 | H | 1.27 |
| VAV-B49R_STY03A00 / Stony Creek / Stony Creek from its confluence with Yellow Spring Run downstream to the Georges Chicken discharge. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | H | 3.44 |

Stony Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.3 |

Sources: Agriculture; Municipal (Urbanized High Density Area); Non-Point Source; Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B49R-07-TEMP Stony Creek**

Cause Location: Stony Creek from the Lake Laura dam outfall downstream to the Route 682 bridge (Wakeman's Grove Road).

Cause City/County: Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5A

Cause Description: This segment is impaired due to exceedances of the temperature WQS at station: 1BSTY019.70 (2 exceedances of 13 samples for temperature in 2006, no new data 2024); 1BSTY-NS30-FOSR (9 exceedances of 54 samples for temperature in 2010, no new level III data in 2024); 1BSTY-NS58-FOSR (7 exceedances of 55 samples for temperature in 2010, no new data 2024); and 1BSTY-NS29-FOSR (10 exceedances of 94 samples for temperature in 2012, no new data 2024). Additional data collected at 1BSTY013.85 (2 exceedances of 24 samples for temperature in 2024). Initial Listing Date: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B49R_STY02A00 / Stony Creek / Stony Creek from the Georges Chicken discharge downstream to the Route 682 (Wakemans Grove Road) bridge crossing. | 5A | Temperature | 2002 | L | 1.27 |
| VAV-B49R_STY03A00 / Stony Creek / Stony Creek from its confluence with Yellow Spring Run downstream to the Georges Chicken discharge. | 5A | Temperature | 2002 | L | 3.44 |
| VAV-B49R_STY04A04 / Stony Creek / Stony Creek from its confluence with Riles Run downstream to its confluence with Yellow Spring Run. | 5A | Temperature | 2004 | L | 4.69 |
| VAV-B49R_STY05A04 / Stony Creek / Stony Creek from the Lake Laura Dam downstream to its confluence with Riles Run. | 5A | Temperature | 2006 | L | 9.46 |

Stony Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Temperature - Total Impaired Size by Water Type: | | | 18.86 |

Sources: Agriculture; Non-Point Source; Source Unknown

## Potomac and Shenandoah River Basins

**Cause Group Code: B49R-08-BAC Orkney Springs Run**

Cause Location: Orkney Springs Run from the headwaters downstream to its confluence with Stony Creek above Lake Laura.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BXBP-OS01-FOSR (8 exceedances of 24 samples for e-coli in 2016, no data in 2024) and 1BXBP-OS03-FOSR (3 exceedances of 7 samples for e-coli in 2018, no data 2024). Initial Listing Date: 2012. This segment was included in the EPA approved Stony Creek bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B49R_XBP01A10 / Orkney Springs Run / Orkney Springs Run from the headwaters downstream to its confluence with Stony Creek. | 4A | Escherichia coli (E. coli) | 2012 | L | 2.19 |

Orkney Springs Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.19 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B49R-09-BAC Stony Creek**

Cause Location: Stony Creek from the headwaters downstream to the upper end of the normal pool of Lake Laura.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BSTY-STY03-FOSR (3 exceedances of 12 samples for e-coli in 2014, no data in 2024). Initial Listing Date: 2014. This segment was included in the EPA approved Stony Creek Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B49R_STY06A10 / Stony Creek / Stony Creek from the headwaters downstream to the upper end of the normal pool of Lake Laura. | 4A | Escherichia coli (E. coli) | 2014 | L | 3.5 |

Stony Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.5 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B50R-01-BAC Toms Brook**

Cause Location: Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BTMB000.54 (3 exceedances of 12 samples for e-coli in 2018, no new data 2024). Initial Listing Date; 2018. This impairment is nested into the North Fork Shenandoah River bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B50R_TMB01A00 / Toms Brook / Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2018 | L | 9.51 |

Toms Brook

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.51 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B50R-01-BEN Toms Brook**

Cause Location: Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BTMB000.70. This segment was re-listed as impaired in 2018 and is included in the EPA Approved Toms Brook Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B50R_TMB01A00 / Toms Brook / Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 2002 | L | 9.51 |

Toms Brook

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 9.51 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Streambank Erosion; Urban Development in Riparian Buffer

## Potomac and Shenandoah River Basins

**Cause Group Code: B50R-02-BAC Narrow Passage Creek**

Cause Location: Narrow Passage Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BNPC000.02 (4 exceedances of 12 samples for e-coli in 2008, no new data 2024). Initial Listing Date: 2002. This segment is included in the North Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B50R_NPC01A00 / Narrow Passage Creek / Narrow Passage Creek from the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 0.55 |
| VAV-B50R_NPC02A00 / Narrow Passage Creek / Narrow Passage Creek from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Woodstock Public Water Intake. | 4A | Escherichia coli (E. coli) | 2008 | L | 11.07 |

Narrow Passage Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.62 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B50R-03-BAC Pughs Run**

Cause Location: Pughs Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BPGH000.60 (4 exceedances of 15 samples for e-coli in 2008, no new data in 2024). Initial Listing Date: 2004 The bacteria impairment is nested into the North Fork Shenandoah River bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B50R_PGH01A00 / Pugh's Run / Pugh's Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 7 |

Pughs Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B50R-03-BEN Pughs Run**

Cause Location: Pughs Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BPGH000.29. Additional impaired benthic data collected at 1BPGH000.60. Initial Listing Date: 2012

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B50R_PGH01A00 / Pugh's Run / Pugh's Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 5A | Benthic Macroinvertebrates Bioassessments | 2012 | H | 7 |

Pughs Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 7 |

Sources: Agriculture; Non-Point Source; Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B50R-05-BAC Spring Hollow**

Cause Location: Spring Hollow from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at Friends of the Shenandoah River station: 1BXEL-NS64-FOSR (13 exceedances of 18 samples for e-coli in 2012, no data in 2024). Initial Listing Date: 2012. This impairment is included in the EPA approved North Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B50R_XEL01A10 / Spring Hollow / Spring Hollow from the headwaters downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2012 | L | 6.39 |

Spring Hollow

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.39 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B51R-01-BAC Tumbling Run**

Cause Location: Tumbling Run from the headwaters downstream to its confluence with the North Fork Shenandoah River.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BTBL001.27 (2 exceedances of 15 samples in 2008, two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Additional E.coli data collected at 1BTBL-SVB05-FOSR (two or more STV hits in the same 90-day period with less than 10 samples in 2022). Initial Listing Date: 2008. This impairment is nested into the EPA approved North Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B51R_TBL01A00 / Tumbling Run / Tumbling Run from the 5 mile upper limit of the PWS designation for Strasburg Public Water Intake downstream to its confluence with the North Fork Shenandoah River. | 4A | Escherichia coli (E. coli) | 2022 | L | 3.07 |
| VAV-B51R_TBL02A04 / Tumbling Run / Tumbling Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.13 |

Tumbling Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 5.2 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B51R-01-HG North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from its confluence with Passage Creek downstream to the old dam site at the boat ramp.

Cause City/County: Warren County

Use(s): Fish Consumption

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

Cause Description: Exceedances of the mercury fish tissue value of 0.30 parts per million (ppm) were found in fish tissue samples collected at station 1BNFS000.57 (downstream of Rt 340) on 8/26/2020: Largemouth Bass at 0.53 ppm and 0.98 ppm and channel catfish at 0.69 ppm. Initial Listing Date: 2022.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B51R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Passage Creek downstream to the old dam site at the boat ramp. | 5A | Mercury in Fish Tissue | 2022 | L | 4.71 |

North Fork Shenandoah River

| **Fish Consumption** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Mercury in Fish Tissue - Total Impaired Size by Water Type: | | | 4.71 |

Sources: Contaminated Sediments

## Potomac and Shenandoah River Basins

**Cause Group Code: B51R-02-BAC North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from the Route 55 bridge crossing downstream to its confluence with the South Fork Shenandoah River. The length of this impairment segment was extended in the 2022 cycle due to the impairment of one upstream segment.

