

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N01R-02-BAC** **Little Helton Creek**

**Cause Location:** A tributary to Helton Creek. The segment extends from the Virginia state line upstream.

**Cause City/County:** Grayson County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** The ambient water quality monitoring station 9-LHC001.92 had 2 or more STV hits in the same 90-day period with less than 10 samples during the 2018 monitoring season.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_LHC01A02 / Little Helton Creek & tributaries / From Virginia state line upstream to Haw Orchard in Grayson Highlands State Park, a tributary to Helton Creek.	5A	Fecal Coliform	2004	L	6.31

Little Helton Creek

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			6.31

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_LHC01A02 / Little Helton Creek & tributaries / From Virginia state line upstream to Haw Orchard in Grayson Highlands State Park, a tributary to Helton Creek.	5A	Escherichia coli (E. coli)	2010	L	6.31

Little Helton Creek

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.31

Sources: Grazing in Riparian or Shoreline Zones; Unrestricted Cattle Access

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### New River Basin

**Cause Group Code:** **N02R-01-TEMP** **Wilson Creek**

Cause Location: Wilson Creek mainstem from the New River confluence at Mouth of Wilson upstream 8.8 miles and from rivermile 8.8 upstream to the Quebec Branch confluence.

Cause City/County: Grayson County

Use(s): Aquatic Life

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

Cause Description: Station 9-WLS001.78 had 2 of 11 temperature measurements exceed the water quality standard for Class VI natural trout waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_WLS01A04 / Wilson Creek / Middle segment of Wilson Creek from mile 8.8 near Rugby, upstream to Quebec Branch confluence.	5A	Temperature	2020	L	4.63
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles. Parallel to Rt. 58, includes Volney.	5A	Temperature	2020	L	8.91

Wilson Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			13.54

Sources: Source Unknown

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### New River Basin

**Cause Group Code:** **N02R-02-BAC** New River, Bridle Creek and Grassy Creek

**Cause Location:** This segment of the New River begins at the North Carolina state line, includes Fields Dam, and extends downstream to the confluence with Saddle Creek at the Route 601 bridge and from where the New River reenters VA from NC to the confluence with Peach Bottom Creek. Grassy Creek from the headwaters downstream to the North Carolina state line and Bridle Creek, a tributary of the New River west of Rt. 601.

**Cause City/County:** Grayson County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** The AWQM stations located at 9-BRL000.04, 9-GRA003.36, 9-NEW187.46 had 2 STV or more hits in the same 90-day period with < 10 samples. Stations 9-NEW181.66 and 9-NEW171.94 had 1 STV hit in one or multiple 90-day periods but insufficient data to analyze geomean. 9-NEW172.45 had 16% and 9-NEW171.94 had a 13% of samples that exceeded the previous bacteria WQS.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_BRL01A10 / Bridle Creek / Tributary of New River, west of Rt. 601, south of Rt. 58.	5A	Escherichia coli (E. coli)	2014	L	1.14
VAS-N02R_GRA01A10 / Grassy Creek / Headwaters to NC state line east of Quillen Ridge and parallel SR 725.	5A	Escherichia coli (E. coli)	2010	L	3.65
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina.	5A	Escherichia coli (E. coli)	2010	L	0.74
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox.	5A	Escherichia coli (E. coli)	2010	L	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge.	5A	Escherichia coli (E. coli)	2010	L	4.23
VAS-N04R_NEW01A98 / New River / Mainstem from Brush Creek confluence downstream to Peach Bottom Creek confluence, parallel to North Carolina state line.	5A	Escherichia coli (E. coli)	2012	L	5.98
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence.	5A	Escherichia coli (E. coli)	2010	L	1.48
VAS-N04R_NEW02B06 / New River / From NC state line downstream to Brush Creek confluence at Rt. 21/221 bridge.	5A	Escherichia coli (E. coli)	2020	L	0.43

New River, Bridle Creek and Grassy Creek

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

20.15

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Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina.	5A	Fecal Coliform	2004	L	0.74
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox.	5A	Fecal Coliform	2004	L	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge.	5A	Fecal Coliform	2004	L	4.23
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence.	5A	Fecal Coliform	2004	L	1.48

New River, Bridle Creek and Grassy Creek

### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			8.95

Sources: Grazing in Riparian or Shoreline Zones; Rural (Residential Areas); Source Unknown; Unrestricted Cattle Access

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N02R-02-HG** New River

**Cause Location:** This segment begins at the upper mainstem at the North Carolina state line at river mile 189.06, and extends downstream to the Saddle Creek confluence, it includes the mainstem from the North Carolina line in N04 downstream to the confluence with Rock Creek and the mainstem from Buddle Branch downstream to the confluence with Reed Creek.

**Cause City/County:** Grayson County; Wythe County

**Use(s):** Fish Consumption

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

**Cause Description:** Fish tissue collected on 6/16/2004 at 9-NEW176.85 show exceedances of the tissue value for mercury in a smallmouth bass, flathead catfish, and white sucker. A second smallmouth exceeded the VDH level of concern. Fish tissue collected on 6/16/2004 at 9-NEW171.94 show exceedances of the tissue value in a smallmouth bass, flathead catfish and carp. Fish tissue collected on 6/17/2004 at 9-NEW158.54 show exceedances of the tissue value in a rock bass, smallmouth bass, and carp. Fish tissue collected on 7/15/2004 at 9-NEW117.47 show exceedances of the tissue value in largemouth bass, smallmouth bass, and carp.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina.	5A	Mercury in Fish Tissue	2006	L	0.74
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox.	5A	Mercury in Fish Tissue	2006	L	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge.	5A	Mercury in Fish Tissue	2006	L	4.23
VAS-N04R_NEW01A98 / New River / Mainstem from Brush Creek confluence downstream to Peach Bottom Creek confluence, parallel to North Carolina state line.	5A	Mercury in Fish Tissue	2006	L	5.98
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence.	5A	Mercury in Fish Tissue	2008	L	1.48
VAS-N04R_NEW01C02 / New River / Mainstem west of Baywood, from Little River confluence downstream to Rock Creek confluence.	5A	Mercury in Fish Tissue	2006	L	4.69
VAS-N04R_NEW02A06 / New River / From Peach Bottom Creek confluence downstream to Little River confluence.	5A	Mercury in Fish Tissue	2010	L	3.61
VAS-N04R_NEW02B06 / New River / From NC state line downstream to Brush Creek confluence at Rt. 21/221 bridge.	5A	Mercury in Fish Tissue	2006	L	0.43
VAS-N08R_NEW03A06 / New River / Mainstem from I-77 bridge downstream to Reed Creek confluence near Lone Ash.	5A	Mercury in Fish Tissue	2006	L	6.51

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New River

**Fish Consumption**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Mercury in Fish Tissue - Total Impaired Size by Water Type:

30.17

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Sources: Source Unknown

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### New River Basin

**Cause Group Code:** **N02R-03-BAC** **Wilson Creek and Little Wilson Creek**

**Cause Location:** This segment includes the Wilson Creek mainstem from the New River confluence upstream to the Quebec Branch confluence and Little Wilson Creek, a tributary to Wilson Creek north of Mink Ridge.

**Cause City/County:** Grayson County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** The AWQM stations 9-LWL000.98 and 9-WLS002.57 had 2 or more STV hits in the same 90-day period with less 10 samples. 9-WLS001.78 had 1 STV hit in one or multiple 90-day periods but insufficient data to analyze geomean.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_LWL01A20 / Little Wilson Creek / Tributary to Wilson Creek, north of Mink Ridge.	5A	Escherichia coli (E. coli)	2020	L	7.58
VAS-N02R_WLS01A04 / Wilson Creek / Middle segment of Wilson Creek from mile 8.8 near Rugby, upstream to Quebec Branch confluence.	5A	Escherichia coli (E. coli)	2018	L	4.63
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles. Parallel to Rt. 58, includes Volney.	5A	Escherichia coli (E. coli)	2010	L	8.91

Wilson Creek and Little Wilson Creek

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)      Reservoir  
(Acres)      River  
(Miles)  
21.12

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles. Parallel to Rt. 58, includes Volney.	5A	Fecal Coliform	2004	L	8.91

Wilson Creek and Little Wilson Creek

#### Recreation

Fecal Coliform - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)      Reservoir  
(Acres)      River  
(Miles)  
8.91

Sources: Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Source Unknown

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N03R-01-BAC** **Fox Creek and Tributaries**

Cause Location: The mainstem of Fox Creek from the Mill Creek confluence to the New River confluence, Middle Fox Creek from the Fox Creek confluence upstream 4.1 miles, Mill Creek from the confluence with Fox Creek upstream to the headwaters, and Little Fox Creek from the Fox Creek confluence upstream 2.2 miles.

Cause City/County: Grayson County

Use(s): Recreation

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

Cause Description: AWQM station 9-FXC000.84 had 1 STV hit in 1 90-day period and station 9-FXC003.35 had no STV hits with insufficient data to analyze geomean. Station 9-LFX000.06 had 2 STV hits in the same 90-day period with less than 10 samples. Stations 9-MFX000.13 and 9-MIR000.28 had 3 STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N03R_FXC01A98 / Fox Creek / Mainstem of Fox Creek from Mill Creek confluence north of Grant to the New River confluence near Fox.	5A	Escherichia coli (E. coli)	2010	L	7.66
VAS-N03R_LFX01A10 / Little Fox Creek / A Fox Creek tributary downstream to confluence with Fox Creek, WQS Section 2, South of Grubbs Chapel, parallels Rt. 680 (NE06)	5A	Escherichia coli (E. coli)	2010	L	2.29
VAS-N03R_MFX02A02 / Middle Fox Creek / From Fox Creek confluence upstream 4.4 miles, west of Buck Mountain.	5A	Escherichia coli (E. coli)	2010	L	4.61
VAS-N03R_MIR01A02 / Mill Creek / From Fox Creek confluence north of Grant, upstream to origin on Pine Mountain, parallels Rt. 739.	5A	Escherichia coli (E. coli)	2010	L	4.57

Fox Creek and Tributaries

#### Recreation

Estuary  
(Sq. Miles)      Reservoir  
(Acres)      River  
(Miles)

Escherichia coli (E. coli) - Total Impaired Size by Water Type: 19.13

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N03R_FXC01A98 / Fox Creek / Mainstem of Fox Creek from Mill Creek confluence north of Grant to the New River confluence near Fox.	5A	Fecal Coliform	2004	L	7.66

Fox Creek and Tributaries

#### Recreation

Estuary  
(Sq. Miles)      Reservoir  
(Acres)      River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type: 7.66

Sources: Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Source Unknown



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### New River Basin

**Cause Group Code:** **N04R-01-BEN** **Brush Creek**

Cause Location: Brush Creek mainstem from the headwaters near the intersection of Rt. 703 and Rt. 58 to the confluence with the New River, southwest of Bald Hill.

Cause City/County: Grayson County

Use(s): Aquatic Life

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

Cause Description: Probabilistic monitoring station 9-BUH003.23 had VSCI scores of 51.9 and 60.7 in the 2019 monitoring season. The habitat this location is poor and has been impacted by agricultural uses.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_BUH01A22 / Brush Creek / Brush Creek mainstem from the headwaters near the intersection of Rt. 703 and Rt. 58 to the confluence with the New River, southwest of Bald Hill.	5A	Benthic Macroinvertebrates Bioassessments	2022	L	4.62

Brush Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		4.62

Sources: Agriculture

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### New River Basin

**Cause Group Code:** **N04R-02-BAC** **Little River**

**Cause Location:** This segment includes the Little River mainstem from NC state line, river mile 5.20, to the confluence at New River.

**Cause City/County:** Grayson County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station, 9-LVR001.34, had a 25% exceedance of the fecal coliform water quality standard in the 2004 WQA. The station was moved to 9-NEW002.65 in 2003 and had a 16% exceedance of the E. coli water quality standard.

During the 2018 monitoring season, station 9-LRV002.65 had 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_LVR01A98 / Little River / Little River mainstem east of Peach Bottom, from NC state line, river mile 5.20, to the confluence of New River.	5A	Escherichia coli (E. coli)	2012	L	6.55

Little River

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.55

Sources: Rural (Residential Areas)

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### New River Basin

**Cause Group Code:** **N04R-03-BAC** **Peach Bottom Creek and Rock Creek**

**Cause Location:** This segment includes the mainstem from the headwaters downstream to the confluence with the New River. This also includes Rock Creek from the U.S. 21 crossing to the confluence with the New River.

**Cause City/County:** Grayson County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** Stations 9-PBC001.12, 9-PBC008.61, and 9-RCK000.50 had 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_PBC01A98 / Peach Bottom Creek / Mainstem from Beaverdam Creek confluence downstream to New River confluence parallel to SR 697.	5A	Fecal Coliform	2004	L	2.81

Peach Bottom Creek and Rock Creek

#### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Fecal Coliform - Total Impaired Size by Water Type: 2.81

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_PBC01A98 / Peach Bottom Creek / Mainstem from Beaverdam Creek confluence downstream to New River confluence parallel to SR 697.	5A	Escherichia coli (E. coli)	2006	L	2.81
VAS-N04R_PBC01B02 / Peach Bottom Creek / Peach Bottom Creek headwaters north of Buck Mountain, downstream to confluence of Little Peach Bottom Creek north of Independence.	5A	Escherichia coli (E. coli)	2012	L	8.87
VAS-N04R_PBC01C04 / Peach Bottom Creek / East of Independence from Beaverdam Creek confluence, upstream to Little Peach Bottom Creek confluence.	5A	Escherichia coli (E. coli)	2016	L	5.34
VAS-N04R_RCK01A12 / Rock Creek / New River tributary from SR 654 near Chestnut Hill School downstream, northeast of Independence.	5A	Escherichia coli (E. coli)	2012	L	5.01

Peach Bottom Creek and Rock Creek

#### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Escherichia coli (E. coli) - Total Impaired Size by Water Type: 22.03

Sources: Source Unknown

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### New River Basin

Cause Group Code: **N04R-07-BAC** Saddle Creek

Cause Location: This segment includes the mainstem from the New River confluence upstream 3.09 miles, west of Independence.

Cause City/County: Grayson County

Use(s): Recreation

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

Cause Description: The AWQM station, 9-SDL000.05 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_SDL01A06 / Saddle Creek / A New River tributary west of Independence.	5A	Escherichia coli (E. coli)	2006	L	3.17

Saddle Creek

#### Recreation

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

Sources: Animal Feeding Operations (NPS); Livestock (Grazing or Feeding Operations)

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N05R-01-BAC** Elk Creek and Tributaries

**Cause Location:** This segment includes Elk Creek from the Comers Rock Branch confluence downstream to the New River confluence, including 4.31 miles of Knob Fork and Middle Branch Elk Creek, west of Bennington Mill. It also includes the headwaters of Turkey Fork near Dry Run Gap on Iron Mountain.

**Cause City/County:** Grayson County

**Use(s):** Recreation

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

**Cause Description:** The AWQM stations, 9-EKC000.11, 9-EKC003.78, 9-EKC010.47, 9-EKC012.13, 9-EKC017.51 and 9-KNB000.03 had exceedances of the E. coli water quality standard that ranged from 26-66%. Stations 9-ECM001.01 had a 75% exceedance and 9-TKY001.55 had a 100% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_EKC01A00 / Elk Creek / Lower Elk Creek from the Knob Fork confluence, north of Lundy Knob, downstream to the New River confluence.	4A	Fecal Coliform	2002	L	3.32
VAS-N05R_EKC02A00 / Elk Creek / Upper Elk Creek from the Turkey Fork confluence, north of Poor Knob, downstream to Knob Fork confluence.	4A	Fecal Coliform	2002	L	7.59

Elk Creek and Tributaries

#### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Fecal Coliform - Total Impaired Size by Water Type: 10.91

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_ECM01A14 / Middle Branch Elk Creek / Elk Creek tributary west of Bennington Mill.	4A	Escherichia coli (E. coli)	2016	L	3.06
VAS-N05R_EKC01A00 / Elk Creek / Lower Elk Creek from the Knob Fork confluence, north of Lundy Knob, downstream to the New River confluence.	4A	Escherichia coli (E. coli)	2006	L	3.32
VAS-N05R_EKC02A00 / Elk Creek / Upper Elk Creek from the Turkey Fork confluence, north of Poor Knob, downstream to Knob Fork confluence.	4A	Escherichia coli (E. coli)	2006	L	7.59
VAS-N05R_EKC03A02 / Elk Creek / Mainstem from confluence of Comers Rock Branch near Bennington Mill, downstream to Turkey Fork confluence.	4A	Escherichia coli (E. coli)	2006	L	9.38
VAS-N05R_KNB01A06 / Knob Fork / Elk Creek tributary upstream to Farmers Branch, at The Pilot, NE of Brierpatch Mountain.	4A	Escherichia coli (E. coli)	2006	L	4.61
VAS-N05R_TKY01A02 / Turkey Fork / Headwaters near Dry Run Gap on Iron Mountain in Jefferson National Forest.	4A	Escherichia coli (E. coli)	2018	L	6.00

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Elk Creek and Tributaries

**Recreation**

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		33.96

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

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Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Rural (Residential Areas); Septage Disposal; Sewage Discharges in Unsewered Areas; Unrestricted Cattle Access

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### New River Basin

**Cause Group Code:** **N05R-01-BEN** Elk Creek and Turkey Fork

**Cause Location:** This segment includes the mainstem from the confluence of Comers Rock Branch downstream to Turkey Fork. It also includes the headwaters of Turkey Fork near Dry Run Gap on Iron Mountain.