Cause City/County: Shenandoah County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BNFS000.57 (3 exceedances of 28 samples in 2008; one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024) and 1BNFS010.34 (two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024) Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B51R_NFS01A00 / North Fork Shenandoah River / North Fork Shenandoah River from the old dam site at the boat ramp downstream to its confluence with the South Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2008 | L | 0.71 |
| VAV-B51R_NFS02A00 / North Fork Shenandoah River / North Fork Shenandoah River from its confluence with Passage Creek downstream to the old dam site at the boat ramp. | 5A | Escherichia coli (E. coli) | 2008 | L | 4.71 |
| VAV-B51R_NFS03A00 / North Fork Shenandoah River / North Fork Shenandoah River from the Winchester Public Water Intake downstream to its confluence with Passage Creek. | 5A | Escherichia coli (E. coli) | 2010 | L | 1.29 |
| VAV-B51R_NFS04A00 / North Fork Shenandoah River / North Fork Shenandoah River from the Route 55 bridge crossing downstream to the Winchester Public Water Intake. | 5A | Escherichia coli (E. coli) | 2022 | L | 3.79 |

North Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 10.5 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B51R-03-BAC South Fork Tumbling Run**

Cause Location: South Fork Tumbling Run from the headwaters downstream to its confluence with Tumbling Run.

Cause City/County: Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BSFT-SVB04-FOSR (two or more STV exceedances in the same 90-day period with less than 10 samples in 2022 (Level III data), no new data 2024). Initial Listing Date: 2022

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B51R_SFT01A20 / South Fork Tumbling Run / South Fork Tumbling Run from the 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake downstream to its confluence with Tumbling Run. | 4A | Escherichia coli (E. coli) | 2022 | L | 1.57 |
| VAV-B51R_SFT02A22 / South Fork Tumbling Run / South Fork Tumbling Run from the headwaters downstream to its 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake. | 4A | Escherichia coli (E. coli) | 2022 | L | 2.02 |

South Fork Tumbling Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.59 |

Sources: Agriculture; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B51R-04-BAC North Fork Shenandoah River**

Cause Location: North Fork Shenandoah River from the Strasburg Public Water Intake downstream to the Route 55 bridge crossing. This impaired section was shortened in the 2024 assessment cycle.

Cause City/County: Shenandoah County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at DEQ station the Friends of the Shenandoah River level III station 1BNFS-EC06-FOSR (remains impaired 2024 with no STV exceedances but insufficient data to analyze geomean); DEQ station 1BNFS010.34 (two or more STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Date: 2022. These impairments are nested into the EPA approved North Fork Shenandoah River Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B51R_NFS04B10 / North Fork Shenandoah River / North Fork Shenandoah River from the 5 mile upper limit of the PWS designation for the Winchester Public Water Intake downstream to the Route 55 bridge crossing. | 4A | Escherichia coli (E. coli) | 2022 | L | 1.22 |
| VAV-B51R_NFS05A00 / North Fork Shenandoah River / North Fork Shenandoah River from the Strasburg Public Water Intake downstream to the 5 mile upper limit of the PWS designation for the Winchester Public Water Intake. | 4A | Escherichia coli (E. coli) | 2022 | L | 1.64 |

North Fork Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 2.86 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B52R-01-PH Cedar Creek**

Cause Location: Cedar Creek from the headwaters downstream to the U.S. Forest Service boundary. The impairment was extended in the 2016 cycle due to impairment upstream.

Cause City/County: Shenandoah County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: 1BCDR045.30 (2 excursions of 14 samples in 2014; 3 excursions of 31 samples in 2022, no new data 2024). Additional data collected at 1BCDR045.33 (4 excursions of 6 samples in 2022). Initial Listing Cycle: 2014

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B52R_CDR03B10 / Cedar Creek / Cedar Creek from its confluence with a spring branch near Van Buren Furnace downstream to the U.S. Forest Service boundary. | 5A | pH | 2014 | L | 4.83 |
| VAV-B52R_CDR04A02 / Cedar Creek / Cedar Creek from the headwaters downstream to its confluence with a spring branch near Van Buren Furnace. | 5A | pH | 2016 | L | 3.46 |

Cedar Creek

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| pH - Total Impaired Size by Water Type: | | | 8.29 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B52R-02-BEN Orndorff Spring Branch**

Cause Location: Orndorff Spring Branch from the spring downstream to its confluence with Cedar Creek.

Cause City/County: Shenandoah County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment remains impaired for aquatic life use based on a severely impaired benthic status during the 1998 cycle. No data has been collected since the 1998 cycle. Initial Listing Date: 1998; This segment is included in the EPA approved TMDL for Impairments from Commercial Fish Farming operations.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B52R_XOS01A00 / Orndorff Spring Branch / Orndorff Spring Branch from the spring down stream to its confluence with Cedar Creek. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 0.23 |

Orndorff Spring Branch

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 0.23 |

Sources: Aquaculture (Permitted)

## Potomac and Shenandoah River Basins

**Cause Group Code: B52R-04-BAC Cedar Creek**

Cause Location: Cedar Creek from its confluence with a spring branch near Van Buren Furnace downstream to its confluence with Duck Run. This impairment was lengthened in 2014 adding two downstream segments.

Cause City/County: Frederick County; Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BCDR023.47 (2 exceedances of 12 samples in 2014; no STV exceedances but insufficient data to analyze geomean in 2024); 1BCDR028.86 (2 exceedances of 12 samples in 2014; one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2022, no new data 2024); 1BCDR-CC06-FOSR (10 exceedances of 17 samples in 2012, no new data 2024). Initial Listing Cycle: 2012.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B52R_CDR02A00 / Cedar Creek / Cedar Creek from the Route 55 bridge crossing downstream to its confluence with Duck Run. | 5A | Escherichia coli (E. coli) | 2014 | L | 3.14 |
| VAV-B52R_CDR02B10 / Cedar Creek / Cedar Creek from its confluence with Paddy Run downstream to the Route 55 bridge crossing. | 5A | Escherichia coli (E. coli) | 2014 | L | 6.08 |
| VAV-B52R_CDR03A00 / Cedar Creek / Cedar Creek from the U.S. Forest Service boundary downstream to its confluence with Paddy Run. | 5A | Escherichia coli (E. coli) | 2012 | L | 2.77 |
| VAV-B52R_CDR03B10 / Cedar Creek / Cedar Creek from its confluence with a spring branch near Van Buren Furnace downstream to the U.S. Forest Service boundary. | 5A | Escherichia coli (E. coli) | 2012 | L | 4.83 |

Cedar Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 16.82 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B52R-05-BAC Fall Run**

Cause Location: Fall Run and its tributaries from the headwaters downstream to its confluence with Cedar Creek.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BFLR000.57 (2 exceedances of 12 samples in 2014; one E.coli STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2022, no new data 2024). Initial Listing Cycle: 2014

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B52R_FLR01A14 / Fall Run / Fall Run and its tributaries from the headwaters downstream to its confluence with Cedar Creek. | 5A | Escherichia coli (E. coli) | 2014 | L | 15.17 |

Fall Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 15.17 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B52R-06-BAC Gravel Springs**

Cause Location: Gravel Springs from the headwaters downstream to its confluence with Cedar Creek.

Cause City/County: Frederick County; Shenandoah County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BGSR000.40 (3 exceedances of 10 samples in 2016, no new data 2024) Initial Listing Cycle: 2016

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B52R_GSR01A16 / Gravel Springs / Gravel Springs from the headwaters downstream to its confluence with Cedar Creek. | 5A | Escherichia coli (E. coli) | 2016 | L | 3.29 |

Gravel Springs

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.29 |

Sources: Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B53R-01-BAC Cedar Creek**

Cause Location: Cedar Creek from its confluence with Fall Run downstream to its confluence with the North Fork Shenandoah River. This impairment was lengthened in 2018 to include two upstream segments.

Cause City/County: Frederick County; Shenandoah County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BCDR000.81 (2 exceedances of 12 samples in 2008; 2 exceedances of 12 samples in 2020, no new data 2024) and 1BCDR013.29 (4 exceedances of 36 samples in 2018; two STV hits in the same 90-day period with less than 10 samples in 2024). Initial Listing Cycle: 2008, lengthened in 2018.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B53R_CDR01A00 / Cedar Creek / Cedar Creek from its confluence with Stickley Run downstream to its confluence with the North Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2014 | L | 3.76 |
| VAV-B53R_CDR02A00 / Cedar Creek / Cedar Creek from its confluence with Fawcett Run downstream to its confluence with Stickley Run. | 5A | Escherichia coli (E. coli) | 2008 | L | 9.78 |
| VAV-B53R_CDR03A10 / Cedar Creek / Cedar Creek from its confluence with Fall Run downstream to its confluence with Fawcett Run. | 5A | Escherichia coli (E. coli) | 2008 | L | 4.58 |

Cedar Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 18.12 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B54R-01-BAC Passage Creek**

Cause Location: Passage Creek from its confluence with Peters Mill Run downstream its confluence with the North Fork Shenandoah River. The impairment length is extended in 2022, adding the two downstream segments.

Cause City/County: Shenandoah County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at stations: 1BPSG018.13 (2 exceedances of 12 samples in 2008; two or more STV hits in the same 90-day period with less than 10 samples in 2024), 1BPSG001.36 (two STV hits in the same 90-day period with less than 10 samples in 2022; one STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean in 2024). Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B54R_PSG01A00 / Passage Creek / Passage Creek from the U. S. Forest Service boundary downstream to its confluence with the North Fork Shenandoah River. | 5A | Escherichia coli (E. coli) | 2022 | L | 3.86 |
| VAV-B54R_PSG01B10 / Passage Creek / Passage Creek from a point 4.6 miles upstream of the U. S. Forest Service boundary downstream to the U.S. Forest Service boundary. | 5A | Escherichia coli (E. coli) | 2022 | L | 4.79 |
| VAV-B54R_PSG01C10 / Passage Creek / Passage Creek from its confluence with Peters Mill Run downstream to a point 4.6 miles upstream of the U. S. Forest Service boundary. | 5A | Escherichia coli (E. coli) | 2008 | L | 10.43 |

Passage Creek

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 19.08 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B54R-01-PH Passage Creek**

Cause Location: Passage Creek from the headwaters downstream to the Route 675 bridge crossing.

Cause City/County: Page County; Shenandoah County

Use(s): Aquatic Life

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

Cause Description: This segment is impaired due to excursions of the pH WQS at station: 1BPSG031.99 (3 excursions of 7 samples in 2010, no new data in 2024). Initial Listing Cycle: 2010

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B54R_PSG03A10 / Passage Creek / Passage Creek from the headwaters downstream to the Route 675 bridge crossing at Big Spring. | 5A | pH | 2010 | L | 5.45 |

Passage Creek

| | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| **Aquatic Life** | | | |
| pH - Total Impaired Size by Water Type: | | | 5.45 |

Sources: Atmospheric Deposition - Acidity

## Potomac and Shenandoah River Basins

**Cause Group Code: B55R-01-BAC Manassas Run**

Cause Location: Manassas Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli bacteria WQS at station: 1BMAN002.55 (2 exceedances of 11 samples in 2014, no new data 2024). Additional data exceeding the E.coli WQS is collected at the Friends of Shenandoah River Level III station 1BMAN-FW36-FOSR (geomean exceedance occurred in any 90-day period in 2024). Initial Listing Date: 2004 (fecal coliform)/ 2014 (E.coli). This segment is included in the EPA Approved Manassas Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B55R_MAN01A00 / Manassas Run / Manassas Run from the Apple House WWTP discharge downstream to its confluence with the Shenandoah River. | 4A | Escherichia coli (E. coli) | 2014 | L | 5.02 |
| VAV-B55R_MAN02A04 / Manassas Run / Manassas Run and tributaries from the headwaters downstream to the Apply House WWTP discharge. | 4A | Escherichia coli (E. coli) | 2014 | L | 10.08 |

Manassas Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 15.1 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B55R-02-BAC Borden Marsh Run**

Cause Location: Borden Marsh Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BBMR000.20 (5 exceedances of 11 samples in 2006, no new data 2024). Initial Listing Date: 2006. This segment is included in the EPA Approved Bordon Marsh Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B55R_BMR01A00 / Borden Marsh Run / Borden Marsh Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. | 4A | Escherichia coli (E. coli) | 2006 | L | 15.68 |

Borden Marsh Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 15.68 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Urban Runoff/Storm Sewers

## Potomac and Shenandoah River Basins

**Cause Group Code: B55R-03-BAC Willow Brook**

Cause Location: Willow Brook from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BWLO000.71 (7 exceedances of 11 samples in 2006, no new data 2024). Initial Listing Date: 2006. This segment is included in the EPA Approved Willow Brook Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B55R_WLO01A06 / Willow Brook / Willow Brook from the headwaters downstream to its confluence with the Shenandoah River. | 4A | Escherichia coli (E. coli) | 2006 | L | 4.1 |

Willow Brook

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.1 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B55R-04-BAC Shenandoah River**

Cause Location: Shenandoah River from the power plant dam near Front Royal downstream to its confluence with Long Branch.

Cause City/County: Clarke County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at stations: 1BSHN-FW35-FOSR and 1BSHN-FW35MID-FOSR (FOSR Level III stations, 2024 data averaged- two or more STV exceedances in the same 90-day period and a geomean exceedance in any 90-day period represented by 10+ samples), 1BSHN043.19 (two or more STV hits in the same 90-day period with less than 10 samples-2022, no new data 2024). Initial listing date: 2022.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B55R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Oregon Hollow downstream to its confluence with Long Branch. | 5A | Escherichia coli (E. coli) | 2022 | L | 8.52 |
| VAV-B55R_SHN01B10 / Shenandoah River / Shenandoah River from the power plant dam near Front Royal downstream to its confluence with Oregon Hollow. | 5A | Escherichia coli (E. coli) | 2022 | L | 4.42 |

Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 12.94 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B56R-01-BAC Crooked Run**

Cause Location: Crooked Run from the Lake Frederick dam downstream to its confluence with the Shenandoah River.

Cause City/County: Frederick County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BCRO002.75 (3 exceedances of 9 samples in 2008, no new data 2024). Initial Listing Date: 2008. This segment is included in the EPA approved Crooked Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B56R_CRO01A00 / Crooked Run / Crooked Run from the Nineveh Spring outfall downstream to its confluence with the Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 6.90 |
| VAV-B56R_CRO01B16 / Crooked Run / Crooked Run from the Lake Frederick dam downstream to its confluence with the Nineveh Spring outfall. | 4A | Escherichia coli (E. coli) | 2008 | L | 2.33 |

Crooked Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.23 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B56R-01-DO Crooked Run**

Cause Location: Crooked Run from the Lake Frederick dam downstream to its confluence with the Nineveh Spring outfall. Impairment length was shortened in 2016 with delist of the downstream assessment unit.

Cause City/County: Frederick County; Warren County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: This segment is impaired due to excursions of the DO WQS at station: 1BCRO006.93 (4 excursions of 10 samples in 2016; 10 excursions of 34 samples in 2020, no new data 2024). Initial Listing Date: 2016.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B56R_CRO01B16 / Crooked Run / Crooked Run from the Lake Frederick dam downstream to its confluence with the Nineveh Spring outfall. | 5A | Dissolved Oxygen | 2008 | L | 2.33 |

Crooked Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Dissolved Oxygen - Total Impaired Size by Water Type: | | | 2.33 |

Sources: Upstream Impoundments

## Potomac and Shenandoah River Basins

**Cause Group Code: B56R-02-BAC Stephens Run**

Cause Location: Stephens Run from an unnamed tributary 1 mile upstream of Crooked Run downstream to its confluence with Crooked Run.

Cause City/County: Frederick County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BSTV000.20 (4 exceedances of 24 samples in 2010, 10 exceedences of 69 samples in 2018, no new data 2024). Initial Listing Date: 2010. This segment is included in the EPA Approved Stephens Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B56R_STV01A00 / Stephens Run / Stephens Run from an unnamed tributary .99 miles upstream of Crooked Run downstream to its confluence with Crooked Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 1 |

Stephens Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 1 |

Sources: Agriculture; Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B56R-02-BEN Stephens Run**

Cause Location: Stephens Run from an unnamed tributary 1 mile upstream of Crooked Run downstream to its confluence with Crooked Run.

Cause City/County: Frederick County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BSTV000.20. Initial Listing Date: 2016

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B56R_STV01A00 / Stephens Run / Stephens Run from an unnamed tributary .99 miles upstream of Crooked Run downstream to its confluence with Crooked Run. | 5A | Benthic Macroinvertebrates Bioassessments | 2016 | H | 1 |

Stephens Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 1 |

Sources: Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: B56R-03-BAC West Run**

Cause Location: West Run from the headwaters downstream to its confluence with Crooked Run.