**Cause City/County:** Grayson County

**Use(s):** Aquatic Life

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

**Cause Description:** Station 9-EKC013.81 was impaired based on VSCI scores of 47 and 45 in 2016. Monitoring station 9-TKY001.55 was impaired based on VSCI scores of 40 and 39 in 2015.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_EKC03A02 / Elk Creek / Mainstem from confluence of Comers Rock Branch near Bennington Mill, downstream to Turkey Fork confluence.	5A	Benthic Macroinvertebrates Bioassessments	2008	H	9.38
VAS-N05R_TKY01A02 / Turkey Fork / Headwaters near Dry Run Gap on Iron Mountain in Jefferson National Forest.	5A	Benthic Macroinvertebrates Bioassessments	2018	H	6.00

Elk Creek and Turkey Fork

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		15.38

Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones; Unrestricted Cattle Access

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### New River Basin

**Cause Group Code:** **N06R-01-BAC** **Chestnut Creek and Tributaries**

**Cause Location:** This segment of Chestnut Creek extends from the confluence with Coal Creek downstream to river mile 14.27 at the Galax raw water intake and from river mile 14.27 downstream to the Allied-Signal Gossan mine discharge at river mile 8.06. Lower Chestnut Creek from the Skunk Branch confluence at the Allied Gossan mine, river mile 8.06, downstream to the confluence with New River. Coal Creek, a Chestnut Creek tributary from Coby Knob downstream to the Blue Ridge Parkway. The middle segment of Chestnut Creek East Fork near McKnights Mill.

**Cause City/County:** Carroll County; Galax; Grayson County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station, 9-CST0016.82, had a 20% exceedance of the E.coli water quality standard. Stations 9-CST002.64 and 9-CST012.75 had 2 or more STV hits in the same 90-day period with less than 10 samples. Stations 9-CCR002.92 and 9-CEF002.79 had 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_CCR01A02 / Coal Creek / A Chestnut Creek tributary from Coby Knob downstream to Blue Ridge Parkway, SE of Galax.	4A	Escherichia coli (E. coli)	2022	L	6.02
VAS-N06R_CEF02A22 / Chestnut Creek East Fork / Middle section of East Fork Chestnut Creek, near McKnights Mill.	4A	Escherichia coli (E. coli)	2022	L	4.71
VAS-N06R_CST01A94 / Chestnut Creek / Lower Chestnut Creek from Skunk Branch confluence at Allied Gossan mine, river mile 8.06, downstream to the confluence with New River.	4A	Escherichia coli (E. coli)	2014	L	8.69
VAS-N06R_CST02A94 / Chestnut Creek / Segment extends from the City of Galax Water Treatment Plant intake, river mile 14.27, downstream to the Allied-Signal Gossan mine discharge, river mile 8.06.	4A	Escherichia coli (E. coli)	2016	L	5.69
VAS-N06R_CST03A94 / Chestnut Creek / Segment extends from the southern Route 89 bridge, river mile 15.00, near the upstream Galax City limit, downstream to river mile 14.27, the Galax raw water intake.	4A	Escherichia coli (E. coli)	2004	L	1.10
VAS-N06R_CST04A98 / Chestnut Creek / This is an upstream continuation of the public water supply segment for the City of Galax raw water intake extending upstream to Cox Mill.	4A	Escherichia coli (E. coli)	2004	L	2.11

Chestnut Creek and Tributaries

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			28.32

Sources: Agriculture; Animal Feeding Operations (NPS); Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Rural



**Virginia Department of Environmental Quality**  
**Appendix 4 - Fact Sheets for**  
**Impaired (Category 4 or 5) Waters in 2022**

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(Residential Areas)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N06R-01-BEN** Chestnut Creek

**Cause Location:** This segment includes the mainstem of Chestnut Creek from the Skunk Branch confluence downstream to the confluence with New River.

**Cause City/County:** Carroll County; Galax; Grayson County

**Use(s):** Aquatic Life

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

**Cause Description:** Station 9-CST005.73 had VSCI scores of 37.4 and 66.7 and station 9-CST012.63 had VSCI scores of 41.8 and 69.5 during the 2019 monitoring season.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_CST01A94 / Chestnut Creek / Lower Chestnut Creek from Skunk Branch confluence at Allied Gossan mine, river mile 8.06, downstream to the confluence with New River.	4A	Benthic Macroinvertebrates Bioassessments	2002	L	8.69
VAS-N06R_CST02A94 / Chestnut Creek / Segment extends from the City of Galax Water Treatment Plant intake, river mile 14.27, downstream to the Allied-Signal Gossan mine discharge, river mile 8.06.	4A	Benthic Macroinvertebrates Bioassessments	2004	L	5.69

Chestnut Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		14.38

Sources: Acid Mine Drainage; Crop Production (Crop Land or Dry Land); Grazing in Riparian or Shoreline Zones; Mine Tailings; Silviculture Activities; Unrestricted Cattle Access; Urban Runoff/Storm Sewers

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N06R-03-BAC** Meadow Creek and New River

Cause Location: Meadow Creek and its tributaries and the New River from Elk Creek confluence downstream to Eagle Bottom Creek confluence.

Cause City/County: Grayson County

Use(s): Recreation

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

Cause Description: AWQM stations located at 9-MCR000.20 and 9-NEW148.23 had 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_MCR01A02 / Meadow Creek & tributaries / Meadow Creek from confluence with New River upstream to headwaters and tributaries, south west of Galax.	5A	Escherichia coli (E. coli)	2010	L	10.54
VAS-N06R_NEW01A00 / New River / Mainstem from the Elk Creek confluence near Riverside to five miles above Fries Dam.	5A	Escherichia coli (E. coli)	2004	L	5.38
VAS-N06R_NEW02A02 / New River / New River mainstem from Fries Dam, five miles upstream.	5A	Escherichia coli (E. coli)	2014	L	5.03

Meadow Creek and New River

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			20.95

Sources: Livestock (Grazing or Feeding Operations); Rural (Residential Areas); Source Unknown; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N07R-01-BAC** **Crooked Creek**

**Cause Location:** This segment extends from the headwaters of Crooked Creek downstream to the confluence with New River at Byllesby.

**Cause City/County:** Carroll County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** The AWQM station, 9-CRK020.79, had a 25% exceedance of the E. coli water quality standard. Station 9-CRK015.69 had a 50% exceedance of the E.coli water quality standard. 9-CRK003.00 has 33% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK01A04 / Crooked Creek / From headwaters near Pipers Gap to Beaverdam Creek confluence south of Woodlawn.	5A	Escherichia coli (E. coli)	2010	L	11.45
VAS-N07R_CRK01A98 / Crooked Creek / From confluence of Cranberry Creek east of SR 635, downstream to New River at Byllesby.	5A	Escherichia coli (E. coli)	2010	L	12.10
VAS-N07R_CRK02A04 / Crooked Creek / From Beaverdam Creek confluence, south of Woodlawn, to Cranberry Creek confluence, WQS Section 2 (NE20).	5A	Escherichia coli (E. coli)	2010	L	4.36

Crooked Creek

#### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Escherichia coli (E. coli) - Total Impaired Size by Water Type: 27.91

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK01A04 / Crooked Creek / From headwaters near Pipers Gap to Beaverdam Creek confluence south of Woodlawn.	5A	Fecal Coliform	2004	L	11.45
VAS-N07R_CRK01A98 / Crooked Creek / From confluence of Cranberry Creek east of SR 635, downstream to New River at Byllesby.	5A	Fecal Coliform	2004	L	12.10

Crooked Creek

#### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Fecal Coliform - Total Impaired Size by Water Type: 23.55

Sources: Grazing in Riparian or Shoreline Zones; Source Unknown; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N08R-01-BAC** New River, Mill Creek, and Pine Run

**Cause Location:** This segment includes the tributaries of the New River from the Reed Creek confluence downstream to the Big Reed Island Creek confluence including Pine Run and Mill Creek. This bacteria impaired section of the New River mainstem is between the Big Reed Island Creek confluence, near Route 100, and the backwaters of Claytor Lake near the Wythe/Pulaski county line.

**Cause City/County:** Carroll County; Pulaski County; Wythe County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** 9-NEW107.51 (Allisonia USGS Gage) and 9-NEW127.49 (Ivanhoe USGS Gage) had 2 or more STV hits in the same 90-day period with less than 10 samples.

9-PRN000.84 had a 41% (5 of 12) exceedance of the previous E. coli water quality standard. 9-MRN000.31 had a 58% (7 of 12) exceedance of the previous E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_MRN01A04 / Mill Creek / Enters New River from north, upper end is near SR 606 near New Jersey Zinc.	5A	Escherichia coli (E. coli)	2010	L	4.38
VAS-N08R_NEW01A02 / New River / Mainstem, north of Barren Springs, from Reed Creek confluence downstream to Big Reed Island Creek confluence.	5A	Escherichia coli (E. coli)	2016	L	5.71
VAS-N08R_NEW01B98 / New River / From Mill Creek confluence near Austinville, downstream to the confluence of unnamed tributary west of Flatwood.	5A	Escherichia coli (E. coli)	2016	L	1.44
VAS-N08R_NEW01L98 / New River at Byllesby / New River mainstem in Carroll County. This is a run-of-River power generating facility with limited public access that extends from Buck Dam upstream to Byllesby Dam (NE21).	5A	Escherichia coli (E. coli)	2008	L	3.06
VAS-N08R_NEW02B00 / New River / Mainstem public water supply segment for Austinville from Buck Dam tailwaters downstream to the Mill Creek confluence, WQS Section 2I (NE21).	5A	Escherichia coli (E. coli)	2016	L	5.01
VAS-N08R_NEW03B98 / New River / From Buck Dam, to tailwaters, five miles upstream of Austinville raw water intake, section 2 (NE21).	5A	Escherichia coli (E. coli)	2016	L	0.93
VAS-N08R_PNR01A10 / Pine Run / At the Wythe/Pulaski County line, New River tributary from Pine Run Church downstream.	5A	Escherichia coli (E. coli)	2010	L	1.44
VAW-N16R_NEW01A00 / New River / This section of the New River extends from the mouth of Big Reed Island Creek downstream to the backwaters of Claytor Lake Class IV sec. 2c (NE43).	5A	Escherichia coli (E. coli)	2006	L	0.61

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

New River, Mill Creek, and Pine Run

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		22.58

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_MRN01A04 / Mill Creek / Enters New River from north, upper end is near SR 606 near New Jersey Zinc.	5A	Fecal Coliform	2004	L	4.38

New River, Mill Creek, and Pine Run

#### Recreation

Fecal Coliform - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		4.38

Sources: Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Source Unknown; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N08R-02-BEN** **Shorts Creek**

**Cause Location:** Headwaters of Shorts Creek, south of Poplar Camp Mountain, downstream to the confluence of the New River at Jackson Ferry

**Cause City/County:** Carroll County

**Use(s):** Aquatic Life

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

**Cause Description:** Station 9-SRT000.12 had inconclusive VSCI scores of 43.5 and 64.7 in 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_SRT01A04 / Shorts Creek / Headwaters, south of Poplar Camp Mountain.	5A	Benthic Macroinvertebrates Bioassessments	2022	L	3.31
VAS-N08R_SRT01B04 / Shorts Creek / The lower reach of Shorts Creek, enters New River at Jackson Ferry.	5A	Benthic Macroinvertebrates Bioassessments	2022	L	7.08

Shorts Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

10.39

Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N08R-03-BAC** **Shorts Creek and Unnamed Tributary**

**Cause Location:** This segment includes Shorts Creek and continues until it enters New River at Jackson Ferry. This segment also includes an unnamed tributary to Shorts Creek that enters at Jackson Ferry and flows west from Rackettown.

**Cause City/County:** Carroll County; Wythe County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** Station 9-SRT000.12, had 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_SRT01B04 / Shorts Creek / The lower reach of Shorts Creek, enters New River at Jackson Ferry.	5A	Fecal Coliform	2004	L	7.08
VAS-N08R_XEE01A06 / Shorts Creek unnamed tributary / Flows west from Rackettown and enters Shorts Creek above Jackson Ferry.	5A	Fecal Coliform	2006	L	3.89

Shorts Creek and Unnamed Tributary

#### Recreation

Fecal Coliform - Total Impaired Size by Water Type:

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
10.97

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_SRT01A04 / Shorts Creek / Headwaters, south of Poplar Camp Mountain.	5A	Escherichia coli (E. coli)	2012	L	3.31
VAS-N08R_SRT01B04 / Shorts Creek / The lower reach of Shorts Creek, enters New River at Jackson Ferry.	5A	Escherichia coli (E. coli)	2010	L	7.08
VAS-N08R_XEE01A06 / Shorts Creek unnamed tributary / Flows west from Rackettown and enters Shorts Creek above Jackson Ferry.	5A	Escherichia coli (E. coli)	2010	L	3.89

Shorts Creek and Unnamed Tributary

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
14.28

Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Unrestricted Cattle Access



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N09R-01-BAC** Cripple Creek and Crigger Creek

**Cause Location:** This segment includes the mainstem from the confluence with Dry Run, downstream to the Francis Mill Creek confluence as well as the lower segment of the mainstem from the New River confluence upstream to the Dean Branch confluence. It also includes Crigger Creek from the confluence with Cripple Creek upstream to the confluence with Middle Creek.

**Cause City/County:** Smyth County; Wythe County

**Use(s):** Recreation

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

**Cause Description:** AWQM station 9-CGG000.35 had 2 STV hits in the same 90-day period with less than 10 samples and station 9-CPL003.10 has 1 STV hit. Stations, 9-CPL018.47 and 9-CPL022.99, both had a 45% exceedance of the prior E. coli water quality standard and station 9-CPL0001.03 had a 25% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_CPL01B04 / Cripple Creek / Lower segment of mainstem from the New River confluence upstream to the Dean Branch confluence at Porter Crossroads.	4A	Fecal Coliform	2004	L	3.18
VAS-N09R_CPL02A98 / Cripple Creek / From the Dry Run confluence near Speedwell downstream to the Francis Mill Creek confluence.	4A	Fecal Coliform	2004	L	6.49

### Cripple Creek and Crigger Creek

#### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Fecal Coliform - Total Impaired Size by Water Type: 9.67

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_CGG01B04 / Crigger Creek / From confluence with Cripple Creek upstream to Middle Creek confluence.	4A	Escherichia coli (E. coli)	2018	L	4.20
VAS-N09R_CPL01A98 / Cripple Creek / Extends from Dean Branch confluence upstream to Francis Mill Creek confluence	4A	Escherichia coli (E. coli)	2018	L	11.69
VAS-N09R_CPL01B04 / Cripple Creek / Lower segment of mainstem from the New River confluence upstream to the Dean Branch confluence at Porter Crossroads.	4A	Escherichia coli (E. coli)	2010	L	3.18
VAS-N09R_CPL02A98 / Cripple Creek / From the Dry Run confluence near Speedwell downstream to the Francis Mill Creek confluence.	4A	Escherichia coli (E. coli)	2010	L	6.49
VAS-N09R_CPL02B04 / Cripple Creek / Mainstem from Blue Spring Creek confluence downstream to the Dry Run confluence near Speedwell.	4A	Escherichia coli (E. coli)	2010	L	6.44

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Appendix 4 - Fact Sheets for  
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Cripple Creek and Crigger Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

32

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Sources: Livestock (Grazing or Feeding Operations); Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N09R-03-BAC** **Slate Spring Branch and Dean Branch**

**Cause Location:** This segment includes Slate Spring Branch from the Cripple Creek confluence up stream to the headwaters and Dean Branch from the confluence with Cripple Creek upstream 1.7 miles.

**Cause City/County:** Smyth County; Wythe County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station, 9-SPB000.10, had a 100% exceedance of the prior E.coli water quality standard. Station 9-DEN000.03 had a 25% exceedance prior E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_DEN01A10 / Dean Branch / Cripple Creek tributary at Porters Crossroads.	4A	Escherichia coli (E. coli)	2010	L	1.92
VAS-N09R_SPB01A04 / Slate Spring Branch / From Cripple Creek confluence at Eagle Cliff upstream to headwaters at Matney Flat.	4A	Escherichia coli (E. coli)	2010	L	6.14

Slate Spring Branch and Dean Branch

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		8.06

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_SPB01A04 / Slate Spring Branch / From Cripple Creek confluence at Eagle Cliff upstream to headwaters at Matney Flat.	4A	Fecal Coliform	2004	L	6.14

Slate Spring Branch and Dean Branch

#### Recreation

Fecal Coliform - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		6.14

Sources: Animal Feeding Operations (NPS); Non-Point Source; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N09R-03-BEN** Dean Branch

Cause Location: A Cripple Creek tributary at Porters Crossroads.

Cause City/County: Smyth County; Wythe County

Use(s): Aquatic Life

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

Cause Description: The freshwater probabilistic monitoring station at 9-DEN000.39 was impaired based on VSCI scores of 54.7 and 57.5 in 2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_DEN01A10 / Dean Branch / Cripple Creek tributary at Porters Crossroads.	5A	Benthic Macroinvertebrates Bioassessments	2016	L	1.92

Dean Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			1.92

Sources: Animal Feeding Operations (NPS); Livestock (Grazing or Feeding Operations); Non-Point Source

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N10R-01-TEMP** Reed Creek and Mill Creek

Cause Location: Reed Creek mainstem from Venrick Run upstream to South Fork and Mill Creek from its headwaters west of Rural Retreat to the Reed Creek confluence east of Blacklick.

Cause City/County: Wythe County

Use(s): Aquatic Life

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

Cause Description: Water temperature was exceeded for Class VI WQS at 9-RDC033.94 in 2 of 9 measurements. Station 9-MCE000.37 had 2 of 12 temperature measurements exceed the WQS for Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick.	5A	Temperature	2020	L	6.39
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia.	5A	Temperature	2012	L	1.44

Reed Creek and Mill Creek

#### Aquatic Life

Temperature - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

7.83

Sources: Grazing in Riparian or Shoreline Zones; Loss of Riparian Habitat; Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N10R-02-BAC** South Fork Reed Creek and Mill Creek

**Cause Location:** This segment includes the mainstem of South Fork Reed Creek downstream to the Reed Creek confluence as well as the mainstem of Mill Creek to the confluence with Reed Creek. It also includes Hubble Branch, north of I81 near Rural Retreat.

**Cause City/County:** Smyth County; Wythe County

**Use(s):** Recreation

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

**Cause Description:** Station 9-MCE000.37, had 2 or more STV hits in the same 90-day period with less than 10 samples. Station 9- RSF000.08 & 9-RSF006.78 had a 67% exceedance of the E.coli water quality standard. 9-HOL000.74 had 66% E.coli exceedance rate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_HOL01A12 / Huddle Branch / A Mill Creek tributary from the Monkey Run confluence parallel SR 617 North of I81 at Staley Crossroads (NE26).	4A	Escherichia coli (E. coli)	2012	L	1.48
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick.	4A	Escherichia coli (E. coli)	2006	L	6.39
VAS-N10R_RSF01A00 / South Fork Reed Creek / Mainstem from river mile 6.8 near Groseclose, downstream to the Reed Creek confluence parallel and south of I-81.	4A	Escherichia coli (E. coli)	2006	L	6.78
VAS-N10R_RSF01A02 / South Fork Reed Creek / Mainstem in headwaters near Fairview and through Groseclose.	4A	Escherichia coli (E. coli)	2012	L	13.35

South Fork Reed Creek and Mill Creek

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			28

Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N10R-02-BEN** Mill Creek

Cause Location: From the headwaters, west of Rural Retreat, to the confluence with Reed Creek, east of Blacklick.

Cause City/County: Wythe County

Use(s): Aquatic Life

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

Cause Description: The probabilistic monitoring station at 9-MCE000.27 was impaired based on VSCI scores of 58.5 and 51.4 in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick.	5A	Benthic Macroinvertebrates Bioassessments	2018	L	6.39

Mill Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		6.39

Sources: Grazing in Riparian or Shoreline Zones; Loss of Riparian Habitat; Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N10R-03-BAC** **Stony Fork**

**Cause Location:** This segment includes the headwaters downstream to the Reed Creek confluence.

**Cause City/County:** Wythe County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station, 9-SFK000.28, had 2 or more STV hits in the same 90-day period with less than 10 samples. In a previous cycle, station 9-SFK001.51 had a 50% (6 of 12 samples) exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_SFK01A02 / Stony Fork / At Favonia downstream to Reed Creek confluence.	4A	Escherichia coli (E. coli)	2006	L	1.90
VAS-N10R_SFK01A12 / Stony Fork / Headwaters in Jefferson National Forest south of Walker Mountain downstream to Class V waters at Favonia.	4A	Escherichia coli (E. coli)	2012	L	4.74

Stony Fork

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.64

Sources: Livestock (Grazing or Feeding Operations); Unrestricted Cattle Access



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

#### New River Basin

Cause Group Code: **N10R-04-BAC** Tate Run

Cause Location: This segment begins at the Stuffle Run confluence and extends downstream to Reed Creek.

Cause City/County: Wythe County

Use(s): Recreation

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

Cause Description: The AWQM station, 9-TAT000.46, had a 58% (7 of 12 samples) exceedance of the E. coli water quality standard in a previous cycle.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_TAT01A06 / Tate Run / From Stuffle Run confluence downstream to Reed Creek.	4A	Escherichia coli (E. coli)	2006	L	0.56

Tate Run

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			0.56

Sources: Livestock (Grazing or Feeding Operations); Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N11R-01-BAC** **Reed Creek and Pine Run**

**Cause Location:** This segment begins at the Gullion Fork confluence and extends downstream to the Venrick Run confluence. It also includes the lower mainstem of Reed Creek from its confluence with an unnamed tributary East of Route 21 to the confluence with Miller Creek and from the New River confluence near Lone Ash, upstream to the Glade Creek confluence. Pine Run, a Reed Creek tributary north of I-81 and south of Pine Ridge.

**Cause City/County:** Smyth County; Wythe County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station, 9-RDC046.65, had a 33% exceedance of the prior E.coli water quality standard. Stations 9-RDC038.01 and 9-RDC049.82 had a 25% exceedance of the prior E. coli standard and station 9-RDC033.94 had a 11% exceedance. Station 9-RDC023.24 had a 27% exceedance of the prior E.coli water quality standard. Station 9-RDC009.00 had 2 or more STV hits in the same 90-day period with less than 10 samples and station 9-PRN000.04 had a 67% exceedance of the prior WQS.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_PRN01A12 / Pine Run / Reed Creek tributary north of I81 and south of Pine Ridge.	4A	Escherichia coli (E. coli)	2012	L	4.14
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia.	4A	Escherichia coli (E. coli)	2008	L	1.44
VAS-N10R_RDC01A02 / Reed Creek / From South Fork Reed Creek confluence upstream to Stony Fork confluence west of Petunia.	4A	Escherichia coli (E. coli)	2006	L	5.24
VAS-N10R_RDC01B00 / Reed Creek / Mainstem from the Stony Fork confluence south of Favonia, upstream to the Gullion Fork confluence.	4A	Escherichia coli (E. coli)	2006	L	9.86
VAS-N10R_RDC01C02 / Reed Creek / Headwaters of Reed Creek from Redding Gap in Jefferson National Forest downstream to Gullion Fork confluence.	4A	Escherichia coli (E. coli)	2012	L	6.84
VAS-N11R_RDC01B00 / Reed Creek / Lower mainstem from Muskrat Branch confluence downstream to Rt. 52 bridge south of Max Meadows.	4A	Escherichia coli (E. coli)	2006	L	5.85
VAS-N11R_RDC01C02 / Reed Creek / Segment begins at confluence of unnamed tributary east of Rt. 21 bridge and extends downstream to the Muskrat Branch confluence, north of Rt. 11.	4A	Escherichia coli (E. coli)	2010	L	6.21
VAS-N11R_RDC03B04 / Reed Creek / From New River confluence near Lone Ash, upstream to the Glade Creek confluence near Boiling Spring.	4A	Escherichia coli (E. coli)	2004	L	9.88

Reed Creek and Pine Run

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		49.46

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia.	4A	Fecal Coliform	2002	L	1.44

Reed Creek and Pine Run

#### Recreation

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:		1.44

Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N11R-02-BAC** Miller Creek

**Cause Location:** This segment includes the mainstem from the Beaverdam confluence at Max Meadows downstream to Reed Creek and from the West Fork confluence downstream to Max Meadows.

**Cause City/County:** Wythe County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station, 9-MER000.09, had a 45% exceedance and station 9-MER000.85 had a 20% of the previous E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_MER01A06 / Miller Creek / From Beaverdam confluence in the community of Max Meadows downstream to Reed Creek.	4A	Escherichia coli (E. coli)	2006	L	0.43
VAS-N11R_MER02A10 / Miller Creek / A Reed Creek tributary From West Fork confluence on Brushy Ridge downstream to Max Meadows.	4A	Escherichia coli (E. coli)	2012	L	3.64

Miller Creek

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		4.07

Sources: Rural (Residential Areas); Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N11R-02-BEN** Reed Creek tributary

**Cause Location:** This segment includes an unnamed tributary of Reed Creek that drains the Wytheville Community College at the east end of the town of Wytheville.

**Cause City/County:** Wythe County

**Use(s):** Aquatic Life

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

**Cause Description:** Freshwater probabilistic monitoring station 9-XES000.94 is impaired based on VSCI scores of 51 and 41 in the 2008 monitoring season.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_XES01A10 / Reed Creek tributaries / Tributary that drains location of Wytheville Community College at east end of Wytheville, WQS Section 2 (NE29).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	2.68

Reed Creek tributary

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		2.68

Sources: Grazing in Riparian or Shoreline Zones; Rural (Residential Areas); Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N11R-03-BAC** McGavock Creek

**Cause Location:** A Reed Creek tributary east of Grahams Forge, parallel to Route 618.

**Cause City/County:** Wythe County

**Use(s):** Recreation

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

**Cause Description:** The AWQM Station located at 9-MGV000.37 has a 18% exceedance of the previous E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_MGV01A12 / McGavock Creek / Reed Creek tributary west of Grahams Forge and parallel to SR 618.	4A	Escherichia coli (E. coli)	2012	L	2.58

McGavock Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.58

Sources: Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N12R-01-BAC** Cove Creek and St. Lukes Fork

**Cause Location:** This segment includes the lower Cove Creek mainstem from St. Lukes Fork downstream to the confluence with Reed Creek. This segment also includes St. Lukes Fork from the Cove Creek confluence upstream 1.4 miles, north of Queens Knob.

**Cause City/County:** Wythe County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station, 9-CVR003.88, had a 45% exceedance of the previous E.coli water quality standard. In the 2020 monitoring season, station 9-CVR004.86 had Insufficient Information, there were no STV exceedances but insufficient data to analyze geomean. Station 9-SLK001.24 had a 82% exceedance of the previous E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N12R_CVR01A00 / Cove Creek / Lower Cove Creek from St. Lukes Fork confluence, near Queens Knob, downstream to the confluence with Reed Creek, east of Wytheville, WQS Section 2 (NE30).	4A	Escherichia coli (E. coli)	2006	L	9.93
VAS-N12R_SLK01A04 / St. Lukes Fork / From Cove Creek confluence upstream 1.4 miles, north of Queens Knob.	4A	Escherichia coli (E. coli)	2016	L	1.78

Cove Creek and St. Lukes Fork

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.71

Sources: Livestock (Grazing or Feeding Operations); Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N13R-01-BAC** **Big Reed Island Creek**

**Cause Location:** This segment begins at the headwaters of Big Reed Island Creek and continues downstream to the confluence with Pine Creek.

**Cause City/County:** Carroll County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station located at 9-RIC039.71 had a 33% exceedance of the previous water quality standard. Sampling in 2016 indicated station 9-RIC049.29 had 2 STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01A00 / Big Reed Island Creek / North of Crooked Oak from Pine Creek confluence to Snake Creek confluence.	5A	Escherichia coli (E. coli)	2018	H	6.65
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak.	5A	Escherichia coli (E. coli)	2008	H	19.85

Big Reed Island Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			26.5

Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N13R-01-BEN** **Big Reed Island Creek**

**Cause Location:** This segment begins at the headwaters of Big Reed Island Creek and continues downstream to the confluence with Pine Creek.

**Cause City/County:** Carroll County

**Use(s):** Aquatic Life

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

**Cause Description:** Monitoring station located at 9-RIC051.80 was impaired based on the VSCI scores of 70.2 and 46.4 in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak.	5A	Benthic Macroinvertebrates Bioassessments	2008	H	19.85

Big Reed Island Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			19.85

Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N13R-01-TEMP** **Big Reed Island Creek**

**Cause Location:** From the headwaters on Hurricane Knob downstream to the Pine Creek confluence near Crooked Oak and from North of Crooked Oak from the Pine Creek confluence to the Snake Creek confluence.

**Cause City/County:** Carroll County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Temperature/5A

**Cause Description:** AWQM station located 9-RIC039.71 had a 25% exceedance and station 9-RIC049.29 had a 25% exceedance of the WQS for Class IV waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01A00 / Big Reed Island Creek / North of Crooked Oak from Pine Creek confluence to Snake Creek confluence.	5A	Temperature	2018	H	6.65
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak.	5A	Temperature	2020	H	19.85

Big Reed Island Creek

#### Aquatic Life

Temperature - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

26.5

Sources: Animal Feeding Operations (NPS); Grazing in Riparian or Shoreline Zones; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N13R-02-BAC** **Snake Creek**

Cause Location: From the Big Reed Island confluence upstream 3.5 miles to near the Macey Branch confluence.

Cause City/County: Carroll County

Use(s): Recreation

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

Cause Description: The AWQM station located at 9-SKE000.98 had 2 or more STV hits in the same 90-day window with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_SKE01A04 / Snake Creek / From Big Reed Island Creek confluence upstream 3.5 miles to near Macey Branch confluence.	5A	Escherichia coli (E. coli)	2014	L	3.55

Snake Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3.55

Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N14R-01-BAC** **Big Reed Island Creek**

**Cause Location:** This segment includes the mainstem of Big Reed Island Creek from the confluence of Snake Creek downstream to the confluence with Bobbitt Creek, from Bobbitt Creek to the Greasy Creek confluence, and from the Island Creek confluence downstream to the Big Branch confluence.

**Cause City/County:** Carroll County; Pulaski County

**Use(s):** Recreation

**Causes(s)/VA Category:** Escherichia coli (E. coli)/5A; Fecal Coliform/5A

**Cause Description:** The AWQM station, 9-RIC029.23, had 2 or more STV hits in the same 90-day period with < 10 samples. Station 9-RIC018.90 had 1 STV hit but insufficient data to analyze geomean.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence.	5A	Escherichia coli (E. coli)	2018	H	7.55
VAS-N14R_RIC01B04 / Big Reed Island Creek / Big Reed Island Creek from Bobbitt Creek confluence south of Witcher Knob to Greasy Creek confluence.	5A	Escherichia coli (E. coli)	2010	H	13.82

Big Reed Island Creek

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
21.37

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence.	5A	Fecal Coliform	2004	H	7.55
VAS-N14R_RIC01B04 / Big Reed Island Creek / Big Reed Island Creek from Bobbitt Creek confluence south of Witcher Knob to Greasy Creek confluence.	5A	Fecal Coliform	2014	H	13.82

Big Reed Island Creek

#### Recreation

Fecal Coliform - Total Impaired Size by Water Type:

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
21.37

Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N14R-01-TEMP** **Big Reed Island Creek**

**Cause Location:** Big Reed Island Creek east of Red Hill, from the Bobbitt Creek confluence upstream to the Snake Creek confluence.

**Cause City/County:** Carroll County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Temperature/5A

**Cause Description:** AWQM station located 9-RIC029.23 had a 25% exceedance of the WQS for Class IV waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence.	5A	Temperature	2018	H	7.55

Big Reed Island Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			7.55

Sources: Loss of Riparian Habitat

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

#### New River Basin

**Cause Group Code:** **N14R-02-BAC** Greasy Creek

**Cause Location:** This segment begins at the Carroll county line and continues downstream to the confluence with Big Reed Island Creek.

**Cause City/County:** Floyd County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station located at 9-GSC000.03 had Insufficient Information; one STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_GSC01A08 / Greasy Creek / From Carroll/Floyd County line downstream to Big Reed Island Creek confluence south of Macks Mountain.	5A	Escherichia coli (E. coli)	2008	H	13.64

Greasy Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			13.64

**Sources:** Grazing in Riparian or Shoreline Zones

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N14R-03-BAC** Island Creek

Cause Location: A Big Reed Island Creek tributary northeast of Hillsville from its headwaters near Huffman Knob.

Cause City/County: Carroll County; Floyd County; Pulaski County

Use(s): Recreation

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

Cause Description: The AWQM station located at 9-ISL003.05 had 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_ISL01A12 / Island Creek & tributaries / Big Reed Island Creek tributary northeast of Hillsville from headwaters near Huffman Knob.	5A	Escherichia coli (E. coli)	2018	L	13.35

Island Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			13.35

Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N15R-01-BAC** Little Reed Island Creek

**Cause Location:** This segment begins 5 miles above the Hillsville public water intake and extends downstream to the confluence with Big Reed Island Creek.

**Cause City/County:** Carroll County; Pulaski County; Wythe County

**Use(s):** Recreation

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

**Cause Description:** AWQM stations 9-LRI001.62, 9-LRI009.11, 9-LRI017.64, 9-LRI020.76 and 9-LRI031.58 had one STV exceedance but insufficient data to analyze geomean.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N15R_LRI01A98 / Little Reed Island Creek / Little Reed Island Creek mainstem from confluence with Big Reed Island Creek upstream to Rock Creek confluence in Carroll County.	5A	Escherichia coli (E. coli)	2008	H	11.00
VAS-N15R_LRI01B98 / East Fork Little Reed Island Creek / From Hillsville PWS intake south of Rt. 58, upstream five miles.	5A	Escherichia coli (E. coli)	2008	H	5.28
VAS-N15R_LRI02A08 / Little Reed Island Creek / Segment extends from Rock Creek confluence upstream to Hillsville PWS intake west of Rt. 100.	5A	Escherichia coli (E. coli)	2008	H	19.71

Little Reed Island Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			35.99

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

#### New River Basin

**Cause Group Code:** **N15R-01-TEMP** Little Reed Island Creek

**Cause Location:** This segment begins approximately 1 mile below the Hillsville water intake and continues downstream to the Big Reed Island Creek confluence and from the Hillsville PWS intake south of Rt. 58, upstream 5 miles.

**Cause City/County:** Carroll County; Pulaski County; Wythe County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Temperature/5A

**Cause Description:** AWQM station 9-LRI017.64 had a 25% exceedance of the Class VI natural trout waters criteria. In addition, stations 9-LRI020.76 had a 21% exceedance and station 9-LRI031.58 had 17% of temperature measurements exceeded the Class VI natural trout waters criteria.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N15R_LRI01B98 / East Fork Little Reed Island Creek / From Hillsville PWS intake south of Rt. 58, upstream five miles.	5A	Temperature	2020	H	5.28
VAS-N15R_LRI02A08 / Little Reed Island Creek / Segment extends from Rock Creek confluence upstream to Hillsville PWS intake west of Rt. 100.	5A	Temperature	2008	H	19.71

Little Reed Island Creek

#### Aquatic Life

Temperature - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		24.99

Sources: Loss of Riparian Habitat

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N16L-01-BAC** **Claytor Lake**

Cause Location: Claytor Lake from the confluence of Peak Creek upstream to the backwaters of Claytor Lake at Allisonia.

Cause City/County: Pulaski County

Use(s): Recreation

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

Cause Description: Station ID: 9-NEW098.32 E.coli: Impaired - 2 or more STV exceedances in 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
VAW-N16L_NEW03A02 / Claytor Lake (New River) / Claytor Lake from the confluence of Peak Creek upstream to the end of the WQS public water supply (PWS) designation. The segment ends five miles upstream of the former Burlington Industries intake.	5A	Escherichia coli (E. coli)	2022	L	671.89
VAW-N16L_NEW04A02 / Claytor Lake (New River) / Claytor Lake from the end of the Burlington WQS public water supply (PWS) designation upstream to the Pulaski County PSA intake.	5A	Escherichia coli (E. coli)	2022	L	447.80
VAW-N16L_NEW05A02 / Claytor Lake (New River) / Claytor Lake from the Pulaski County PSA intake upstream to the end of the WQS public water supply (PWS) designation. Five miles upstream from the Pulaski County PSA intake.	5A	Escherichia coli (E. coli)	2022	L	660.27
VAW-N16L_NEW06A02 / Claytor Lake (New River) / Claytor Lake from the upstream end of the Pulaski County PSA WQS public water supply (PWS) designation upstream to the backwaters of Claytor Lake at Allisonia.	5A	Escherichia coli (E. coli)	2022	L	152.14

Claytor Lake

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		1932.1	

Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N16L-01-DO** **Claytor Lake - New River**

**Cause Location:** Claytor Lake - New River mainstem from the mouth of Peak Creek downstream to Claytor Dam (Dublin and Radford South Quads).