Cause City/County: Frederick County; Warren County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BWST000.20 (2 exceedances of 19 samples in 2010, 14 exceedances of 71 samples for e-coli in 2018, no new data 2024). Initial Listing Date: 2010 This segment is included in the EPA Approved West Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B56R_WST01A00 / West Run / West Run from the headwaters downstream to its confluence with Crooked Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 8.08 |

West Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 8.08 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B57R-01-BAC Page Brook Run/Spout Run**

Cause Location: Page Brook Run from the headwaters downstream to its confluence with Roseville Run; Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment remains impaired due to exceedances of the e-coli bacteria WQS at stations: 1BPGE000.09 (17 exceedances of 25 samples in 2010, 30 exceedances of 59 samples in 2020, no new data 2024) and 1BSPR000.40 (one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2024). Initial Listing Date: 2004 (fecal coliform)/ 2010 (E.coli)- Page Brook Run, 1998 (fecal coliform)/ 2010 (E.coli)- Spout Run). This impairment is included in the EPA approved Page Brook Run/Spout Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_PGE01A00 / Page Brook Run / Page Brook Run and tributary from a point 1 mile upstream of Spout Run downstream to its confluence with Spout Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 1.32 |
| VAV-B57R_PGE02A10 / Page Brook Run / Page Brook Run and tributaries from the headwaters downstream to a point 1 mile upstream of Spout Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 9.66 |
| VAV-B57R_SPR01A00 / Spout Run / Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River. | 4A | Escherichia coli (E. coli) | 2010 | L | 4.12 |

Page Brook Run/Spout Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 15.1 |

Sources: Agriculture; Livestock (Grazing or Feeding Operations); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B57R-01-BEN Spout Run**

Cause Location: Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/4A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BSPR000.40. Additional data collected at 1BSPR003.13 (Impaired for VSCI). Initial Listing Date: 1998. This impairment is included in the EPA approved Spout Run Benthic TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_SPR01A00 / Spout Run / Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River. | 4A | Benthic Macroinvertebrates Bioassessments | 1998 | L | 4.12 |

Spout Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 4.12 |

Sources: Agriculture; Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Streambank Erosion

## Potomac and Shenandoah River Basins

**Cause Group Code: B57R-02-BAC Long Branch**

Cause Location: Long Branch from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BLNG000.24 (2 exceedances of 6 samples in 2008, 4 exceedances of 23 samples in 2020, no new data 2024). Initial Listing Date: 2004. This segment is included in the EPA approved Long Branch Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_LNG01A04 / Long Branch / Long Branch from the headwaters downstream to its confluence with the Shenandoah River. | 4A | Escherichia coli (E. coli) | 2008 | L | 3.87 |

Long Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.87 |

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B57R-03-BAC Chapel Run**

Cause Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BCPL000.95 (2 exceedances of 9 samples in 2008; insufficient data to assess with one STV exceedance in multiple 90-day periods but insufficient data to analyze geomean in 2022, no new data 2024). Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_CPL01A00 / Chapel Run / Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. | 5A | Escherichia coli (E. coli) | 2008 | L | 11.75 |

Chapel Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 11.75 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B57R-03-BEN Chapel Run**

Cause Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Aquatic Life

Causes(s)/VA Category: Benthic Macroinvertebrates Bioassessments/5A

Cause Description: This segment is impaired for aquatic life use with exceedances of the State's water quality General Standard for benthic macroinvertebrates (Virginia Stream Condition Index (VSCI) < 60) at station: 1BCPL000.95. Initial Listing Cycle: 2006.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_CPL01A00 / Chapel Run / Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. | 5A | Benthic Macroinvertebrates Bioassessments | 2006 | H | 11.75 |

Chapel Run

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type: | | | 11.75 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B57R-04-BAC Roseville Run**

Cause Location: Roseville Run from the headwaters downstream to its confluence with Page Brook Run.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BRSC001.42 (5 exceedances of 24 samples in 2010, 25 exceedances of 60 samples in 2020, no new data 2024). Initial Listing Date: 2010. This impairment is included in the EPA approved Roseville Run Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_RSC01A00 / Roseville Run / Roseville Run from the headwaters downstream to its confluence with Page Brook Run. | 4A | Escherichia coli (E. coli) | 2010 | L | 6.4 |

Roseville Run

| Recreation | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.4 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B57R-06-BAC Westbrook Run**

Cause Location: Westbrook Run and tributaries from the headwaters downstream to its confluence with Roseville Run.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station 1BWBK-SRPFC43-FOSR (15 exceedances of 22 samples for e-coli in 2018, no new data 2024). Initial Listing Date: 2018 This impairment is included in the EPA Approved Roseville Run (Spout Run and Tributaries) Bacteria TMDL.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B57R_WBK01A00 / Westbrook Run / Westbrook Run and tributaries from the headwaters downstream to its confluence with Roseville Run. | 4A | Escherichia coli (E. coli) | 2018 | L | 9.16 |

Westbrook Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 9.16 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B58R-02-BAC Dog Run**

Cause Location: Dog Run from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BDGR000.23 (4 exceedances of 9 samples in 2008; two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Additional Level III data collected at the Friends of the Shenandoah River station 1BDGR-FCTR1-FOSR in 2024 (two or more STV hits in the same 90-day period with < 10 samples). Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B58R_DGR01A00 / Dog Run / Dog Run from the headwaters downstream to its confluence with the Shenandoah River. | 5A | Escherichia coli (E. coli) | 2008 | L | 6.13 |

Dog Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 6.13 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B58R-03-BAC Wheat Spring Branch**

Cause Location: Wheat Spring Branch from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at station: 1BWSB000.22 (9 exceedances of 9 samples in 2008; two or more STV hits in the same 90-day period with less than 10 samples in 2022, no new data 2024). Initial Listing Cycle: 2008.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B58R_WSB01A00 / Wheat Spring Branch / Wheat Spring Branch from the headwaters downstream to its confluence with the Shenandoah River. | 5A | Escherichia coli (E. coli) | 2008 | L | 4.69 |

Wheat Spring Branch

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 4.69 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B58R-04-BAC Long Marsh Run**

Cause Location: Long Marsh Run from the headwaters downstream to the VA/WVA State Line.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BLMN004.84 (6 exceedances of 12 samples in 2012; two or more STV hits in the same 90-day period with < 10 samples in 2024). Initial Listing Cycle: 2012.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B58R_LSR01A00 / Long Marsh Run / Long Marsh Run from the headwaters downstream to the VA/WVA State Line. | 5A | Escherichia coli (E. coli) | 2012 | L | 7.09 |

Long Marsh Run

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.09 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B58R-05-BAC Shenandoah River**

Cause Location: Shenandoah River from its confluence with Craig Run downstream to the VA/WVA State Line.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at station: 1BSHN022.63 (5 exceedances of 39 samples in 2012; no STV exceedances but insufficient data to analyze geomean in 2024). Additional data collected at 1BSHN-FC08-FOSR (two or more STV exceedances in the same 90-day period represented by 10+ samples in 2024). Initial Listing Date: 2012.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B58R_SHN01A00 / Shenandoah River / Shenandoah River from its confluence with Dog Run downstream to the VA/WVA State Line. | 5A | Escherichia coli (E. coli) | 2012 | L | 5.11 |
| VAV-B58R_SHN02A00 / Shenandoah River / Shenandoah River from its confluence with Craig Run downstream to its confluence with Dog Run. | 5A | Escherichia coli (E. coli) | 2012 | L | 2.81 |

Shenandoah River

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 7.92 |

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B58R-06-BAC Craig Run**

Cause Location: Craig Run from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli WQS at Level III stations: 1BCRG-EC10TRIB-FOSR (5 exceedances of 6 samples in 2018, no new data 2024) and 1BCRG-FS340-FOSR (3 exceedences of 3 monthly geometric means in 2020, no new data 2024). Initial Listing Cycle: 2018

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B58R_CRG01A16 / Craig Run / Craig Run from approximately 700 feet below Route 613 downstream to its confluence with the Shenandoah River. | 5A | Escherichia coli (E. coli) | 2018 | L | 2.73 |
| VAV-B58R_CRG02A16 / Craig Run / Craig Run from the headwaters downstream to approximately 700 feet below Route 613. | 5A | Escherichia coli (E. coli) | 2018 | L | 1.68 |

Craig Run

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

Sources: Agriculture; Non-Point Source; Wildlife Other than Waterfowl

## Potomac and Shenandoah River Basins

**Cause Group Code: B58R-07-BAC Shenandoah River UT (local name Pigeon's Hollow)**

Cause Location: Shenandoah River UT from the headwaters downstream to its confluence with the Shenandoah River.