**Cause City/County:** Pulaski County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Dissolved Oxygen/4C

**Cause Description:** A portion of Claytor Lake, 1,799.25 acres, is originally 2002 303(d) Listed for excursions of the Class IV Water Quality Standard (WQS) dissolved oxygen minimum criterion of 4.0 mg/l. The impairment is categorized as natural (4C) in past assessment cycles where no excursions of the Claytor Lake criterion for chlorophyll a (25 mcg/L) or total phosphorus (20 mcg/L algaeicides applied) occur from stations 9-NEW089.34 or 9-NEW087.14 (Lacustrine zone). Virginia's Lake Nutrient Criteria (9 VAC 25-260-187) states the nutrient criteria apply only in the epilimnion for lacustrine waters during thermal stratification for control of nutrient enrichment. Guidance Memo No. 09-2005 "Monitoring and Assessment of Lakes and Reservoirs" outlines criteria for evaluating dissolved oxygen during periods of thermal stratification. Data from the following stations find the waters not supporting the Aquatic Life Use in the epilimnion from dissolved oxygen exceedances of the minimum 4.0 mg/l criterion.

9-NEW092.66- (Dublin Water Works) 2020 epilimnion dissolved oxygen (DO) measurements are 105 of 710 exceeding values. 2020 epilimnion dissolved oxygen (DO) measurements are 117 of 710 exceeding values. 2018 epilimnion dissolved oxygen (DO) measurements are 113 of 635 exceeding values. 2016 epilimnion dissolved oxygen (DO) measurements are 68 of 851 exceeding values. However these data are not deemed sufficient for delisting these waters. 2014 data window reports 88 of 787 DO total measurements exceed the minimum 4.0 mg/l criterion. 2012 data reveal 118 of 807 DO measurements exceeding the 4.0 mg/l minimum criterion. 2010 assessment reports 101 epilimnion dissolved oxygen (DO) measurements exceeding the 4.0 mg/l minimum from 806 measurements. 2008 results find 154 exceed from 656 total observations.

9-NEW089.34- (Line Between Beach and Inlet) 2022 epilimnion DO measurements are 167 of 654 measurements. 2020 epilimnion DO measurements are 160 of 676 measurements. 2018 epilimnion DO measurements are 161 of 624 measurements. 2016 epilimnion DO measurements are 58 of 806 indicating support of the minimum DO criterion. However these data alone are not sufficient to delist this section of the Lake. 2014 epilimnion DO measurements are 59 of 747 measurements. 2012 data exceed in 82 of 798 total measurements. 2010 assessment finds 99 of 857 epilimnion DO measurements in excess of the minimum criterion. 2008 results find 121 exceed from 637 total observations.

9-NEW087.14- (Under Power Lines above Dam) 2020 epilimnion DO measurements are 177 exceeding of 568 measurements 2020 epilimnion DO measurements are 155 exceeding of 632 measurements. 2018 epilimnion DO measurements are 164 exceeding of 664 measurements. 2016 epilimnion DO measurements are 58 of 806 indicating support of the minimum DO criterion. However these data alone are not sufficient to delist this section of the Lake. 2012 measurements of DO in the epilimnion are 93 of 804 exceeding the 4.0 minimum criterion. 2010 DO exceeds the minimum criterion in 99 of 830 epilimnion measurements. 2008 results find 115 exceed from 695 total observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N16L_NEW01A02 / Claytor Lake (New River) / Claytor Lake from its impounding structure upstream to the Claytor State Park Cabins.	4C	Dissolved Oxygen	NA	NA	1196.92
VAW-N16L_NEW01B14 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the former Burlington Industries water intake.	4C	Dissolved Oxygen	NA	NA	602.03

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N16L_NEW02A02 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the confluence of Peak Creek	4C	Dissolved Oxygen	NA	NA	278.52

Claytor Lake - New River

#### Aquatic Life

Dissolved Oxygen - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)  
2077.47

River  
(Miles)

Sources: Natural Sources

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N16L-02-DO** **Claytor Lake - Peak Creek**

Cause Location: Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation (Dublin Quad).

Cause City/County: Pulaski County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/4C

Cause Description: A portion of Claytor Lake in the Peak Creek (Lower) (216.86 acres) arm is originally 2002 303(d) Listed for excursions of the Class IV Water Quality Standard (WQS) dissolved oxygen minimum criterion of 4.0 mg/l. The impairment is categorized as natural (4C) as there are no excursions of the Claytor Lake criterion for chlorophyll a (25 mcg/L) or total phosphorus (20 mcg/L algaecides applied) from stations 9-NEW089.34 or 9-NEW087.14 (Lacustrine zone). Virginia's Lake Nutrient Criteria (9 VAC 25-260-187) states the nutrient criteria apply only in the epilimnion for lacustrine waters during thermal stratification for control of nutrient enrichment. Guidance Memo No. 09-2005 "Monitoring and Assessment of Lakes and Reservoirs" outlines criteria for evaluating dissolved oxygen during periods of thermal stratification. Data from station 9-PKC000.00 finds the waters not supporting the Aquatic Life Use in the epilimnion from dissolved oxygen exceedances of the minimum 4.0 mg/l criterion.

9-PKC000.00 (Mouth of Peak Cr.)- 2022 integrated Report (IR) finds 160 of 628 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. 2020 integrated Report (IR) finds 157 of 687 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. The 2018 integrated Report (IR) finds 212 of 723 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. The 2016 integrated Report (IR) finds 116 of 791 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. 2014 data report 123 of 725 DO measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. 2012 DO measurements find 93 of 673 measurements in excess of the 4.0 mg/l minimum criterion. The 2010 assessment reports 69 epilimnion DO measurements exceeding the 4.0 mg/l minimum from 633 measurements. 2008 results find 131 exceed from 618 total observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17L_PKC01A10 / Claytor Lake (Peak Creek) / Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation.	4C	Dissolved Oxygen	NA	NA	216.87

Claytor Lake - Peak Creek

#### Aquatic Life

Dissolved Oxygen - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	216.87	

Sources: Natural Sources

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N17R-01-BAC** **Peak Creek and Tract Fork**

**Cause Location:** The bacteria impairment extends from the mouth of Hogan Creek downstream to the backwaters of Claytor Lake. Tract Fork mainstem from its confluence with Peak Creek upstream to the mouth of Pondlick Branch.

**Cause City/County:** Pulaski County

**Use(s):** Recreation

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

**Cause Description:** The Peak Creek Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed. ID 7824] and SWCB approval on 12/02/2004. These waters are 1996 303(d) Listed originally for fecal coliform bacteria for 3.49 miles (4.65 mi. pre-NHD) and extended upstream in subsequent assessment cycles for a total 6.49 miles. The Recreational Use remains impaired. Tract Fork is a 2012 nested impairment within the overall Bacteria TMDL watershed. The TMDL Study can be viewed at <http://www.deq.virginia.gov>. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-PKC011.11 (Commerce St. Bridge) Two of 11 E.coli observations exceed the WQS instantaneous criterion of 235 cfu/100 ml within the 2016 data window. There are no additional E.coli data within the 2014 data window or beyond the 2008 IR. None of the three remaining samples within the 2012 data window exceed the instantaneous criterion. Data within the 2008 and 2010 data windows find two of 10 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion with exceeding values the same as in 2008. Both exceedances are 500 and 640 cfu/100 ml. E.coli results in 2006 find two of seven samples in excess of the 235 cfu/100 ml criterion; exceedances are the same as in 2008.

9-PKC009.29 (Near Radio Tower) There are no additional data beyond the 2008 IR. One exceeding value occurs within the 2012 data window at 500 cfu/100 ml of the remaining three observations. E.coli data within the 2010 data window reveal 12 exceeding values from 21 samples. The 2008 IR finds E.coli exceeds the instantaneous criterion in 12 of 23 samples. Exceeding values for both 2010 and 2008 data windows range from 240 cfu/100 ml. to 10,000. E.coli exceeds the instantaneous criterion in 11 of 18 samples in 2006 with the same range of exceedance.

9-PKC007.80 (Rt. 99 bridge) The 2022 data window carries the impairment and applies new criterion resulting in one STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean (insufficient data to assess). Eleven of 25 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window.

9-TCK000.50 (Rt. 674 Bridge)- E.coli data within the 2012 and 2014 data windows reveal seven of 12 samples in excess of the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 250 to 880 cfu/100 ml. There are no additional bacteria data within the 2016 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Escherichia coli (E. coli)	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Escherichia coli (E. coli)	2006	L	1.66

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC03A00 / Peak Creek / This portion of Peak Creek extends from the mouth of Tract Fork to downstream of the Washington Ave. Bridge (~0.20 miles) (NE46).	4A	Escherichia coli (E. coli)	2006	L	0.51
VAW-N17R_PKC03A06 / Peak Creek / This portion of Peak Creek extends from the Magnox, Inc. outfall on downstream to the mouth of Tract Fork (NE44).	4A	Escherichia coli (E. coli)	2006	L	0.40
VAW-N17R_PKC04A00 / Peak Creek / The segment extends from the mouth of Hogan Creek downstream to just above the Magnox, Inc. outfall on Peak Creek (NE44).	4A	Escherichia coli (E. coli)	2006	L	2.11
VAW-N17R_TCK01A00 / Tract Fork / Tract Fork mainstem from its confluence with Peak Creek upstream to the mouth of Pondlick Branch (NE45).	4A	Escherichia coli (E. coli)	2012	L	1.25

Peak Creek and Tract Fork

### 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); Municipal (Urbanized High Density Area); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Sanitary Sewer Overflows (Collection System Failures); Unspecified Domestic Waste; Wastes from Pets; Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N17R-01-BEN** **Peak Creek**

**Cause Location:** Benthic impaired waters begin downstream of the Washington Ave. Bridge (~0.20 miles) on downstream to the inundation of Peak Creek in Claytor Lake.

**Cause City/County:** Pulaski County

**Use(s):** Aquatic Life

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

**Cause Description:** The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/30/04 [Fed ID 7823/7822] and SWCB approval on 12/02/04. The TMDL finds copper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The TMDL allocations require reductions in zinc and copper from non-point sources.

9-PKC009.29 (Near Radio Tower) Bio 'IM' There are no additional data beyond the 2014 data window. Two 2011 Virginia Stream Condition Index (VSCI) surveys within the 2014 and 2016 data windows produce spring and fall scores of 31.6 and 37.4. 2011 samples show low diversity of taxa and several pollution tolerant taxa dominating the samples. Filter, collector and scraper feeding type taxa were the dominant functional feeding groups. There are no additional data within the 2010 or 2012 data windows. The 2008 IR reports four Virginia Stream Condition Index (VSCI) surveys (2002, 2003 & 2006) have an average score of 47.9. The spring 2003 sample had high diversity and numbers of mayflies compared to other samples collected in this assessment period. High flows in 2003 potentially contributed to these higher numbers. The samples with low scores show low diversity of taxa and several pollution tolerant taxa dominating the samples. Filter, collector and scraper feeding taxa were the dominant functional feeding groups. Habitat in this reach has been impacted by loss of riparian vegetation and in stream cover, and increased sedimentation.

9-PKC007.80 (Rt. 99 Bridge) Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2011 & 2014) within the 2016 and 2018 data windows produce an average score of 48.4. 2014 data window report impairment from two 2011 surveys. The VSCI scores are spring 33.8 and fall 58.3. Benthic community data show several pollution tolerant taxa were dominant. Mayflies typically had low abundance and other sensitive taxa such as stoneflies and caddisflies were very rare in samples. Habitat in this reach has been impacted by the loss of riparian vegetation. There are no additional data within either the 2010 or 2012 data windows. The 2008 data window reports four VSCI surveys (2002, 2003 & 2006) with an average score of 47.6. These collections reveal several pollution tolerant taxa are dominant. Habitat in this reach has been impacted by the loss of riparian vegetation.

9-PKC005.95 (Upstream of I-81 crossing)- A 2004 Probabilistic site. Two VSCI surveys, spring (62.5) and fall (58.4) result in an average score of 60.5. near the lower limit for reference conditions. Impacts from sediment deposition were noted during the spring survey. Other habitat parameters scored in the optimal to sub-optimal range. Approximately 5% of the land cover upstream of this station is urban. The TMDL study found the impairment cause to be heavy metals in sediments and storm runoff. Both samples at this station were dominated by organisms tolerant of nutrient enrichment. Since this station is within a known impaired segment and VSCI scores are near the Impaired/Non-impaired cutoff, best professional judgment designates the station as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.83



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.66

Peak Creek

### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		3.49

Sources: Contaminated Sediments; Industrial/Commercial Site Stormwater Discharge (Permitted); Sediment Resuspension (Contaminated Sediment)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N17R-01-CU** **Peak Creek**

**Cause Location:** Impairment begins downstream of the Washington Ave. Bridge (~0.20 miles) and continues downstream to the inundation of Peak Creek in Claytor Lake.

**Cause City/County:** Pulaski County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Copper/4A

**Cause Description:** The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/04 [Fed ID 7823/7822] and SWCB approval on 12/02/04.

The TMDL finds copper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The likelihood of dissolved metals reaching acute levels of toxicity in the water column during low-flow and storm events was assessed. The impact of point source discharges of Cu and Zn during low flow was analyzed and determined that the concentrations of Cu and Zn would not likely approach the acute criteria for aquatic life (i.e., 13 ug/l and 120 ug/l for Cu and Zn, respectively). It was anticipated that acidic runoff from historic industrial sites may leach significant levels of dissolved Cu and Zn to the stream during storm events. The weight of evidence at this time, including site observations and collected data, points to soils at or from the Allied Signal site as the main source of contamination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Copper	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Copper	2006	L	1.66

Peak Creek

#### Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:			3.49

Sources: Contaminated Sediments; Industrial/Commercial Site Stormwater Discharge (Permitted); Sediment Resuspension (Contaminated Sediment)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N17R-01-ZN** **Peak Creek**

**Cause Location:** Impairment begins downstream of the Washington Ave. Bridge (~0.20 miles) and continues downstream to the inundation of Peak Creek in Claytor Lake.

**Cause City/County:** Pulaski County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Zinc/4A

**Cause Description:** The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed ID 7823/7822] and SWCB approval on 12/02/2004.

The TMDL finds copper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The likelihood of dissolved metals reaching acute levels of toxicity in the water column during low-flow and storm events was assessed. The impact of point source discharges of Cu and Zn during low flow was analyzed and determined that the concentrations of Cu and Zn would not likely approach the acute criteria for aquatic life (i.e., 13 ug/l and 120 ug/l for Cu and Zn, respectively). It was anticipated that acidic runoff from historic industrial sites may leach significant levels of dissolved Cu and Zn to the stream during storm events. The weight of evidence at this time, including site observations and collected data, points to soils at or from the Allied Signal site as the main source of contamination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Zinc	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Zinc	2006	L	1.66

Peak Creek

#### Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Zinc - Total Impaired Size by Water Type:			3.49

Sources: Contaminated Sediments; Industrial/Commercial Site Stormwater Discharge (Permitted); Sediment Resuspension (Contaminated Sediment)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N18R-01-BAC** **Crab Creek**

**Cause Location:** The upstream limit is the Crab Creek headwaters on the Ironto Quad. The downstream limit is at the Crab Creek mouth on the New River about 1.5 mi upstream of the Rt. 114 Bridge and downstream of Radford, Virginia (Riner, Blacksburg and Radford North Quads).

**Cause City/County:** Montgomery County

**Use(s):** Recreation

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

**Cause Description:** The Crab Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/10/04 [Fed ID 18594 / 23405] and SWCB approved 12/02/04 (formerly VAW-N18R-01). The waters are initially 303(d) Listed with the 2002 Assessment for fecal coliform (FC) bacteria causing non-support of the Recreational Use for 12.36 miles. The TMDL Study and allocations can be viewed at <http://www.deq.virginia.gov>. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-CBC009.81 (Rt. 111 Bridge) There are no additional data beyond the 2010 IR where the 2010 data window finds four of 15 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 250 to greater than 2000 cfu/100 ml. Three non-exceeding E.coli observations remain within the 2012 data window. The 2008 assessment finds six of 18 E.coli samples exceed the instantaneous criterion and six of 15 exceed in 2006.

9-CBC006.35 (Rt. 661 Bridge) Both the 2010 and 2012 data windows find four of 12 E.coli samples exceeding the instantaneous criterion. The range of exceedance is from 380 to 950 cfu/100 ml. E.coli data within the 2008 data window are three of six exceeding values. The 2006 assessment reports E.coli exceeds the WQS instantaneous criterion of 235 cfu/100 ml in eight of 16 observations. Exceeding values range from 250 to >800 cfu/100 ml. This station is located upstream of the former Christiansburg outfall.

9-CBC004.38 (Rt. 660 Bridge) There are no additional data beyond the 2010 data window. Five of 15 remaining escherichia coli (E.coli) observations in 2012 exceed the 235 cfu/100 ml instantaneous criterion ranging from 250 to 1200 cfu/100 ml. Data within the 2010 data window find exceedances ranging from 250 to 1200 cfu/100 ml in 14 of 35 observations. E.coli exceeds the 235 cfu/100 ml WQS instantaneous criterion in 16 of 33 observations within the 2008 data window. Exceeding values range from 280 to greater than 800 cfu/100 ml. 2006 E.coli results find 22 of 40 observations in excess of the instantaneous criterion and the same range of exceedance.