Cause City/County: Clarke County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/5A

Cause Description: This segment is impaired due to exceedances of the e-coli bacteria WQS at Friends of the Shenandoah River station: 1BXSU-SUCSPHM-FOSR (2022- two or more STV exceedances in the same 90-day period with less than 10 samples, no new data 2024). Additional data collected at 1BXSU-SUCSPHTRIB-FOSR (2022- two or more STV exceedances in the same 90-day period with less than 10 samples). Initial Listing Cycle: 2022.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAV-B58R_XSU01A20 / Shenandoah River UT (local name Pigeon Hollow) / Shenandoah River UT from the headwaters downstream to its confluence with the Shenandoah River. | 5A | Escherichia coli (E. coli) | 2022 | L | 3.29 |

Shenandoah River UT (local name Pigeon's Hollow)

| **Recreation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Escherichia coli (E. coli) - Total Impaired Size by Water Type: | | | 3.29 |

Sources: Non-Point Source

## Potomac and Shenandoah River Basins

**Cause Group Code: CB5MH-SAV-BAY Chesapeake Bay segment CB5MH**

Cause Location: This cause encompasses the complete CBP segment CB5MH.

Cause City/County: Chesapeake Bay - County Not Applicable; Lancaster County; Northumberland County

Use(s): Aquatic Life; Shallow-Water Submerged Aquatic Vegetation

Causes(s)/VA Category: Aquatic Plants (Macrophytes)/4A

Cause Description: The Chesapeake Bay Water Quality Standards were implemented during the 2006 cycle. These criteria are based on segment-wide dissolved oxygen and submerged aquatic vegetation criteria.

Chesapeake Bay segment CB5MH is impaired of the Aquatic Life due to inadequate submerged aquatic vegetation acreage. The Submerged Aquatic Vegetation goal is 7,633 acres but only 14% was attained found in the most recent 3 years according to aerial analysis of SAV.

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_BAC01A12 / Back Creek / Described in VDH SFC 010-105S87, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.038 |
| VAP-A34E_BBC01A08 / Bridgemans Back Creek / Described in VDH Shellfish Condemnation 010-105F, 6/15/2022.<br>Split in the 2024 cycle.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.021 |
| VAP-A34E_BBC02A24 / Bridgemans Back Creek / Described in VDH Shellfish Condemnation 010-105S184, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.046 |
| VAP-A34E_BRI01C98 / Bridge Creek / Described in VDH condemnation 010-105B, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.087 |
| VAP-A34E_BRI02A20 / Bridge Creek / Portion of VDH-DSS condemnation 180, 6/10/1997 not condemned in 010-105, 6/15/2022<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.039 |
| VAP-A34E_BRI02C98 / Bridge Creek / Described in VDH-DSS condemnation notice 010-105D, -105J, and -105K, 6/15/2022<br>Merged in the 2024 cycle.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.051 |
| VAP-A34E_BRI03A22 / Bridge Creek / Portion of VDH-DSS condemnation 010-105S12, 6/15/2022 not included in 180, 6/10/1997.<br>Merged in the 2024 cycle.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.108 |
| VAP-A34E_COO01A98 / Cod Creek / Described in VDH condemnation notice 010-105G, 6/15/2022<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.037 |
| VAP-A34E_COO01B20 / Cod Creek / Portion of VDH condemnation notice 105A, 06/10/1997 seasonally condemned in 010-105S86, 6/15/2022<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.041 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COO02A14 / Cod Creek / Portion of VDH-DSS condemnation 010-105S86, 6/15/2022 open on 6/10/1997.<br>Shrank in the 2024 cycle.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.006 |
| VAP-A34E_ELL01A06 / Ellyson Creek / Described in VDH-DSS condemnation 010-105S185, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.043 |
| VAP-A34E_ELL01B22 / Ellyson Creek, UT / Described in VDH-DSS condemnation 010-105S186, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.014 |
| VAP-A34E_ELL02A20 / Ellyson Creek / Downstream of VDH-DSS condemnation 010-105S185, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.270 |
| VAP-A34E_LIS01A02 / Little Wicomico River / Portion of VDH-DSS Condemnation 010-105A, 6/15/2022 which was not included in 105B, 6/10/1997, as well as condemnations 010-105E and -010-105H, 6/15/2022.<br>Segment expanded in the 2024 cycle.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.138 |
| VAP-A34E_LIS01A98 / Little Wicomico River / Described in the VDH-DSS Condemnation Notice 105B, 6/10/1997<br>Merged in the 2024 cycle.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.203 |
| VAP-A34E_LIS01B12 / Little Wicomico River / Described in VDH-DSS condemnation 010-105M3, 6/15/2022<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.021 |
| VAP-A34E_LIS02A00 / Little Wicomico River / Boundary of VDH-DSS Condemnation Notice 010-105, 6/15/2022 downstream to Sunnybank Ferry.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.476 |
| VAP-A34E_LIS02B08 / Little Wicomico River / Described in VDH-DSS condemnation 010-105M2, 6/15/2022<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.006 |
| VAP-A34E_LIS02C20 / Little Wicomico River / Described in VDH-DSS Condemnation 010-105S11, 6/15/2022.<br>Segment adjusted in the 2024 cycle.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.152 |
| VAP-A34E_LIS02D22 / Sloop Creek / Described in VDH-DSS Condemnation 010-105SI, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.018 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_LIS03A98 / Little Wicomico River / Confined to approximately the Sunnybank Ferry Route.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.025 |
| VAP-A34E_LIS04A00 / Little Wicomico River / Mainstem Little Wicomico River downstream of the Sunnybank Ferry Route, except as otherwise segmented.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.511 |
| VAP-A34E_LIS04B12 / Little Wicomico River, UT / Described in VDH condemnation 010-105S187, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.024 |
| VAP-A34E_SHR01A20 / Sharps Creek / Described in VDH-DSS condemnation 010-105C, 6/15/2022<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.032 |
| VAP-A34E_SLO05A98 / Slough Creek / Described in the condemnation notice 010-105M1, 6/15/2022.<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.061 |
| VAP-A34E_ZZZ02A20 / Unsegmented estuaries in A34 / Unsegmented portion of the watershed within CB01<br>CB5MH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.241 |

Chesapeake Bay segment CB5MH

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type: | 2.708 | | |

Chesapeake Bay segment CB5MH

| **Shallow-Water Submerged Aquatic Vegetation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type: | 2.708 | | |

Sources: Agriculture; Atmospheric Deposition - Nitrogen; Clean Sediments; Contaminated 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)

## Potomac and Shenandoah River Basins

**Cause Group Code: POTMH-SAV-BAY Potomac Mesohaline Embayments**

Cause Location: Includes all waters in the mesohaline portion of the Potomac River (POTMH).

Cause City/County: King George County; Northumberland County; Westmoreland County

Use(s): Aquatic Life; Shallow-Water Submerged Aquatic Vegetation

Causes(s)/VA Category: Aquatic Plants (Macrophytes)/4A

Cause Description: Since the 2006 cycle, the Potomac River mesohaline estuary (POTMH) has failed the Chesapeake Bay Submerged Aquatic Vegetation (SAV) acreage water quality standard.

There has been insufficient information to assess the water clarity acreage.