9-CBC001.00 (Route 663 Bridge near Walton) The 2020 data window finds five of 12 excursions. There are no additional data beyond the 2014 IR where six of 24 E.coli observations exceed the instantaneous criterion ranging from 250 to greater than 2000 cfu/100 ml. There were no additional data within the 2010 and 2012 data windows. Two of 15 remaining E.coli observations in 2012 exceed the instantaneous criterion at 250 and 1300 cfu/100 ml. 2010 values exceeding the instantaneous criterion range from 250 to 1300 cfu/100 ml in 10 of 35 samples. Nine of 27 E.coli samples exceed the instantaneous criterion in 2008. The 2006 Integrated Report (IR) finds nine of 23 E.coli samples exceed the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CBC01A00 / Crab Creek / This section of the mainstem Crab Creek extends from its mouth on the New River on upstream of the Walton community (NE58).	4A	Escherichia coli (E. coli)	2004	L	2.16
VAW-N18R_CBC02A00 / Crab Creek / These mainstem waters of Crab Creek extend from upstream of the Walton community to upstream of the Vicker community. The end of the WQS public water supply (PWS) designation (NE58).	4A	Escherichia coli (E. coli)	2004	L	1.19

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CBC03A00 / Crab Creek / These waters are the Crab Creek mainstem from upstream of the Vicker community on upstream to the former Christiansburg STP outfall on Crab Creek (NE58).	4A	Escherichia coli (E. coli)	2004	L	1.10
VAW-N18R_CBC04A00 / Crab Creek / These mainstem waters extend from the former Christiansburg STP outfall upstream to Crab Creek's headwaters (NE58).	4A	Escherichia coli (E. coli)	2004	L	7.94

Crab Creek

### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			12.39

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wastes from Pets; Wildlife Other than Waterfowl

**Virginia Department of Environmental Quality**  
**Appendix 4 - Fact Sheets for**  
**Impaired (Category 4 or 5) Waters in 2022**

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**New River Basin**

**Cause Group Code:** **N18R-01-BEN** **Crab Creek**

**Cause Location:** The upstream limit is the Crab Creek headwaters on the Ironto Quad. The downstream limit is at the Crab Creek mouth on the New River about 1.5 mi upstream of the Rt. 114 Bridge and downstream of Radford, Virginia (Riner, Blacksburg and Radford North Quads).

**Cause City/County:** Montgomery County

**Use(s):** Aquatic Life

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

**Cause Description:** The 1996 303(d) Listing of the Crab Creek General Standard (Benthic) Total Maximum Daily Load (TMDL) Study is U.S. EPA approved 8/10/04 [Sediment- Fed ID 18595 / 23406]. The SWCB approved the TMDL on 12/02/04 (formerly VAW-N18R-01). The TMDL identifies sediment to be the primary stressor with organic matter and nutrient enrichment as additional stressors. The waters remain impaired for the aquatic life use for 12.36 miles.

Natural seasonal effects are noted at the sites below. Agricultural and urban NPS runoff impact Crab Creek. Habitat impacts to this reach result in fine sediment deposition causing stream substrates to become embedded from bank erosion, altered hydrology, and degraded riparian buffers due to residences, roads, and railroad tracks. An apparent nutrient rich environment all contribute to the benthic impairment.

9-CBC007.55- Bio 'IN' with one sample collected in 2013 to evaluate effect of tributary stream restoration. Virginia Stream Condition Index (VSCI) score of 37.2.

9-CBC006.35- Bio 'IM' from two 2020 VSCI scores: 32.6 (Spring) and 43.4 (Fall). Tolerant filterer and collector taxa (Cheumatopsyche, Hydropsyche, and Chironomidae) dominated the benthic community of this section of Crab Creek. According to the 2019 Mid-Atlantic Regional BCG Attribute Report, these taxa become more abundant in nutrient rich and impervious watersheds. Two 2008 VSCI surveys with an average score of 39.36 are within the 2012 and 2014 data windows. Three VSCI surveys (2003 & 2008) result in an average VSCI score of 43.33 are within the 2010 data window. Moderately pollution tolerant to pollution tolerant organisms (oligochaetes, chironomidae, hydropsychidae, and elmidae) are dominant in both seasons. The 2008 IR reports five RBP II surveys scoring- 2000 spring 47.83, fall- 34.78; 2002 spring- 52.17, fall- 59.09 and 2003 spring- 65.22. Seasonal 5 year Spring score 55.07 and Fall score 46.94.

9-CBC004.38- Bio 'IM' from two 2020 VSCI scores: 47.3 (Spring) and 59.7 (Fall). This station is located near the town of Christiansburg's STP. The fall VSCI score increased due to greater taxa richness and greater abundance of taxa from the scraper functional feeding group along with an increase in total taxa. Low chironomidae abundance also increased the fall VSCI score. Low EPT taxa richness was observed during both seasons. Two 2008 VSCI surveys lie within the 2012 and 2014 data window with an average score of 53.0. Three VSCI surveys (2003 & 2008) with an average score of 52.28 are produced within the 2010 data window. There is some difference in the biological condition scores between seasons. Fall samples showed an increase of %mayflies over the spring samples. Five RBP II surveys scoring- 2000 spring- 39.13, fall- 34.78; 2002 spring- 65.22, fall- 59.09 and 2003 spring- 69.57. Seasonal 5 year Spring score 57.97; Fall score 46.94 are reported in the 2008 IR.

9-CBC001.00- Bio 'IM' from two 2020 VSCI scores: 39.6 (Spring) and 60.15 (Fall). Tolerant taxa from the family Chironomidae dominated the spring 2020 sample. Greater EPT taxa abundance and richness along with a significant decrease in Chironomidae abundance improved fall scores. Bio 'IM' The 2012 and 2014 data windows find an average score of 55 from two surveys (2008). The 2010 IR finds impairment remains from three VSCI surveys (2003 & 2008) with an average score of 60. The moderately pollution tolerant midge family Chironomidae is dominant in both seasons. Impacts to the benthos and stream habitat are the same as noted at 9-CBC004.38. The 2008 IR reports three VSCI surveys (2002-2003) with an average score of 58. Pollution tolerant families are dominant in spring and fall, the midge family Chironomidae in spring and the caddisfly family Hydropsychidae in fall.

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CBC01A00 / Crab Creek / This section of the mainstem Crab Creek extends from its mouth on the New River on upstream of the Walton community (NE58).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	2.16
VAW-N18R_CBC02A00 / Crab Creek / These mainstem waters of Crab Creek extend from upstream of the Walton community to upstream of the Vicker community. The end of the WQS public water supply (PWS) designation (NE58).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.19
VAW-N18R_CBC03A00 / Crab Creek / These waters are the Crab Creek mainstem from upstream of the Vicker community on upstream to the former Christiansburg STP outfall on Crab Creek (NE58).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.10
VAW-N18R_CBC04A00 / Crab Creek / These mainstem waters extend from the former Christiansburg STP outfall upstream to Crab Creek's headwaters (NE58).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	7.94

### Crab Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			12.39

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Post-development Erosion and Sedimentation; Sediment Resuspension (Clean Sediment); Sediment Resuspension (Contaminated Sediment); Streambank Modifications/Destabilization

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N18R-02-BAC** **Connellys Run**

Cause Location: Bacteria impairment begins near the headwaters of Connellys Run at an unnamed tributary (37°07'04" / 80°32'16") downstream to its mouth on the New River.

Cause City/County: Radford

Use(s): Recreation

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

Cause Description: Fecal coliform (FC) bacteria excursions of the former WQS 400 cfu/100 ml instantaneous criterion cause non-support of the Recreational Use for 2.85 miles. The impairment for the 2004 303(d) Listed water remains. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-CNL000.01 (Bissett Park Bridge, Radford) One of six E.coli excursions reported during the 2020 data window. There are no additional data since the 2014 IR where escherichia coli (E.coli) data exceed the 235 cfu/100 ml instantaneous criterion in five of 24 samples. Excessive values range from 790 to greater than 2000 cfu/100 ml. 2012 and 2010 E.coli data exceed the 235 cfu/100 ml instantaneous criterion in four of 12 samples. Excessive values range from 260 to 1260 cfu/100 ml. The 2006 assessment finds FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in three of 11 observations. The range of excursions is from 500 to 1900 cfu/100 ml. The initial 2004 303(d) Listing is based on FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in three of nine observations with the range of exceedance the same as 2006.

9-CNL000.06 - This station is not the 303(d) listing station but reports three of 6 E.coli excursions during the 2020 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CNL01A02 / Connellys Run / Connellys Run from an unnamed tributary @37°07'23" / 80°33'21"; 1.57 miles upstream of the Connellys Run mouth downstream to its confluence on the New River (NE57).	5A	Escherichia coli (E. coli)	2010	L	1.60
VAW-N18R_CNL02A02 / Connellys Run / Connellys Run from near Rt. 611 @37°07'04" / 80°32'16"; 2.76 miles upstream of Connellys Run mouth downstream to the confluence of an unnamed tributary @37°07'23" / 80°33'21"; 1.57 miles upstream of the Connellys Run mouth on the New River (NE57).	5A	Escherichia coli (E. coli)	2010	L	1.25

Connellys Run

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.85

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wastes from Pets; Wildlife Other than Waterfowl



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N19R-01-BAC** **Little River (Upper)**

**Cause Location:** The bacteria impaired waters begin in the headwaters of Little River and extend downstream to the mouth of the West Fork of Little River (Check, Endicott and Floyd Quads).

**Cause City/County:** Floyd County

**Use(s):** Recreation

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

**Cause Description:** The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The original 2004 fecal coliform (FC) bacteria 303(d) Listing is extended downstream and upstream based on escherichia coli (E.coli) bacteria collections within the 2006 data window. The waters are impaired for 34.67 miles for failure to support the Recreational Use. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LRV069.88 (Rt. 641 Bridge) There are no additional data beyond the 2008 Integrated Report (IR) where four of 12 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion within the 2008 and 2010 data windows. Values in excess of the criterion range from 500 to 1500 cfu/100 ml. The 2006 IR reports three of nine E.coli observations exceed the instantaneous criterion. Values in excess of the criterion range from 350 to 1500 cfu/100 ml.

9-LRV065.57 (Rt. 639 Bridge) Seven of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 266 to 805 cfu/100 ml. The 2012 data window finds E.coli exceeds the instantaneous criterion in seven of 15 samples. Exceeding values range from 350 to 1800 cfu/100 ml. Both the 2008 and 2010 data windows find escherichia coli (E.coli) exceeds the instantaneous criterion in four of 11 samples. Exceeding values range from 430 to 800 cfu/100 ml.

9-LRV056.74 (Rt. 221 Bridge) There are no additional data beyond the 2008 IR where four of 12 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion. Maximum values exceeding the criterion range from 400 cfu/100 ml to greater than 2000. The 2006 assessment finds three of nine E.coli observations exceed the instantaneous criterion with the same range of exceedance as 2008. The original 2004 303(d) Listing is based on exceedance of the former fecal coliform bacteria 400 cfu/100 ml instantaneous criterion where two observations exceed from 11 samples. 2004 IR FC values exceeding the standard are 500 and 1400 cfu/100 ml.

9-LRV044.49 (Rt. 615 Bridge) The 2022 data window applies new criterion and finds E.coli with no STV exceedances but insufficient data to analyze geomean. 2020 data window: one of 12 excursions. There are no additional data beyond the 2014 data window where E.coli exceedances are found in four of 12 observations. There are no additional data within the 2010 and 2012 data windows. The 2008 IR reports E.coli exceedances are found in three of 11 observations. Two of eight E.coli exceedances are found in 2006 at 380 and 450 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_LRV01A00 / Little River / Little River mainstem waters from the West Fork Little River confluence upstream to the mouth of Oldfield Creek (NE49).	4A	Escherichia coli (E. coli)	2006	L	8.74
VAW-N19R_LRV02A00 / Little River / Little River mainstem waters from the mouth of Oldfield Creek upstream to the mouth of Beaverdam Creek (NE49).	4A	Escherichia coli (E. coli)	2006	L	7.60
VAW-N19R_LRV03A00 / Little River / Little River mainstem waters from the mouth of Beaverdam Creek upstream to near its headwaters (NE48).	4A	Escherichia coli (E. coli)	2006	L	18.35

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Appendix 4 - Fact Sheets for  
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Little River (Upper)

**Recreation**

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		34.69

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

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Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N19R-01-TEMP** Little River

Cause Location: Little River mainstem waters from the mouth of the West Fork Little River upstream to the mouth of Payne Creek.

Cause City/County: Floyd County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/4A

Cause Description: The Little River Temperature (Fed ID: 41518) TMDL Study U.S. EPA approved on 3/14/12 and State Water Control Board (SWCB) approved 3/25/13. The 303(d) Listed natural trout water temperature impairment is extended both upstream and downstream in 2008 from the original impairment defined by station 9-LRV056.74 in 2002. The upstream extension is based on station 9-LRV065.57. And the downstream extension on station 9-LRV044.49. Total non-support of the Aquatic Life Use is 34.67 miles.

9-LRV065.57- (Rt. 639 Bridge) The Class VI 20°C criterion is exceeded within the 2018 data window at 23.4°C (6/22/15) and 22.3°C (9/2/15). The 2012 data window reports temperature exceedances in two of 19 measurements. Excursions are 20.4 °C on 6/29/2005 and 23.7°C on 8/5/2010. Temperature exceedances are found in two of 12 measurements in 2008 and 2010. Each are in excess of the WQS Class VI natural trout water criterion of 20°C. Excursions are both at 20.4 °C on 8/02/2004 and 6/29/2005.

9-LRV056.74- (Rt. 221 Bridge) Temperature data within the 2014 data window are insufficient to de-list these waters (0/4 samples). The temperature impairment remains. The 2008 IR reports temperature exceedances of the natural trout water criterion occur in two of 12 measurements. The excursions occur on 8/02/2004 at 21.4 °C and 6/29/2005 at 21.3°C within the 2008 data window. The 2006 Integrated Report (IR) records two of 12 temperature measurements exceeding the criterion with excursions in May of 2000 (at 21.2°C) and August of 2004 (at 21.4 °C). Two of 11 measurements exceed in 2004. The exceedances occur in July 1998 (at 25.7°C) and May of 2000 (at 21.2°C). The 2002 assessment found temperature exceeds in three of 16 measurements occurring in July 1997 and 1998 (2) and one in May of 2000.

9-LRV044.49- (Rt. 615 Bridge) Temp exceeds in 3/12 at 21°C (6/13/17), 23°C (7/24/17), 23°C (8/17/17) during the 2020 and 2022 data windows. There are no additional data beyond the 2014 data window. Three temperature measurements exceed the 20°C natural trout criterion at 26.2°C (7/21/2011), 20.5°C (9/13/2011) and 23.9°C (8/29/2012) from 12 measurements within the 2014 data window. There were no additional data within the 2010 and 2012 data windows. The 2008 IR reports two temperature measurements exceed the Class VI 20 °C natural trout criterion at 23.3 °C (8/02/2004) and 22.8°C (6/29/2005) from 12 measurements.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_LRV01A00 / Little River / Little River mainstem waters from the West Fork Little River confluence upstream to the mouth of Oldfield Creek (NE49).	4A	Temperature	2008	L	8.74
VAW-N19R_LRV02A00 / Little River / Little River mainstem waters from the mouth of Oldfield Creek upstream to the mouth of Beaverdam Creek (NE49).	4A	Temperature	2002	L	7.60
VAW-N19R_LRV03A00 / Little River / Little River mainstem waters from the mouth of Beaverdam Creek upstream to near its headwaters (NE48).	4A	Temperature	2008	L	18.35

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Little River

**Aquatic Life**

Temperature - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)  
34.69

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Sources: Loss of Riparian Habitat; Natural Sources

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N19R-02-BAC** **Meadow Run**

Cause Location: Meadow Run (MDR) from its headwaters downstream to its confluence with Little River.

Cause City/County: Floyd County

Use(s): Recreation

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

Cause Description: The Recreational Use remains impaired for 4.00 miles for the original 2006 303(d) Listing. The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

9-MDR000.34 (Rt. 641 Bridge) There are no additional data beyond the 2012 Integrated Report (IR) where nine of 15 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 400 to 1200 cfu/100 ml. The 2008 and 2010 IRs report four of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 630 to greater than 2000 cfu/100 ml. The 2006 range of exceedance is the same from three of nine E.coli observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_MDR01A04 / Meadow Run / Meadow Run from its headwaters downstream to its confluence with Little River (NE48).	4A	Escherichia coli (E. coli)	2006	L	4.01

Meadow Run

#### **Recreation**

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

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N19R-02-BEN** **Meadow Run**

Cause Location: Meadow Run (MDR) from its headwaters downstream to its confluence with Little River.

Cause City/County: Floyd County

Use(s): Aquatic Life

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

Cause Description: The Little River Benthic (Sediment Fed ID: 41517) TMDL Study is U.S. EPA approved on 3/14/12 and State Water Control Board (SWCB) approved 3/25/13. The original 2008 assessment finds the Aquatic Life Use impaired for 4.00 miles from the results of Virginia Stream Condition Index (VSCI) surveys.

9-MDR003.60 (Off Rt. 610) Bio 'IM' There are no additional data beyond the 2008 IR where two 2001 VSCI surveys with an average score of 45.8 are reported. The benthic community was considerably better in the fall (score 60.6) although taxa richness and percentage of stoneflies-caddisflies (Hydropsychidae) were still low. The station is located downstream and adjacent to residences with mowed lawns, a driveway and a horse pasture that impact bank vegetation and the riparian zone in this reach. The stream substrate is impacted by sediment deposition.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_MDR01A04 / Meadow Run / Meadow Run from its headwaters downstream to its confluence with Little River (NE48).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	4.01

Meadow Run

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		4.01

Sources: Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N19R-03-BAC** Pine Creek

**Cause Location:** Pine Creek mainstem from its mouth on Little River upstream to the impounding structure of a pond.

**Cause City/County:** Floyd County

**Use(s):** Recreation

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

**Cause Description:** The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The waters remain impaired for non-support of the Recreational Use. Bacteria exceedances cause the 2006 303(d) Listing for 3.91 miles.

9-PNC000.69 (Rt. 682 Bridge) There are no additional data beyond the 2008 IR where escherichia coli (E.coli) exceed the 235 cfu/100 ml instantaneous criterion in three of 11 samples in 2008. Excursions range from 380 to 1000 cfu/100 ml. 2006 E.coli exceedances are three of eight with the same range of exceedance found in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_PNC01A06 / Pine Creek / Pine Creek mainstem from its mouth on Little River upstream to just above the intersection of Sandy Flats Road (Rt. 690) (NE49).	4A	Escherichia coli (E. coli)	2006	L	3.92

Pine Creek

#### **Recreation**

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3.92

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

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### Impaired (Category 4 or 5) Waters in 2022

#### New River Basin

Cause Group Code: **N19R-03-TEMP** Pine Creek

Cause Location: Pine Creek mainstem from its mouth on Little River upstream to the impounding structure of a pond.