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 |
|---|---|---|---|---|---|
| VAN-A30E_DEE01A00 / Deep Creek / Segment includes the downstream portion of Deep Creek to the confluence with UMC within the admin condemnation boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section D, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.019 |
| VAN-A30E_GAM01A02 / Gambo Creek / The Gambo Creek portion of the condemned area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.163 |
| VAN-A30E_UMC01A02 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek within the condemned boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section F, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.027 |
| VAN-A30E_UMC01B06 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek within the condemned boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section A, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.058 |
| VAN-A30E_UMC02A04 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek within the condemned boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section B, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.028 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_UMC03A04 / Upper Machodoc Creek / Segment includes Upper Machodoc Creek (near Williams Creek) within the administrative condemnation boundaries described in the VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section D, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.043 |
| VAN-A30E_UMC03B10 / Upper Machodoc Creek / Segment includes the area of UMC described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section M1, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.049 |
| VAN-A30E_UMC04A10 / Upper Machodoc Creek / Segment includes main body of tidal Upper Machodoc Creek not included in the Sections described in VDH Shellfish Area Condemnation Number 001A-36, dated May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.699 |
| VAN-A30E_UMC04B24 / Upper Machodoc Creek / Segment includes the portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022, from Howland Point to the main body of tidal UMC not described in VDH Condemnation. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.143 |
| VAN-A30E_UMC04C06 / Upper Machodoc Creek / Segment includes the portion of UMC within the boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022, from near the end of Shoreline Drive downstream to Howland Point. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.419 |
| VAN-A30E_UMC05A02 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within the admin condemnation boundaries described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022 Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.464 |
| VAN-A30E_UMC05B24 / Upper Machodoc Creek / Segment includes the upstream portion of UMC within admin condemnation described in VDH Shellfish Area Condemnation #001A-36, Section D, effective May 15, 2022; portion where deep-water and deep-channel uses do not apply in CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.002 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAN-A30E_WLL01A02 / Williams Creek / The boundaries of the admin condemnation area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section E, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.041 |
| VAN-A30E_WLL01B10 / Williams Creek / The downstream portion of the boundary of the admin condemnation area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.113 |
| VAN-A30E_WLL02A02 / Williams Creek / The upstream portion of the boundary of the admin condemnation area described in VDH Notice and Description of Shellfish Area Condemnation Number 001A-36, Upper Machodoc Creek, Section C, effective May 15, 2022. Portion of CBP segment POTMH. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.022 |
| VAP-A30E_ZZZ01A10 / Unsegmented estuaries in A30 / Unsegmented estuaries within the PL65 portion of A30.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.034 |
| VAP-A31E_BRG01A04 / Bridges Creek / Tidal limit to mouth<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.182 |
| VAP-A31E_GLD01A00 / Goldman Creek / Described in VDH-DSS condemnation notice 001-088B, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.039 |
| VAP-A31E_MAO01A98 / Mattox Creek / From the downstream boundary of the 5/30/2018 administrative shellfish condemnation to rivermile 0.58.<br>Segment changes in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.435 |
| VAP-A31E_MAO01B10 / Mattox Creek / Upper mainstem portion of the condemnation notice 002-001B, 5/15/2022 which was administratively condemned on 5/30/2018.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.366 |
| VAP-A31E_MAO01C24 / Mattox Creek / Rivermile 0.58 to the mouth<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.540 |
| VAP-A31E_MON01A00 / Monroe Creek/Monroe Bay / Prohibited area around STP outfall as described in VDH shellfish condemnation 002-001D, 5/15/2022 | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.176 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A31E_MON02A98 / Monroe Bay / Administratively condemned portion of VDH condemnation notice 002-001A, 5/15/2022<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.355 |
| VAP-A31E_MON03A98 / Monroe Bay / Portion of VDH condemnation notice 002-001A, 5/15/2022 not administratively condemned<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.172 |
| VAP-A31E_MON03B16 / Monroe Bay / Described in VDH condemnation notice 002-001M1, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.063 |
| VAP-A31E_MON04A00 / Monroe Bay / Downstream of VDH-DSS condemnation 002-001M1, 5/15/2022.<br>Extent adjusted slightly in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.189 |
| VAP-A31E_MON05A04 / Monroe Bay / Described in VDH Condemnation 002-001C, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.002 |
| VAP-A31E_POP01A98 / Popes Creek / Described in VDH-DSS condemnation notice 003-146A, 9/23/2008. | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.577 |
| VAP-A31E_ROS01A08 / Rosier Creek / Portion of VDH condemnation notice 001-088A, 5/15/2022 not included in the 2006 TMDL.<br>Size reduced in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.184 |
| VAP-A31E_ROS01A98 / Rosier Creek / Described in VDH condemnation notice 088A, 7/1/1998.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.206 |
| VAP-A31E_ROS02A00 / Rosier Creek / From the downstream limit of segment ROS01A08 to its mouth at the Potomac River<br>Size increased in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.219 |
| VAP-A31E_XFF01A04 / XFF - Mattox Creek, UT / As described in VDH Condemnation 002-001E, 5/30/2018.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.010 |
| VAP-A31E_ZZZ01A14 / Unsegmented estuaries in A31 / Unsegmented portion of watershed PL66.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.006 |
| VAP-A31E_ZZZ01B14 / Unsegmented estuaries in A31 / Unsegmented portion of watershed PL67.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.058 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_BAN01A00 / Barnes Creek / Downstream of VDH Shellfish Condemnation 082C, 2/10/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.027 |
| VAP-A32E_BAN02A08 / Barnes Creek / Described in VDH Shellfish Condemnation 082C, 2/10/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.057 |
| VAP-A32E_BRA01A98 / Branson Cove / Described in the condemnation notice 005-083C, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.020 |
| VAP-A32E_BUB01B16 / Buckner Creek / Described in VDH Condemnation 004-082B, 1/15/2022.<br>Size reduced in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.104 |
| VAP-A32E_BUB01C22 / Buckner Creek / Portion of VDH Condemnation 004-082D, 2/10/1997 not included in 004-082B, 1/15/2022.<br>Size reduced in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.079 |
| VAP-A32E_BUB02A06 / Buckner Creek / Downstream of VDH Condemnation 004-082D, 2/10/1997 and 004-082A, 1/15/2022.<br>Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.393 |
| VAP-A32E_CAP01A04 / Cabin Point Creek / As described in VDH-DSS condemnation 005-083B, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.123 |
| VAP-A32E_CHB01A98 / Cold Harbor Bay / Described in VDH-DSS condemnation notice 184A, 6/18/2002.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.083 |
| VAP-A32E_CHB02A06 / Cold Harbor Creek / Currioman Bay / Described in VDH condemnation 004-184M1, 3/15/2019.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.044 |
| VAP-A32E_CRB02A00 / Currioman Bay / Southern Currioman Bay<br>Size reduced in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.380 |
| VAP-A32E_CRB03A14 / Currioman Bay / Northern Currioman Bay<br>Size increased in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 1.271 |
| VAP-A32E_CUR01A98 / Currioman Creek / Described in the condemnation notice 004-184, 2/10/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.052 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_CUR01B08 / Currioman Creek / From the limit of VDH condemnation 004-184, 2/10/1997 downstream to the limit of 004-184B, 3/15/2021.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.020 |
| VAP-A32E_DAV01A08 / Davis Creek / Portion of VDH condemnation 004-082F, 4/15/2020 that was restricted.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.042 |
| VAP-A32E_DAV01B22 / Davis Creek / Described in VDH condemnation 004-082F, 1/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.016 |
| VAP-A32E_GLB01A00 / Glebe Creek / Downstream of VDH-DSS condemnation 005-083A, 12/28/2007.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.039 |
| VAP-A32E_GLB02A08 / Aimes and Glebe Creeks / As described in VDH Shellfish Condemnation 005-083S208 and -S209, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.120 |
| VAP-A32E_GLB02B18 / Aimes and Glebe Creeks / Portion of VDH Shellfish Condemnation 005-083A, 12/28/2007 open 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.015 |
| VAP-A32E_JUL01A08 / Jules Creek / Described in VDH Shellfish Condemnation 004-082C, 1/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.045 |
| VAP-A32E_LOW01A04 / Lower Machodoc Creek / As described in VDH condemnation notice 005-083A, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.370 |
| VAP-A32E_LOW01C20 / Lower Machodoc Creek / Portion of VDH condemnation notice 005-083B, 12/28/2007 within 005-083S4, 5/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.165 |
| VAP-A32E_LOW02A00 / Lower Machodoc Creek / Boundary of condemned area 005-083S4, 5/15/2022 downstream to approximately rivermile 2.68 Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.267 |
| VAP-A32E_LOW02B16 / Lower Machodoc Creek / One-half mile upstream and downstream of station 1ALOW002.18.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.687 |
| VAP-A32E_LOW02C12 / Lower Machodoc Creek, UT / Described in VDH condemnation 005-083C, 12/21/2010<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.059 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_LOW02D16 / Lower Machodoc Creek / Approximately river mile 1.68 downstream to mouth.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 2.145 |
| VAP-A32E_LOW03A24 / Lower Machodoc Creek, UT / Described in VDH-DSS Condemnation 005-083E, 5/15/2022<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.007 |
| VAP-A32E_MAT01A08 / Matthews Cove / Described in VDH Shellfish Condemnation 004-082S206, 1/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.019 |
| VAP-A32E_NOM01A04 / Nomini Creek, Pierce Creek / Portion of VDH Shellfish Condemnation 004-082D, 4/15/2020 downstream of 082B, 7/3/1997 and the portion upstream of 082A, 7/3/1997.<br>Size decreased in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.130 |
| VAP-A32E_NOM01A98 / Nomini Creek / As described in VDH Shellfish Condemnation 082B, 7/3/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.540 |
| VAP-A32E_NOM02A00 / Nomini Creek / Downstream condemnation boundary to the mouth.<br>Split in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 4.410 |
| VAP-A32E_NOM02B24 / Nomini Creek / Described in VDH-DSS condemnation 004-082S125, 1/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.217 |
| VAP-A32E_NOM02C24 / Nomini Creek / From the downstream boundary of VDH-DSS condemnation 004-082S125, 1/15/2022 downstream to rivermile 4.24<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.207 |
| VAP-A32E_NOP01A02 / North Prong Buckner Creek / Described in VDH-DSS condemnation notice 082E, 2/10/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.023 |
| VAP-A32E_NOP02A08 / North Prong Buckner Creek / Portion of VDH condemnation 004-082A, 1/15/2022 that was not included in 082E, 2/10/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.032 |
| VAP-A32E_PEI01A98 / Pierce Creek / As described in VDH Shellfish Condemnation 082A, 7/3/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.142 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A32E_POO01A08 / Poor Jack Creek / Described in VDH Shellfish Condemnation 004-184C, 2/14/2017. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.147 |
| VAP-A32E_WEA02A04 / Weatherall Creek / As described in VDH condemnation 005-083D, 5/15/2022. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.055 |
| VAP-A32E_ZZZ01A14 / Unsegmented estuaries in A32 / Unsegmented portion of watershed PL68. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.009 |
| VAP-A32E_ZZZ01B14 / Unsegmented estuaries in A32 / Unsegmented portion of watershed PL69. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.053 |
| VAP-A33E_BOM01A98 / Bonum Creek / Described in the condemnation notice 006-143C, 6/15/2022. Size reduced in the 2024 cycle. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.100 |
| VAP-A33E_BOM01B10 / Bonum Creek / Portion of condemnation notice 143C, 5/5/2005 in 006-143S3, 6/15/2022. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.110 |
| VAP-A33E_DRM01A20 / Drum Cove / Described in VDH-DSS condemnation 007-225S97, 3/15/2022. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.027 |
| VAP-A33E_DUA01A04 / Dungan Cove / Described in VDH Shellfish Condemnation 007-225C, 3/15/2022. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.021 |
| VAP-A33E_DUA01B08 / Dungan Cove / Dungan Cove from the downstream limit of VDH condemnation 028G, 5/12/1997 to its mouth at Lodge Creek. Size increased in the 2024 cycle. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.084 |
| VAP-A33E_DUA02A22 / Dungan Cove / Portion of VDH Shellfish Condemnation 007-028G, 5/12/1997 within 007-028S41, 3/15/2022 POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.003 |
| VAP-A33E_GAD01A98 / Gardner Creek / Non-administratively condemned portion of VDH-DSS condemnation 006-143A, 7/15/2020. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.009 |
| VAP-A33E_GAD01C20 / Gardner Creek / Portion of condemnation notice 006-143A, 5/5/2005 open/seasonally condemned on 7/15/2020. Merged in the 2024 cycle. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.125 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_GAD01E22 / Gardner Creek / Described in VDH-DSS condemnations 006-143A and -143E, 6/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.050 |
| VAP-A33E_GAD02A00 / Gardner Creek / Downstream of VDH condemnation 006-143A, 5/5/2005<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.013 |
| VAP-A33E_HAM01A02 / Hampton Hall Branch / Tidal Hampton Hall Branch<br>Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.274 |
| VAP-A33E_JCK01A98 / Jackson Creek / Described in VDH condemnation notice 006-143B, 6/15/2022.<br>Split in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.044 |
| VAP-A33E_JCK01B18 / Jackson Creek / Described in VDH condemnation notice 006-143S2, 6/15/2022.<br>Segment extent adjusted in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.034 |
| VAP-A33E_JCK01C20 / Jackson Creek / Portion of VDH condemnation notice 006-143B, 5/5/2005 open in 006-143, 6/15/2022.<br>Size increased in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.027 |
| VAP-A33E_KIN01A12 / Kinsale Branch / Tidal limit to mouth<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.108 |
| VAP-A33E_LOG01A98 / Lodge Creek / Described in VDH-DSS condemnation notice 007-225D, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.030 |
| VAP-A33E_LOG02A98 / Lodge Creek / Portion of condemnation notice 007-225A, 3/15/2022 that is not administratively condemned.<br>Segment expanded in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.176 |
| VAP-A33E_LOG02B10 / Lodge Creek / Portion of condemnation notice 007-225A, 3/15/2022 that is administratively condemned.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.074 |
| VAP-A33E_LOG02C12 / Lodge Creek / Portion of condemnation notice 007-028F, 5/12/1997 that is within 007-225S41, 3/15/2022.<br>Size reduced in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.021 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_LOG03A08 / Lodge Creek / Lodge Creek from the downstream boundary of 028F 5/12/1997 to its mouth at the South Yeocomico River.<br>Size increased in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.132 |
| VAP-A33E_LOI01A24 / Long Cove / Tidal limit to mouth<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.030 |
| VAP-A33E_MIA01A98 / Mill Creek / Described in the VDH-DSS condemnation notice 007-225B, 3/15/2022.<br>Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.149 |
| VAP-A33E_MIA01B10 / Mill Creek / Portion of VDH-DSS condemnation notice 028E, 5/12/1997 open on 3/15/2022.<br>Segment split in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.028 |
| VAP-A33E_MIA01C24 / Mill Creek / Described in VDH-DSS condemnation notice 007-S40, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.037 |
| VAP-A33E_PAL01A24 / Palmer Cove / Tidal limit to mouth<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.106 |
| VAP-A33E_RAG01A06 / Ragged Point Bay / Described in VDH-DSS condemnation 006-143M1, 6/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.226 |
| VAP-A33E_SHA01A98 / Shannon Branch / Described in VDH-DSS condemnation notice 007-028B, 10/15/2022.<br>Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.086 |
| VAP-A33E_SHA03A06 / Shannon Branch / Described in VDH-DSS condemnation 007-028M1, 10/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.035 |
| VAP-A33E_SOV01A02 / South Yeocomico River / South Yeocomico River downstream of VDH-DSS condemnation 007-225S41, 3/15/2022<br>Size reduced in the 2024 cycle<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.431 |
| VAP-A33E_SOV02A06 / South Yeocomico River / South Yeocomico River within VDH-DSS condemnation 007-225S41, 3/15/2022<br>Segment adjusted in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.101 |