Cause City/County: Floyd County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/4A

Cause Description: The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The Aquatic Life Use is not supported due to temperature exceedances of the WQS Class VI natural trout water criterion. The impairment extends 3.91 miles.

9-PNC000.69- There are no additional data beyond the 2008 IR. Two of 12 temperature measurements exceed the natural trout water criterion of 20°C. Each excursion is 20.5 °C on 8/02/2004 and 21.3°C on 6/29/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_PNC01A06 / Pine Creek / Pine Creek mainstem from its mouth on Little River upstream to just above the intersection of Sandy Flats Road (Rt. 690) (NE49).	4A	Temperature	2008	L	3.92

Pine Creek

#### Aquatic Life

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:		3.92

Sources: Loss of Riparian Habitat; Natural Sources



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**Appendix 4 - Fact Sheets for**  
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**New River Basin**

**Cause Group Code:** **N20R-01-BAC** **Dodd Creek and West Fork Dodd Creek**

**Cause Location:** Dodd Creek: The upper limit extends from the junction of Routes 710 and 714 downstream to the Dodd Creek mouth on the West Fork Little River (Woolwine and Floyd Quads). West Fork Dodd Creek and unnamed tributary XDC: Mainstem extends from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located at 36°52'33" / 80°19'43". West Fork Little River: West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River.

**Cause City/County:** Floyd County

**Use(s):** Recreation

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

**Cause Description:** The Dodd Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/11/2002 [Fed ID 9456/23407] and SWCB approved 6/17/2004 (formerly VAW-N20R-01). The Bacteria Implementation Plan (IP) received SWCB approval 6/27/2007. The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved 3/14/2012 and SWCB approved 3/25/2013. The waters were originally 1998 303(d) listed based on the former fecal coliform (FC) WQS instantaneous criterion of 1000 cfu/100 ml and 200 geometric mean (8.90 mi). Escherichia coli (E.coli) replaces FC bacteria as the indicator as per WQS [9 VAC 25-260-170. Bacteria; other waters]. Additional bacteria sampling above and below the 1998 303(d) Dodd Creek Impaired waters have extended the original size. Tributary additions include West Fork Dodd Creek (7.04 mi) and an unnamed tributary (XDC) in 2002 to the West Fork (0.53 mi).

Dodd Creek: 9DDD-1-NCNR- Citizen Lv. 2 data for E.coli find a 'High' probability of adverse conditions from 5/8 samples ranging from 350-1400 cfu/100 ml. There are no additional data beyond the 2012 IR.

9-DDD004.64 (Rt. 720 Br above Floyd STP) No additional data beyond 2008 IR: 2/9 at 280 & 1200 cfu/100 ml. 2004: 3/11 FC samples exceed the former WQS 400 cfu/100 ml instantaneous criterion.

9-DDD002.62 (Rt. 696 Br below Floyd STP) No additional data beyond 2014 IR: 21/36 E.coli samples exceed ranging from 250 to >2,000 cfu/100 ml. 2012: 21/33, 2010: 15/21 and 2008: 6/9 with same exceedance range as 2014.

9-DDD001.00 (Rt. 8 Br below Floyd STP) The 2020 data window finds 3 exceedances out of 12 E.coli samples. 2014 IR: 16/36 from 250 to >2,000 cfu/100 ml. 2012: 13/33 from 250 to >2,000 cfu/100 ml. 2010: 9/21 from 350 to >2,000 cfu/100 ml. 2008: 2/9 at 350 and 1,900 cfu/100 ml.

9-DDD008.20- No additional data beyond 2004 IR: 3/3 FC exceedances of the former 400 cfu/100 ml WQS instantaneous criterion (max. 1700); 1 FC geomean calc results in the exceedance of the former 200 cfu/100 ml standard. No E.coli samples collected.

West Fork Dodd Creek: 9-DDW004.02 (Rt. 714 Br) No additional data beyond 2004 IR: 4/4 FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion (max. 9200).

9-DDW000.02- (Rt. 8 Br) No additional data beyond 2014 IR: 20/36 E.coli samples exceed. 2012 IR: 12/24 from 250-1800 cfu/100 ml. 2010: 7/12 from 250-1600 cfu/100 ml.

Unnamed Tributary XDC: (The unnamed tributary portion extends from just upstream of the Rt. 8 crossing downstream to its confluence with West Fork Dodd Creek - Floyd Quad.) 9-XDC000.48 (Rt. 807 Br) No additional data beyond 2004 IR: 4/4 FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion (max. 6400).

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Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD01A00 / Dodd Creek / Dodd Creek mainstem waters from its mouth on the West Fork of Little River upstream to the Floyd/Floyd County PSA outfall on Dodd Creek (NE51).	4A	Escherichia coli (E. coli)	2008	L	3.84
VAW-N20R_DDD02A00 / Dodd Creek / Dodd Creek mainstem waters from the Floyd/Floyd County PSA outfall on Dodd Creek upstream to the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge (NE51).	4A	Escherichia coli (E. coli)	2008	L	2.61
VAW-N20R_DDW01A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Escherichia coli (E. coli)	2010	L	1.31

Dodd Creek and West Fork Dodd Creek

### Recreation

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

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD03A02 / Dodd Creek / Dodd Creek mainstem from the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge on upstream near the junction of Routes 710 and 714 near the Blue Ridge Parkway (NE51).	4A	Fecal Coliform	1998	L	2.46
VAW-N20R_DDW02A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from the confluence of an unnamed tributary (XDC) upstream to its headwaters. The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Fecal Coliform	1998	L	5.73
VAW-N20R_XDC01A02 / West Fork Dodd Creek, UT (XDC) / An unnamed tributary (XDC) to the West Fork Dodd Creek from its confluence upstream to its headwaters. The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Fecal Coliform	2002	L	0.54

Dodd Creek and West Fork Dodd Creek

### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Fecal Coliform - Total Impaired Size by Water Type: 8.73

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N20R-01-TEMP** **West Fork Dodd Creek**

**Cause Location:** West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43".

**Cause City/County:** Floyd County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Temperature/4A

**Cause Description:** The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

9-DDW000.02 (Rt. 807 Bridge) There are no additional data beyond the 2014 data window. 2014 data reveal five of 36 temperature measurements in excess of the WQS Class VI 20°C criterion. Temperature exceedances in addition to those within the 2012 IR are 24.6°C on 7/21/2011 and 22.2°C on 8/29/2012. 2012 Class VI temperature exceedances are found in three of 24 measurements occurring on 7/18/2007 at 20.9°C: 9/11/2007 at 22.3°C and 24.3°C on 8/5/2010. Temperature exceedances within the 2010 data window are found in two of 12 measurements that occur on 7/18/2007 at 20.9°C and 9/11/2007 at 22.3°C. 2002 IR reports temperature exceeds the 20° natural trout criterion in two of two measurements. Exceeding values are 23.3°C on 7/28/99 and 20.1°C on 6/28/00. The 2002 Temperature 303(d) Listing remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDW01A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Temperature	2002	L	1.31

West Fork Dodd Creek

#### Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			1.31

Sources: Natural Sources

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N20R-02-TEMP** **Dodd Creek**

**Cause Location:** Dodd Creek from it's confluence with the West Fork Little River upstream to the mouth of the West Fork of Dodd Creek

**Cause City/County:** Floyd County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Temperature/4A

**Cause Description:** There are no additional Dodd Creek data beyond the 2014 assessment. The 2012 assessment finds the Aquatic Life Use is impaired for 8.90 miles due to temperature exceedances of these Class V (21°C) stockable trout waters criterion. The impairment is extended upstream 2.19 miles with citizen data from station 9DDD-1-NCNR in the 2010 assessment. The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

Dodd Creek (Lower): Length 3.84 miles. 9-DDD002.62- (Route 696 Bridge below Floyd STP) The 2014 Integrated Report (IR) finds the 21°C stockable trout water criterion exceeds in four of 36 measurements at 21.7°C on 9/11/2007; 23.9°C on 8/5/2010; 23.9°C on 7/21/2011 and 21.6°C on 8/29/2012. The 21°C Class V criterion exceeds in four of 33 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; 21.7°C on 9/11/2007 and 23.9°C on 8/5/2010 within the 2012 data window. The 2010 IR finds three of 21 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; and 21.7°C on 9/11/2007. 2008 results report two of nine measurements at 22.2°C on 8/10/2005 and 21.6°C on 8/14/2006.

9-DDD001.00- (Route 8 Bridge below Floyd STP) - Temp exceeds at 23°C (7/24/17) and 22°C (8/17/17) during the 2020 and 2022 IRs. The 2014 IR finds the stockable trout water criterion exceeds in four of 36 measurements at 21.1°C on 9/11/2007; 23.7°C on 8/5/2010; 24.4°C on 7/21/2011 and 21.9°C on 8/29/2012. The 2012 IR reports the Class V criterion exceeds in four of 33 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; 21.1°C on 9/11/2007 and 23.7°C on 8/5/2010. The 2010 assessment finds the stockable trout water criterion exceeds in three of 21 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; and 21.1°C on 9/11/2007. The 2008 IR found two of nine temperature measurements exceed the Class V criterion at 22.0 on 8/10/2005 and 22.1°C on 8/14/2006.

Dodd Creek (Upper) Length 5.06 miles. 9DDD-1-NCNR (Rt. 710 Bridge) There are no additional data beyond the 2012 IR where Citizen Level 3 data finds three of 14 temperature measurements exceed the Class V criterion of 21°C. Excessive values are 25°C on 6/8/2008; 22.5°C on 8/10/2008; and 22.5°C on 9/14/2008. The 2010 data window reveals three of eight temperature measurements exceeding the criterion on the same dates in 2010. These data extended the temperature impairment upstream 2.19 miles in 2010.

Single measurement exceedances of the Class V criterion occur upstream in 2008 and 2010. There are no additional data reported for Station 9-DDD004.64 (Rt. 720 Bridge above Floyd STP) where one temperature exceedance from nine measurements is found at 22.4°C on 8/10/2005 within the 2008, 2010 and 2012 data windows.

Historically stations 9-DDD006.27 (Rt. 8 Bridge), 9-DDD004.75 (Rt. 720 Bridge) and 9-DDD004.64 (Route 720 Bridge above Floyd STP) have recorded temperature excursions upstream albeit in drought conditions.

9-DDD006.27 21.6°C on 7/28/99 - One of two temperature measurements exceed the 21°C criterion. 9-DDD004.75 records one excursion at 21.9°C on 7/28/99. The extension of the impairment to the mouth of the West Fork of Dodd Creek is in recognition of these data and temperature exceedances on the West Fork of Dodd Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD01A00 / Dodd Creek / Dodd Creek mainstem waters from its mouth on the West Fork of Little River upstream to the Floyd/Floyd County PSA outfall on Dodd Creek (NE51).	4A	Temperature	2008	L	3.84

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD02A00 / Dodd Creek / Dodd Creek mainstem waters from the Floyd/Floyd County PSA outfall on Dodd Creek upstream to the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge (NE51).	4A	Temperature	2008	L	2.61
VAW-N20R_DDD03A02 / Dodd Creek / Dodd Creek mainstem from the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge on upstream near the junction of Routes 710 and 714 near the Blue Ridge Parkway (NE51).	4A	Temperature	2010	L	2.46

Dodd Creek

#### Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			8.91

Sources: Natural Sources

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N20R-03-TEMP** **West Fork Little River**

Cause Location: West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).

Cause City/County: Floyd County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/4A

Cause Description: The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The initial 2018 listing for exceedances of the Class VI (20°C) Natural Trout Waters criterion applies to 4.53 miles of the West Fork Little River. The West Fork Little River Aquatic Life Use impairment is nested in the Little River Temperature (Fed ID: 41518) TMDL Study.

West Fork Little River: Length 4.53 miles.

9-LWF004.55 (Rt. 8 Bridge North of Floyd) - The 2018 data window finds four of 12 temperature measurements exceeding the Class VI Natural Trout Waters 20°C criterion. Excursions are found on the following sampling dates and temperature measurements: 6/22/15 at 23.4°C, 7/23/15 at 21.2°C, 8/20/15 at 21.3°C, and 9/2/15 at 21.9°C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_LWF01A00 / West Fork Little River / West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).	4A	Temperature	2018	L	4.53

West Fork Little River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			4.53

Sources: Natural Sources

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N20R-04-BEN** **Dodd Creek, Unnamed Tributary (XEM)**

**Cause Location:** Unnamed tributary XEM from its mouth on Unnamed tributary XEL upstream to its headwaters (NE51).

**Cause City/County:** Floyd County

**Use(s):** Aquatic Life

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

**Cause Description:** This initial 0.71 mile 2018 data window Aquatic Life Use listing is based on Virginia Stream Condition Index scores collected as part of a special study.

9-XEM000.36 (Unnamed tributary (XEL) to Dodd Cr., UT)- Bio 'J' (Reserve Judgement) from VSCI avg of 60.6 from 4 samples (2016-17). Two 2016 VSCI scores define the Aquatic Life Use Impairment: Spring 39.0, Fall 63.9. This stream originates downslope of the Floyd County landfill (landfill was built on top of the original stream channel). Approximately 0.18 miles upstream of the sample station (9-XEM000.36), the stream surfaces from a spring box and is impacted by growths of iron bacteria and Sphaerotilus (sewage fungus). The spring 2016 sediment discharge appears to be affecting the benthic community. Certain stonefly taxa are tolerant of iron precipitate and can thrive in streams moderately impacted by landfills and mines.

9-XEM000.30 (Unnamed tributary (XEL) to Dodd Cr., UT) - Bio 'J' 2020 IR finds four VSCIs avg 59.1 (2016-17). Three VSCI spring surveys (2011-2012, 2016) report an average score of 58.2. The stream surfaces from the Floyd landfill in a spring box and is impacted by growths of iron bacteria and sphaerotilus (sewage fungus). The stream substrate was too impacted by bacterial growth to sample for benthic macroinvertebrates; A May 2011 habitat survey shows most parameters are in the optimal range. Sediment deposition was the only parameter found to be in the marginal range. During the 2012 habitat survey, scores for sediment deposition and several other parameters had declined, some were due to lower stream flow. The 2011 sample is dominated by mayflies, stoneflies and other generally pollution-sensitive taxa. The dominant mayfly taxa, Ephemerellidae (50% of all organisms) is somewhat tolerant of excessive sediment and several stonefly taxa present are known to be tolerant of iron precipitate and organic enrichment. The June 2012 sample finds the number of mayflies very low but stoneflies (51%) are numerous.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_XEM01A08 / Unnamed Tributary (XEM) / Unnamed tributary XEM from its mouth on Unnamed tributary XEL upstream to its headwaters (NE51).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	0.71

Dodd Creek, Unnamed Tributary (XEM)

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		0.71

Sources: Natural Sources



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**New River Basin**

**Cause Group Code:** **N21R-01-BAC** **Little River (Lower)**

**Cause Location:** The upper limit begins at the confluence of Dodd Creek (N19R) extending downstream to the Little River mouth on the New River (N21R).

**Cause City/County:** Floyd County; Montgomery County; Pulaski County

**Use(s):** Recreation

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

**Cause Description:** The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved 3/14/12 and SWCB approved 3/25/13. Exceedances of the former WQS fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml required the initial 2002 bacteria 303(d) Listing based on data from USGS station 03170000 where 2 of 14 observations exceed the criterion. Application of the revised 400 cfu/100 ml instantaneous criterion would result in 4 of 14 exceedances above the former criterion ranging from 420-14,900 cfu/100 ml. Due to the 2002 1.39 mi 303(d) Listing from Meadow Creek confluence downstream to the backwaters of Little River Reservoir and 2004 bacteria results from 9-LRV000.34 the impairment is extended 0.49 mi downstream. The 2012 Integrated Report (IR) extends the upper limit to the confluence of Dodd Creek incorporating the West Fork of Little River. The West Fork of Little River is nested within the overall Little River Bacteria TMDL. The impounded waters (60.44 ac) of Little River Reservoir are now bacteria impaired and were incorporated with the 2008 IR.

The 2004 IR establishes a 13.41 mi bacteria impairment at 9-LRV032.72 where 3/8 FC observations exceed the former WQS 400 cfu/100 ml instantaneous criterion. Exceedances range from 600-1100 cfu/100 ml. The impaired extent is from the end of Rt. 706 downstream to the confluence of Sidney Creek. This portion of Little River is separate from the original 2002 bacteria 303(d) Listing because of hydrology and the lack of bacteria data between the two initial listings on the mainstem of Little River.

Additional bacteria sample collection within the 2008 and 2010 data windows define the entire 44.22 mi impairment below. Escherichia coli (E.coli) bacteria replaces FC as the indicator per WQS [9 VAC 25-260-170. Bacteria; other waters].

West Fork Little River (Nested): 9-LWF004.55 (Rt 8 Br, N of Floyd) No new data since 2018 IR: 4/12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. 2012 IR: 5/12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion.

Little River: 9-LRV044.49 (Rt. 615 Br) One E.coli sample exceeds the 235 cfu/100 ml at 256 cfu/100 ml (5/3/17) during the 2020 cycle. 2008 IR: 3/11 within the 2008 & 2010 data windows w/exceeding values from 380 to >2000 cfu/100 ml. 2006: 2/8 at 380 & 450 cfu/100 ml.

9-LRV032.72 (Rt. 617 Br) No additional data beyond the 2006 IR: 4/11 from 600-3300 cfu/100 ml. 2008: same as 2006 IR. 2010: remaining FC data = 1/3 samples in excess of the former instantaneous criterion at 3300 cfu/100 ml & no E.coli is available to assess.

9-LRV016.68 (Rt. 787 Br) 2018: 1/12 at 512 cfu/100 ml. 2012 & 2014: 2/12 at 380 & 1200 cfu/100 ml. 2010: 1/2 at >8000 cfu/100 ml. 2006 & 2008: 2/10 at 900 & > 8000 cfu/100 ml. There are no additional beyond the 2006 IR.

9-LRV012.58 (Rt. 787 pull off) 2016: 3/12 from 275-1075 cfu/100 ml.