*(continued)*

| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_WES01A06 / West Yeocomico River, UT / Described in VDH-DSS condemnation 007-028D, 10/15/2020.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.030 |
| VAP-A33E_WES01B12 / West Yeocomico River / Portion of the West Yeocomico River mainstem within VDH condemnation notice 007-028C, 5/12/1997<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.055 |
| VAP-A33E_WES02A06 / West Yeocomico River / Downstream of condemnations<br>Segment shortened in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.196 |
| VAP-A33E_WES02B22 / West Yeocomico River / Mainstem West Yeocomico River from the downstream limit of VDH condemnation 28C, 5/12/1997 within condemnation 007-028S39, 10/15/2022.<br>Expanded in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.142 |
| VAP-A33E_WES03A20 / West Yeocomico River, UT / Tidal limit to mouth<br>Expanded in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.023 |
| VAP-A33E_WHP01A98 / White Point Creek / Described in VDH-DSS condemnation notice 007-028C, 10/15/2022.<br>Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.044 |
| VAP-A33E_WHP01B18 / White Point Creek / Portion of VDH shellfish condemnation 007-028B, 5/12/1997 in 007-082S38, 10/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.035 |
| VAP-A33E_WHP03A06 / NW Yeocomico (White Point Creek/Shannon Branch) / Portion of VDH-DSS condemnation 007-028S38, 10/15/2022 not included in 28B, 5/12/1997.<br>Expanded in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.079 |
| VAP-A33E_XDW01A24 / XDW - Jackson Creek, UT / Described in VDH condemnation notice 006-143D, 6/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.032 |
| VAP-A33E_YEO01A02 / Yeocomico River and Tributaries / Yeocomico River mainstem<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 1.878 |
| VAP-A33E_ZZZ01A14 / Unsegmented estuaries in A33 / Unsegmented portion of watershed PL71.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 1.064 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A33E_ZZZ01C14 / Unsegmented estuaries in A33 / Unsegmented portion of watershed PL70. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.203 |
| VAP-A34E_BOT01A04 / Boathouse Creek / As described in VDH Shellfish Condemnation 008-214S172, 3/15/2022. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.067 |
| VAP-A34E_BRD01A98 / Bridgeman Creek / Described in VDH-DSS condemnation notice 009-142A, 3/17/2008. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.045 |
| VAP-A34E_BRD02A24 / Bridgeman Creek / Portion of VDH-DSS Condemnation 009-142S200, 4/15/2021 downstream of condemnation 009-142A, 3/17/2008 POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.012 |
| VAP-A34E_COA01A02 / Coan River / Portion of VDH-DSS Condemnation Notice 008-214S6, 3/15/2022 not included on SFC 145, 2/23/1997. Size reduced in the 2024 cycle. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.024 |
| VAP-A34E_COA01A98 / Coan River / Coan River portion of VDH-DSS Condemnation 145I, 2/25/1997 which is within 008-214A, 3/15/2022. Expanded in the 2024 cycle. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.333 |
| VAP-A34E_COA01B16 / Coan River / Portion of VDH-DSS Condemnation Notice 145I, 2/25/1997 not condemned in 008-214, 3/15/2022. Shrank in the 2024 cycle. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.017 |
| VAP-A34E_COA02A02 / Coan River / Tidal Coan River from rivermile 2.37 to its mouth at the Potomac. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 2.173 |
| VAP-A34E_COA02B20 / Coan River / From the downstream boundary of SFC 008-214S6, 3/15/2022 to rivermile 2.37. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.532 |
| VAP-A34E_COC01A98 / Cod Creek / Described in the condemnation notice 009-141A, 2/15/2022 POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.064 |
| VAP-A34E_COC01B02 / Cod Creek, UT / Described in VDH shellfish condemnation notice 009-141B, 2/15/2022. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.054 |
| VAP-A34E_COC02A14 / Cod Creek / Portion of VDH-DSS condemnation 141A, 1/31/1997 that is downstream of 009-141A, 2/15/2022. POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.050 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_COC02B14 / Cod Creek, UT / Portion of VDH-DSS condemnation notice 141B, 1/31/1997 not included in 009-141B, 2/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.025 |
| VAP-A34E_COC03A22 / Cod Creek, UT / Portion of VDH-DSS condemnation notice 009-141S176, 2/15/2022 downstream of 141B, 1/31/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.014 |
| VAP-A34E_COC04A24 / Cod Creek, UT / Described in VDH-DSS Condemnation 009-141D, 2/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.014 |
| VAP-A34E_CUT01A98 / Cubitt Creek / Described in VDH-DSS condemnation notice 168, 5/30/1986.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.225 |
| VAP-A34E_FLP01A10 / Flag Pond / Described in VDH-DSS condemnation 009-161C, 4/27/2018.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.035 |
| VAP-A34E_FTN01A06 / Fountain Cove / As described in VDH condemnation 009-142S201, 4/15/2021.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.069 |
| VAP-A34E_GLE01A04 / The Glebe / Portion of VDH-DSS notice 008-213A, 3/15/2022 open on 145D, 2/25/1997.<br>Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.101 |
| VAP-A34E_GLE01A98 / The Glebe / Described in VDH-DSS condemnation notice 145D, 2/25/1997.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.132 |
| VAP-A34E_GLE03A00 / The Glebe / Glebe Creek downstream of condemnations.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.677 |
| VAP-A34E_GLE03C22 / The Glebe, UT / Described in VDH-DSS condemnation 008-213S173, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.015 |
| VAP-A34E_GLE03D22 / The Glebe, UT / Described in VDH-DSS condemnation 008-213S134, 4/15/2020.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.022 |
| VAP-A34E_GLE04A04 / Wrights Cove, UT / Described in VDH-DSS Shellfish Condemnation 08-213C, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.046 |
| VAP-A34E_HAC01A00 / Hack Creek / Tidal limit to mouth at Potomac River.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.224 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_HEA01A98 / Headly Cove / Described in the VDH-DSS Condemnation Notice 008-214C, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.025 |
| VAP-A34E_HUC02A22 / Hull Creek / Portion of Hull Creek downstream of shellfish TMDL extents. Split in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.077 |
| VAP-A34E_HUL01A02 / Hull Creek and Floyd Cove / Described in VDH condemnations 009-142A and -142E, 4/15/2021, excluding Spring Cove.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.252 |
| VAP-A34E_HUL01B12 / Hull Creek / Described in VDH-DSS condemnation 009-142S177, 4/15/2021. Split in the 2024 cycle<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.116 |
| VAP-A34E_HUL01C12 / Fleets Cove (Hull Creek, UT) / Described in VDH condemnation 009-142B, 4/15/2021.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.024 |
| VAP-A34E_HUL01D24 / Hull Creek / Portion of VDH condemnation 142B, 8/21/2000 open in 009-142, 4/15/2021.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.157 |
| VAP-A34E_KIN01A00 / Kingscote Creek / Downstream of condemnations 008-213, 3/15/2022 to the Coan River.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.337 |
| VAP-A34E_KIN02A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213M1, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.007 |
| VAP-A34E_KIN03A06 / Kingscote Creek / Described in VDH-DSS condemnation 008-213M2, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.006 |
| VAP-A34E_KIN04A06 / Kingscote Creek, UT / Described in VDH-DSS condemnation 008-213B, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.009 |
| VAP-A34E_KIN05A22 / Kingscote Creek, UT / Described in VDH-DSS condemnation 008-213S133, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.012 |
| VAP-A34E_KNC01A98 / Killneck Creek / Described in VDH-DSS condemnation 145E, 2/25/1997.<br>Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.049 |

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| Assessment Unit / Water Name / Location Desc. | Cause Category | Cause Name | Cycle First Listed | TMDL Dev. Priority | Water Size |
|---|---|---|---|---|---|
| VAP-A34E_KNC01B06 / Killneck Creek, UT / Described in VDH-DSS condemnation 008-214M2, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.014 |
| VAP-A34E_MII01A06 / Mill Creek / Tidal Mill Creek to its mouth at the Coan River. Merged in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.104 |
| VAP-A34E_PRE01A98 / Presley Creek / Described in VDH-DSS condemnation notice 009-141C, 2/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.332 |
| VAP-A34E_ROG01A98 / Rogers Creek / Described in VDH-DSS condemnation notice 009-142C, 4/15/2021.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.035 |
| VAP-A34E_ROG01B16 / Rogers Creek / Described in VDH-DSS condemnation 009-142S202, 4/15/2021. Split in the 2024 cycle.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.016 |
| VAP-A34E_ROG01C24 / Rogers Creek / Portion of VDH-DSS Condemnation 009-142C, 3/17/2008 open in 009-142, 4/15/2021.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.007 |
| VAP-A34E_SPN01A04 / Spring Cove / Tidal limit to mouth at Hull Creek<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.010 |
| VAP-A34E_XFI01A98 / XFI - Coan River, UT (Stevens Point) / Described in VDH-DSS condemnation notice 008-214M1, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.038 |
| VAP-A34E_XFJ01A98 / XFJ - Coan River, UT (aka Cellars Cove) / Described in the condemnation notice 008-214B, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.032 |
| VAP-A34E_XFJ02A22 / XFJ - Coan River, UT (aka Cellars Cove) / Described in VDH-DSS condemnation 008-214S135, 3/15/2022.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.027 |
| VAP-A34E_XLV01A10 / XLV - Potomac River, UT (aka Corbin Pond) / As described in VDH-DSS condemnation 009-142D, 4/15/2021.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.043 |
| VAP-A34E_ZZZ01A00 / Unsegmented estuaries in A34 / Unsegmented portion of the watersheds PL72 and PL73.<br>POTMH | 4A | Aquatic Plants (Macrophytes) | 2006 | L | 0.182 |

Potomac Mesohaline Embayments

| **Aquatic Life** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type: | 32.066 | | |

Potomac Mesohaline Embayments

| **Shallow-Water Submerged Aquatic Vegetation** | Estuary (Sq. Miles) | Reservoir (Acres) | River (Miles) |
|---|---|---|---|
| Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type: | 32.066 | | |

Sources: Agriculture; Atmospheric Deposition - Nitrogen; Clean Sediments; Contaminated Sediments; Industrial Point Source Discharge; Internal Nutrient Recycling; Loss of Riparian Habitat; Municipal Point Source Discharges; Natural Conditions - Water Quality Standards Use Attainability Analyses Needed; Naturally Occurring Organic Acids; Sediment Resuspension (Clean Sediment); Source Unknown; Sources Outside State Jurisdiction or Borders; Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)