9-LRV009.11 (Route 693 Bridge at Graysontown) 2020 IR: 9/36 E.coli samples exceed. 2018: 11/36; 2016: 10/36; 2014: 5/24 each cycle shows exceedances from 400 to >2000 cfu/100 ml. 2012: 2/12 at 400 & 1000 cfu/100 ml. 2010: 1/3 at 500 cfu/100 ml. 2006 & 2008 IRs: FC exceeds the former instantaneous criterion in 2/11 samples at 500 & 600 cfu/100 ml. Note: USGS 03170000 (Little R. at Graysontown) an original 2002 listing station is at the same location.

9-LRV000.44 (Above Little River Dam) No additional data beyond the 2010 IR: 2/7 at 420 & 1000 cfu/100 ml.

9-LRV000.34 (Rt. 605 Br- below Little River Dam) 2012 & 2010: 3/12 from 250 to >2000 cfu/100 ml. 2008 & 2006: 4/14 FC samples in excess of the former 400 cfu/100 ml criterion from 500-7300 cfu/100 ml. No additional data available beyond the 2012 IR.



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Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_LWF01A00 / West Fork Little River / West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).	4A	Escherichia coli (E. coli)	2012	L	4.53
VAW-N21L_LRV01A02 / Little River Reservoir / Little River Reservoir from its impounding structure upstream to its backwaters.	4A	Escherichia coli (E. coli)	2008	L	60.45
VAW-N21R_LRV01A00 / Little River / The mainstem waters of Little River from its mouth on the New River upstream to the Little River Reservoir Dam (NE56).	4A	Escherichia coli (E. coli)	2010	L	0.49
VAW-N21R_LRV03A00 / Little River / Mainstem Little River from the backwaters of Little River Reservoir upstream to the end of the designated PWS section from the Radford City intake (NE56).	4A	Escherichia coli (E. coli)	2012	L	0.69
VAW-N21R_LRV04A00 / Little River / Mainstem Little River from the PWS designated end upstream to the mouth of Meadow Creek (NE56).	4A	Escherichia coli (E. coli)	2012	L	0.70
VAW-N21R_LRV05A00 / Little River / The Little River mainstem waters from the mouth of Meadow Creek upstream to the mouth of Big Indian Creek (NE55).	4A	Escherichia coli (E. coli)	2012	L	12.34
VAW-N21R_LRV06A00 / Little River / The Little River mainstem from the mouth of Big Indian Creek upstream to the WQS designated natural trout water section (NE53).	4A	Escherichia coli (E. coli)	2014	L	8.37
VAW-N21R_LRV07A00 / Little River / Little River mainstem from the WQS designated natural trout waters upstream to the mouth of the West Fork of Little River (NE52).	4A	Escherichia coli (E. coli)	2006	L	3.71

Little River (Lower)

### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	60.45	30.83

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_LRV06A04 / Little River / Little River from the Brush Creek mouth downstream to the confluence of Sidney Creek (NE53).	4A	Fecal Coliform	2004	L	8.80
VAW-N21R_LRV06A14 / Little River / Little River from the end of Rt. 706 downstream to the confluence of Brush Creek (NE52).	4A	Fecal Coliform	2004	L	4.63

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Little River (Lower)

**Recreation**

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		13.43

Fecal Coliform - Total Impaired Size by Water Type:

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Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-02-BAC** Meadow Creek

**Cause Location:** The Meadow Creek mainstem from the Mill Creek confluence downstream to the Meadow Creek mouth on Little River (Radford South Quad).

**Cause City/County:** Montgomery County

**Use(s):** Recreation

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

**Cause Description:** The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/12 and State Water Control Board (SWCB) approved 3/25/13.

Fecal coliform (FC) excursions of the former 1000 cfu/100 ml instantaneous criterion found in 2002 results in the initial 303(d) Listing of these waters for 4.49 miles. Exceedances are found in three of four observations and one geometric mean calculation exceedance is recorded in excess of the former 2002 criterion of 200 cfu/100 ml. Additional sample collections within the 2004 IR data window also produce exceedances of the former 400 cfu/100 ml instantaneous criterion in seven of 12 observations with one geometric mean excursion of the former criterion. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-MDW004.62- There are no new data. The 2014, 2012 and 2010 data windows produce six exceeding values from 12 observations of the escherichia coli (E.coli) 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 280 to greater than 2000 cfu/100 ml. The 2006 IR finds FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion in six of 11 observations. The range of exceeding values is from 700 to greater than 8000 cfu/100 ml. FC exceedances and total observations within the 2008 data window are the same.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_MDW01A00 / Meadow Creek / The Meadow Creek mainstem from its confluence with Little River upstream to the mouth of Mill Creek on Meadow Creek (NE56).	4A	Escherichia coli (E. coli)	2010	L	4.65

Meadow Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.65

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

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**New River Basin**

**Cause Group Code:** **N21R-03-BAC** Mill Creek, Poplar Branch, Mill Creek UTs (XDE and XDF)

**Cause Location:** The upper limit begins at the headwaters of Mill Creek on the Riner Quad and extends downstream to the Mill Creek confluence with Meadow Creek at the Rt. 600 Bridge on the Radford South Quad (7.04 miles). This impairment also includes Poplar Branch and its tributaries from its mouth on Mill Creek to its headwaters as well as to unnamed tributaries to Mill Creek (XDE & XDF).

**Cause City/County:** Montgomery County

**Use(s):** Recreation

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

**Cause Description:** The Mill Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/5/02 [Fed ID 9453/19986] and SWCB approved 6/17/04 (formerly VAW-N21R-03). The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved 3/14/12 and SWCB approved 3/25/13. The Mill Creek Bacteria Implementation Plan (IP) received SWCB approval 6/27/07; Little River 3/25/13. The 1996/2002/2004 impaired waters now extend to the headwaters of Mill Creek (7.60 mi). 2002 tributary additions include Poplar Branch and 2 unnamed tributaries. The waters are impaired for a total of 15.92 mi.

The waters are originally 303(d) Listed based on the former fecal coliform (FC) WQS instantaneous criterion of 1000 cfu/100 ml and 200 geometric mean. The 2004 Integrated Report (IR) records exceedances of both the former FC 400 cfu/100 ml instantaneous criterion and geometric mean criterion of 200 cfu/100 ml. Listed below are the monitored sites showing FC instantaneous excursions / total sample collections; (maximum) and geomean calculation exceedances / total calculations, where applicable. Instantaneous Escherichia coli (E. coli) single observations from the 2008 IR are listed next (value). Each exceed the WQS instantaneous criterion of 235 cfu/100 ml. E.coli replaces FC bacteria as the indicator as per WQS [9 VAC 25-260-170. Bacteria; other waters].

9-MLC005.44- There are no new data since the 2014 IR: 18/36 from 250 to >2000 cfu/100 ml. 2012: 11/24 from 280-600 cfu/100 ml. 2010: 4/12 from 250-580 cfu/100 ml.

9-MLC002.59 (Rt. 669 Bridge) There are no new data since the 2014 IR: 23/36. 2014: 16/24 from 280 to >2000 cfu/100 ml. 2012: 14/24 from 280 to >2000 cfu/100 ml. 2010: 7/12 from 580 to >2000 cfu/100 ml.

9-MLC001.53 (Rt. 693, Childress) 2020 IR: 8/12 E.coli samples exceed. 2014 IR: 14/36 from 250 to >2000 cfu/100 ml. 2012: 8/24 from 250-1100 cfu/100 ml. 2010: 3/12 from 300-1100 cfu/100 ml.

Data below reflect the 2004, 2006 and 2008 data windows as there were no additional data beyond the 2006 IR. Two ambient fixed sites 9-MLC005.44 & 9-MLC001.53 are included with the non-fixed sites below.

2004 IR results: Mill Creek 9-MLC000.17 (Rt. 600 Bridge) - 3/5; (3900); 1/1 geomean; E.coli- 1/1 (800).

9-MLC001.31 (Rt. 693 Bridge) - 3/5; (2300); 1/1 geomean; E.coli- 1/1 (800). 9-MLC001.53 (Rt. 693, Childress) - 3/6; (2300). 9-MLC002.74 (Private Road off Rt. 616) - 4/5; (>8000); 1/1 geomean; E.coli- 1/1 (800).

9-MLC005.44 (Rt. 8 Bridge-above Riner STP) - 18/25; (2500); E.coli- 1/1 (800). 9-MLC006.00 (Private road Rt. 616) - 2/5; (>8000); 0/1 geomean; E.coli- 1/1 (>800).

Poplar Branch 9-PPL000.01 (Private Road at mouth) - 1/1; (>8000). 9-PPL001.27 (Rt. 616 Bridge) - 2/2 (2800).

Mill Creek Unnamed Tributaries 9-XDE000.95 (Rt. 678 Bridge) - 4/5; (>8000); 1/1 geomean; E.coli- 1/1 (>800). 9-XDF000.11 (Private road Rt. 669) - 4/5; (2600); 1/1 geomean; E.coli- 1/1 (>800).

2006 IR results for 2006 stations within the data window: Mill Creek 9-MLC005.44- 2006 FC exceeds the 400 cfu/100 ml instantaneous criterion in 10/15 obs ranging from 600-2000 cfu/100 ml. 2008: 8/11. 9-MLC002.74- 2006 FC exceeds in 10/12 obs (max. > 8000 and min. 500 cfu/100 ml). 2008: 9/11. 9-MLC001.53- 2006 FC exceeds in 5/8 (max. 2300 cfu/100 ml). 2008: 5/8.

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_MLC01A00 / Mill Creek / Mill Creek mainstem waters from its mouth on Meadow Creek upstream to the Montgomery County PSA Riner STP outfall (NE56).	4A	Escherichia coli (E. coli)	2010	L	5.49
VAW-N21R_MLC02A00 / Mill Creek / Mill Creek mainstem waters from the Montgomery County PSA Riner STP outfall upstream to its headwaters (NE56).	4A	Escherichia coli (E. coli)	2010	L	2.11

Mill Creek, Poplar Branch, Mill Creek UTs (XDE and XDF)

### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		7.6

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_PPL01A02 / Poplar Branch & Tributaries / Poplar Branch mainstem and tributaries from its confluence with Mill Creek upstream to its headwaters (NE56).	4A	Fecal Coliform	2002	L	4.63
VAW-N21R_XDE01A02 / Mill Creek, UT (XDE) / An unnamed tributary (XDE) to Mill Creek from its mouth upstream. The stream is located in the headwaters of Mill Creek flowing to VAW-N21R_MLC02A00 (NE56).	4A	Fecal Coliform	2002	L	1.76
VAW-N21R_XDF01A02 / Mill Creek, UT (XDF) / An unnamed tributary (XDF) to Mill Creek from its mouth upstream. The stream is located in the headwaters of Mill Creek flowing to VAW-N21R_MLC01A00 (NE56).	4A	Fecal Coliform	2002	L	1.96

Mill Creek, Poplar Branch, Mill Creek UTs (XDE and XDF)

### Recreation

Fecal Coliform - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		8.35

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-05-BAC** **Brush Creek**

**Cause Location:** Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 downstream to the Brush Creek mouth on Little River.

**Cause City/County:** Montgomery County

**Use(s):** Recreation

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

**Cause Description:** The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

The 2004 Recreational Use impairment continues for 5.94 miles originally due to fecal coliform (FC) bacteria exceedances of the former instantaneous criterion of 400 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-BSH000.05 (Rt. 617 Bridge) Four of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 473 to greater than 1100 cfu/100 ml. The 2012 Integrated Report (IR) found six of 11 escherichia coli (E.coli) observations exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 250 to greater than 2000 cfu/100 ml. These waters were initially Listed for fecal coliform (FC) in 2004 with three of eight FC samples exceeding the former WQS instantaneous criterion of 400 cfu/10 ml. The 2010 data window finds two of two samples exceeding the former instantaneous criterion at 800 and 1100 cfu/100 ml. The 2004, 2006 and 2008 data windows find five of 10 FC samples exceeding the former instantaneous criterion. The maximum exceedance range is from 700 to 1300 cfu/100 ml. There were no E.coli data to assess at that time.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BSH01A04 / Brush Creek / Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 downstream to the Brush Creek mouth on Little River (NE52).	4A	Escherichia coli (E. coli)	2012	L	5.95

Brush Creek

**Recreation**

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

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-06-BAC** **Laurel Creek**

Cause Location: Laurel Creek mainstem from its headwaters NW of the Routes 608 and 673 intersection downstream to its confluence with Little River.

Cause City/County: Floyd County

Use(s): Recreation

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

Cause Description: The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/12 and State Water Control Board (SWCB) approved 3/25/13.

Fecal coliform (FC) bacteria exceedances cause this initial 2004 303(d) Listed water to not support the Recreational Use for 3.44 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LLL000.05- There are no additional data beyond the 2012 Integrated Report (IR) where five of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The range of exceeding values is 380 to 1200 cfu/10 ml. FC data within the 2010 data window find one of two samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml. Both the 2006 and 2008 Integrated Reports (IR) find FC exceeds the former WQS 400 cfu/100 ml instantaneous criterion in five of 10 samples. The exceedances range from 600 to 2800 cfu/100 ml. FC data within the 2010 data window find one of two samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_LLL01A04 / Laurel Creek / Laurel Creek from its headwaters (Class VI) NW of Rts. 608 and 673 intersection downstream to its confluence with Little River (NE52).	4A	Escherichia coli (E. coli)	2012	L	3.45

Laurel Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3.45

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-07-BAC** **Big Indian Creek**

Cause Location: Big Indian Creek from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River.

Cause City/County: Floyd County

Use(s): Recreation

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

Cause Description: The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The 2010 Integrated Report initially 303(d) Lists these waters.

9-BIC000.14 (Rt. 787 Bridge)- The 2020 data window finds three E.coli excursions out of 12 samples. There is no additional bacteria data collected within the 2018 or 2016 data windows. 2014 data window reveals 10 of 24 escherichia coli (E.coli) observations in excess of the 235 cfu/100 ml instantaneous criterion. Excursions range from 300 to 950 cfu/100 ml. There are no additional data within the 2012 data window. The 2010 initial Listing is based on E.coli exceedances from four of 12 samples in excess of the instantaneous criterion with excursions ranging from 350 to 950 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BIC01A02 / Big Indian Creek / Big Indian Creek mainstem from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River (NE54).	4A	Escherichia coli (E. coli)	2010	L	7.84

Big Indian Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.84

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-07-TEMP** **Big Indian Creek**

Cause Location: Big Indian Creek from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River.

Cause City/County: Floyd County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/4A

Cause Description: The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. These waters were initially 303(d) Listed with the 2004 assessment and subsequently delisted with the 2010 assessment. The waters return to an impaired status with the 2014 assessment. Big Indian Creek is addressed by the Little River Temperature TMDL and is category 4A.

9-BIC000.14- (Rt. 787 Bridge, Indian Valley Rd.) Temp excursions of the WQS stockable trout water criterion of 21°C occur in two of 14 measurements: 23°C (7/24/17) and 23°C (8/17/17). No new data was collected within the 2018 data window. The 2016 data windows finds no new temperature exceedances. The 2014 data window records three of 24 temperature measurements in excess of the Class V stockable trout water criterion of 21°C.

Exceedances occur on 7/18/2007 at 21.7°C; 7/21/2011 at 24.1°C and 8/29/2012 at 21.6°C. The 2012 data window reveals one exceeding value at 21.7°C on 7/18/2007 from 12 measurements with no additional data. The waters were delisted based on data within the 2010 window where one exceedance (7/18/2007) is recorded from 15 measurements. The temperature original 2004 303(d) Listing continued through the 2008 Cycle. 2006 and 2008 IRs record two of 11 exceedances each. The excursions are 23.9 °C on 7/11/01 and 23.2 °C on 7/10/02 during some of the driest years on record. The original 303(d) Listing in 2004 is based on two of eight temperature measurements exceeding the 21°C criterion as recorded for 2006 and 2008 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BIC01A02 / Big Indian Creek / Big Indian Creek mainstem from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River (NE54).	4A	Temperature	2004	L	7.84

Big Indian Creek

**Aquatic Life**

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			7.84

Sources: Natural Sources

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-08-BAC** Beaver Creek

Cause Location: Beaver Creek from its mouth on Little River to its headwaters.

Cause City/County: Floyd County

Use(s): Recreation

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

Cause Description: The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The 2020 Integrated Report initially 303(d) Lists these waters. Beaver Creek is Nested in the aforementioned TMDL Study.

9-BVR001.84 (Rt. 705 Bridge, Floyd Co.) - The 2020 data window finds seven of 12 Escherichia coli (E.coli) samples in exceedance of the 235 cfu/100 ml instantaneous criterion. The minimum excursion was 327 cfu/100 ml (9/25/18) and maximum 2,481 cfu/100 ml (6/21/18).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BVR01A20 / Beaver Creek / Beaver Creek from its mouth on Little River to its headwaters (NE52).	4A	Escherichia coli (E. coli)	2020	L	7.11

Beaver Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.11

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wastes from Pets; Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-08-BEN** Beaver Creek

Cause Location: Beaver Creek from its mouth on Little River to its headwaters.

Cause City/County: Floyd County

Use(s): Aquatic Life

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

Cause Description: The Little River Sediment (Fed ID: 41517) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. These waters are initially 303(d) Listed with the 2020 assessment. Beaver Creek is nested in the Little River Sediment TMDL and is category 4A.

9-BVR001.70 (Off Rt. 705 / Beaver Cr. Rd.) - Bio 'IM' from two 2018 VSCI Scores of 48.3 (S) and 58.3 (F). This station was surveyed as part of the Probabilistic monitoring program in 2018. The benthic macroinvertebrate community had good diversity but was comprised of an even mix of both pollution tolerant and sensitive taxa.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BVR01A20 / Beaver Creek / Beaver Creek from its mouth on Little River to its headwaters (NE52).	4A	Benthic Macroinvertebrates Bioassessments	2020	L	7.11

Beaver Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		7.11

Sources: Erosion from Derelict Land (Barren Land); Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Non-Point Source; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N21R-08-TEMP** **Beaver Creek**

Cause Location: Beaver Creek from its mouth on Little River to its headwaters.

Cause City/County: Floyd County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/4A

Cause Description: The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. These waters are initially 303(d) Listed with the 2020 assessment and are nested in the Little River Temperature TMDL (Category 4A).

9-BVR001.84 (Rt. 705 Bridge, Floyd Co.) - The 2020 data window finds three of 12 temperature measurements in exceedance of the 20°C Class VI Natural Trout Waters Criteria. Excursions are: 21°C (6/21/18), 21°C (7/23/18), and 22°C (8/13/18).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R__BVR01A20 / Beaver Creek / Beaver Creek from its mouth on Little River to its headwaters (NE52).	4A	Temperature	2020	L	7.11

Beaver Creek

#### Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			7.11

Sources: Erosion from Derelict Land (Barren Land); Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Non-Point Source; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N22R-02-BAC** **Stroubles Creek**

**Cause Location:** The upstream end is at the Duck Pond dam on the southwest end of the VPI&SU campus on the Blacksburg Quad. The downstream end is at the Slate Branch mouth on Stroubles Creek.

**Cause City/County:** Montgomery County

**Use(s):** Recreation

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

**Cause Description:** Fecal coliform (FC) bacteria exceedances of the former 1000 cfu/100 ml WQS instantaneous criterion in 2002 cause impairment of the Recreational Use. Three of 23 observations exceed the former criterion at station 9-STE002.41 (Rt. 705 Bridge (Coal Hollow Road)) The 2004 IR at 9-STE002.41 records four exceedances from 35 samples in excess of the current 400 cfu/100 ml WQS instantaneous criterion. Escherichia coli (E.coli) bacteria replaced fecal coliform (FC) in 2006 as the indicator as required by Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 2008 results find E.coli exceedances at 9-STE002.41 are three of 31 samples and resulted in 2.11 miles delisted with the 2008 IR. This 2.11 mile delisted portion (partial - length) returned with the 2010 303(d) Listing.

9-STE002.41- The 2022 data window applies new E.coli criterion and finds impairment from 2 or more STV hits in the same 90-day period with < 10 samples. Nine of 36 excursions are reported during the 2020 data window. The 2018 and 2016 data windows find eleven of 36 E.coli samples that exceed the 235 cfu/100 ml instantaneous criterion. Twelve of 36 samples exceeded that criterion in 2014. Values in excess of the instantaneous criterion range from 250 to greater than 2000 cfu/100 ml within the 2014 and 2016 data windows. The 2012 data window finds eight of 36 observations exceeding the 235 cfu/100 ml instantaneous criterion. 2010 E.coli samples find eight exceed the 235 cfu/100 ml instantaneous criterion from a total of 32 samples with the same range of exceedance.

9-STE007.29 (Rt. 657 Bridge below old B'Burg STP) E.coli exceeds in seven of 11 during the 2020 data window. There is no new data within the 2016 data window. E. coli samples find eight exceed the 235 cfu/100 ml instantaneous criterion from a total of 24 samples. Exceeding values range from 280 to greater than 2000 cfu/100 ml within the 2014 data window. The 2012 IR reports eight E.coli samples exceed the instantaneous criterion from a total of 33. Exceeding values range from 280 to greater than 2000 cfu/100 ml. 2010 results find eight exceed from a total of 32 samples with the same range of exceedance as 2012. 2008 E.coli results exceed in five of 25 samples. The 2008 exceedance range is from 300 to greater than 2000 cfu/100 ml. 2006 E.coli samples reveal five exceed the instantaneous criterion from a total of 16.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_STE03A00 / Stroubles Creek / These mainstem waters extend from the Slate Branch mouth on Stroubles Creek upstream to the mouth of Walls Branch (NE59).	5A	Escherichia coli (E. coli)	2010	L	2.12
VAW-N22R_STE04A00 / Stroubles Creek / These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus (NE59).	5A	Escherichia coli (E. coli)	2006	L	5.09

Stroubles Creek

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		7.21

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N22R-02-BEN** **Stroubles Creek**

**Cause Location:** These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus.

**Cause City/County:** Montgomery County

**Use(s):** Aquatic Life

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

**Cause Description:** The Stroubles Creek General Standard (Benthic- Sediment) Total Maximum Daily Load (TMDL) is U.S. EPA approved on 1/28/04 [Fed ID: 21904]. The SWCB approved the Study on 6/17/04. The Benthic (Sediment) Implementation Plan (IP) is SWCB approved (9/27/06) (formerly VAW-N22R-02). The 1996 original 303(d) Listed waters remain impaired for contravention of the General Standard (Benthic).

9-STE007.29 - (Rt. 657 Bridge below old Blacksburg STP) Bio 'IM' from six VSCI scores (2015-17) averaging 57.9. The 2018 data window includes six VSCI scores averaging 54.6 (2012, 2015-2016). The Spring 2016 score indicated improvement from Spring 2015 and the Fall 2016 score maintained a Non-Impaired status. While overall the VSCI scores indicate an impaired community, the scores improved during this assessment period. The 2014 assessment found nine Virginia Stream Condition Index (VSCI) surveys (2007-2010 & 2012) are 'IM' with an average score of 46.82. Impairment is found from nine surveys (2006 - 2010) with an average score of 46.82 in 2012. The 2010 assessment found impairment from seven VSCI surveys (2003 & 2006 - 2008) with an average score of 45.6. An average score of 45.6 is also found in 2008 from six VSCI surveys (2001 - 2003 & 2006).

The moderately pollution tolerant caddisfly family Hydropsychidae and fly family Chironomidae were the second most common macroinvertebrates during these surveys. This community indicates the benthic community is exposed to moderate level of pollution, possibly a nutrient source that provides the Hydropsychidae the opportunity to be second most dominant. Thus, this stream reach shows evidence of year long pollution. Habitat condition at this station is suboptimal, impacted by sediment and poor riparian vegetation zones. The mostly open canopy allows for increased water temperatures and primary production resulting in large mats of algae and bacteria on the stream substrate during the summer and fall.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_STE04A00 / Stroubles Creek / These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus (NE59).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	5.09

Stroubles Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)      Reservoir  
(Acres)      River  
(Miles)

5.09

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Sediment Resuspension (Clean Sediment)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N22R-03-BAC** **Back Creek**

**Cause Location:** The waters extend from 0.70 miles below the Rt. 636 Bridge crossing downstream to Back Creek's mouth on the New River.

**Cause City/County:** Pulaski County

**Use(s):** Recreation

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

**Cause Description:** The 1996 303(d) Listed Back Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/21/2004 [Fed ID 24564] and SWCB approval on 12/02/04. The Bacteria/Benthic Implementation Plan (IP) is SWCB approved 7/31/2008 (formerly VAW-N22R-03). 1996 fecal coliform (FC) exceedances are found in seven of seven observations at 9-BCK009.47; 2002 records 17 of 23 samples exceeding the former fecal coliform bacteria instantaneous criterion of 1000 cfu/100 ml. The 2004 Integrated Report (IR) records 19 of 21 samples exceeding the former WQS fecal coliform bacteria instantaneous criterion of 400 cfu/100 ml at 9-BCK009.47. The excursions range from 900 to >8000 cfu/100 ml. Escherichia coli (E.coli) bacteria replaced fecal coliform in 2006 as the indicator as required by Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The waters remain impaired for 17.53 miles with the 2014 and 2016 Assessments.

9-BCK015.98 (Rt. 636 Bridge, Black Hollow Road) Nine of 11 excursions reported at 9-BCK015.88 during the 2020 data window. Six of seven E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Prior to 2018, there are no additional data beyond the 2012 assessment where E.coli samples exceeded the WQS instantaneous criterion of 235 cfu/100 ml in 24 of 36 total samples. Values in excess of the criterion range from 300 to greater than 2000 cfu/100 ml. 2010 E.coli samples exceed the instantaneous criterion in 25 of 35 samples. Values in excess of the criterion range from 300 to greater than 2000 cfu/100 ml. The 2008 assessment finds E.coli exceeds the instantaneous criterion in 19 of 26 samples. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. In 2006 E.coli samples exceed the instantaneous criterion in 11 of 14 samples with the same exceedance range.

9-BCK009.47 (Rt. 100 Bridge) There are no additional data beyond the 2012 Integrated Report (IR) where E.coli exceeds the 235 cfu/100 ml criterion in 34 of 36 samples. The range of exceedance is from 320 to greater than 2000 cfu/100 ml. 2010 E. coli exceedances of the instantaneous criterion are found in 39 of 42 samples. The range of exceeding values is from 310 cfu/100 ml to 18,000. E.coli exceeds the instantaneous criterion in 32 of 35 samples in 2008. The range of exceeding values is from 310 cfu/100 ml to 18,000. Two of two geometric mean calculations exceed the 126 cfu/100 ml criterion based on the former WQS frequency of collection. The 2006 assessment found E.coli exceeds the instantaneous criterion in 20 of 21 samples with the same exceedance range.

9-BCK000.74 (Rt. 600 Bridge) There are no additional data beyond the 2012 IR where 20 of 36 E.coli exceedances occur ranging from 250 to greater than 2000 cfu/100 ml. E.coli exceedances are found in 29 of 43 samples within the 2010 data window. Exceedances range from 250 cfu/100 ml to 9000. The 2008 assessment finds E.coli exceeds the instantaneous criterion in 23 of 36 samples with exceedances ranging from 290 cfu/100 ml to greater than 2000. Three of three geometric mean calculations exceed the 126 cfu/100 ml criterion based on the former WQS frequency of collection. The exceedance range in 2006 is the same as 2008 where E.coli exceeds in 15 of 22 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_BCK01A00 / Back Creek / Back Creek mainstem waters from the mouth of Shuffle Branch downstream to Back Creek's mouth on the New River (NE61).	4A	Escherichia coli (E. coli)	2006	L	5.76
VAW-N22R_BCK02A08 / Back Creek / Back Creek from 0.70 miles downstream of the Rt. 636 crossing on downstream to the confluence of Shuffle Branch (NE61).	4A	Escherichia coli (E. coli)	2006	L	11.77



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Appendix 4 - Fact Sheets for  
Impaired (Category 4 or 5) Waters in 2022

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Back Creek

**Recreation**

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		17.53

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

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Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N22R-03-BEN** **Back Creek**

**Cause Location:** The waters extend from 0.70 miles below the Rt. 636 Bridge crossing downstream to Back Creek's mouth on the New River.

**Cause City/County:** Pulaski County

**Use(s):** Aquatic Life

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

**Cause Description:** The 2002 303(d) Listed Back Creek General Standard (Benthic- Sediment) Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/21/2004 [Fed ID 24565]. The SWCB approved the Study on 12/02/04. The Benthic/Bacteria Implementation Plan (IP) is SWCB approved 7/31/08.

The TMDL identifies sediment as the primary stressor for the aquatic life use (benthic) impairment. The 2002 severe RBP II score of 37.50 produces the initial 17.53 mile listing of the benthic impairment. The 2008 assessment finds via station 9-BCK000.74 that a single Virginia Stream Condition Index (VSCI) score indicates full support. A potential delisting could occur for the lower end of Back Creek should additional surveys produce scores at 60 or above in succeeding assessment cycles.

9-BCK015.98- (Rt. 636 Bridge, Black Hollow Road) The 2018 data window finds Bio 'IM' from six VSCI scores. The addition of 2016 spring and fall data results in a VSCI averaging 44.7. Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2011-2012) within the 2016 and 2014 data windows produce an average score of 42.9. And two 2006 VSCI surveys with an average score of 42.8 are reported within previous Integrated Reports (IR). The habitat surveys indicate the stream is impacted by sediment deposition, riparian vegetation removal, channel alteration (straightening of the stream), and destabilized stream banks. Additionally, the water in Back Creek is often turbid from cattle disturbance of stream banks and in-stream sediments. These impacts result in stream substrate and water that limits colonization of benthic macroinvertebrates and fish.

9-BCK009.47 (Rt. 100 Bridge) Bio- 'IM'; The 2012 Integrated Report (IR) reveals four VSCI surveys (2006 & 2010) with an average score of 41.0 The remaining two surveys within the 2014 and 2016 data windows produce an average score of 32.6. The benthic community is dominated by taxa that are tolerant of nutrient/organic enrichment. Late summer of 2006 a fish kill occurred that was the probable cause for the decline in the benthic community for the Fall sample. The community recovered between Fall of 2006 and Spring of 2010, however a decline is noted in the Fall 2010 score. NPS pollution from agricultural sources upstream from Rt. 100 has impacted the stream. Habitat at this site has been impacted by the agricultural land use in the watershed, resulting in sedimentation and excessive algal growth on the substrate. The 2008 and 2010 assessments report three VSCI surveys (2003 & 2006) with an average score of 41.0 as well.

9-BCK000.74- (Rt. 600 Bridge) Bio- 'FS' There are no additional surveys beyond the 2006 IR. One fall 2003 VSCI survey scoring 67.2. This AU would be a candidate for delisting should additional surveys find scores above 60. The reach appears to have habitat that would suit a diverse benthic community and was surveyed to determine if it was a recovery zone from upstream impairments. However, this station had a low abundance of sensitive EPTs. The high dominance of Elmidae (53.3%) is possibly due to slight nutrient enrichment and the subsequent abundance of periphyton, which is the predominant food of riffle beetles. This station is slightly impacted by sediment deposition. The banks and riparian zones are impacted by altered hydrology and human activities. However, the substrate size, frequency of riffles, flow, velocity, and channel gradient have a positive effect on the benthic community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_BCK01A00 / Back Creek / Back Creek mainstem waters from the mouth of Shuffle Branch downstream to Back Creek's mouth on the New River (NE61).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	5.76

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_BCK02A08 / Back Creek / Back Creek from 0.70 miles downstream of the Rt. 636 crossing on downstream to the confluence of Shuffle Branch (NE61).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	11.77

Back Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			17.53

Sources: Channelization; Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N22R-04-BAC** **Toms Creek**

**Cause Location:** Toms Creek mainstem waters just below the Poverty Creek confluence upstream to its headwaters.

**Cause City/County:** Montgomery County

**Use(s):** Recreation

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

**Cause Description:** This initial 2014 Listing is a result of bacteria data showing impairment of the Recreational Use. The 2020 data window extends this impairment downstream 5.71 miles due to E.coli data collections at 9-TOM005.32.

9-TOM012.78- (Lower bike path off Deerfield Drive) Three of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. Exceeding values range from 275 to 950 cfu/100 ml. Note: Level 2 Citizen data indicates the impairment extends downstream to the Toms Creek confluence with the New River. There was no additional data collected since the 2014 data window.

9-TOM005.32 (Rt. 725 Bridge [Poverty Cr Road]) - E.coli 'IM' from five excursions of the 235 cfu/100 ml instantaneous criterion from 12 samples during the 2020 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_TOM02A00 / Toms Creek / Toms Creek mainstem waters just below the Poverty Creek confluence upstream to the mouth of Big Run. These waters are not within the WQS public water supply (PWS) designation (NE60).	5A	Escherichia coli (E. coli)	2020	L	5.71
VAW-N22R_TOM03A08 / Toms Creek / Toms Creek from the mouth of Big Run upstream to its headwaters (NE60).	5A	Escherichia coli (E. coli)	2014	L	6.14

Toms Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.85

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Non-Point Source; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N22R-04-TEMP** Toms Creek

Cause Location: Toms Creek mainstem waters from its mouth on the New River upstream to its headwaters.

Cause City/County: Montgomery County

Use(s): Aquatic Life

Causes(s)/VA Category: Temperature/5C

Cause Description: The initial 2008 5.71 mile impairment is extends upstream 6.13 miles (2012) and downstream 4.56 miles (2014) with data provided by the National Committee for the New River (NCNR). The Aquatic Life Use is impaired for a total of 16.40 miles based on the initial 2008 temperature exceedances and 2012 / 2014 Citizen temperature measurements of the Class V 21°C stockable trout water criterion.

9TOM-1-NCNR (Off Glade Rd. at Heritage Park Trail Lv. 3) Seven temperature measurements exceed the Class V 21°C criterion ranging from at 21.5°C to 26.1°C from 32 measurements within the 2016 and 2014 data windows. Excursions occur during the summer months Lv. 3 [IM]. Two temperature measurements exceed the Class V 21°C criterion at 24.5°C on 7/19/2010 and 24.0°C on 8/19/2010 from 10 measurements for 2012.

9-TOM005.32- (Rt. 725 Bridge upstream of Poverty Creek) One temperature exceedance at 22 C (7/13/17). Temp impairment remains due to upstream and downstream impairment. Both the 2010 and 2008 IRs find two temperature measurements exceed the Class V 21°C criterion from 13 observations. Exceedances occur on 8/15/2005 at 24.4°C and 21.4 °C on 8/15/2006. There are no additional data beyond the 2008 Integrated Report (IR).

9TOM-2-NCNR (Poverty Creek Rd. Bridge Lv. 3) The 2016 data window finds three of 11 temperature measurements exceed the Class V 21°C criterion. Excessive values range from 22 to 24.5°C and occur in the summer months. The 2012 Integrated Report (IR) finds three temperature exceedances of the Class V 21°C criterion occur on 6/16/2010 at 22°C; 7/19/2010 at 24.0°C and 8/16/2010 at 24.5°C from 11 measurements for 2012.

9TOM-3-NCNR (Mt. Zion Road Bridge Lv. 3) Only one temperature measurement (full support) reported during the 2020 data window. Seven temperature measurements exceed the Class V 21°C criterion ranging from at 22.0°C to 24.7°C from 33 measurements within the 2016 data window. Excursions occur during the summer months.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_TOM01A00 / Toms Creek / These mainstem waters extend from just below the Poverty Creek confluence downstream to the Toms Creek mouth on the New River. These waters are within the WQS five mile public water supply (PWS) designation (NE60).	5C	Temperature	2014	L	4.56
VAW-N22R_TOM02A00 / Toms Creek / Toms Creek mainstem waters just below the Poverty Creek confluence upstream to the mouth of Big Run. These waters are not within the WQS public water supply (PWS) designation (NE60).	5C	Temperature	2008	L	5.71
VAW-N22R_TOM03A08 / Toms Creek / Toms Creek from the mouth of Big Run upstream to its headwaters (NE60).	5C	Temperature	2012	L	6.14

Virginia Department of Environmental Quality  
Appendix 4 - Fact Sheets for  
Impaired (Category 4 or 5) Waters in 2022

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Toms Creek

**Aquatic Life**

Temperature - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)  
16.41

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Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N22R-05-BAC** **New River**

Cause Location: New River mainstem from Claytor Dam (NE57) downstream to the confluence with Back Creek (NE62).

Cause City/County: Montgomery County; Pulaski County; Radford

Use(s): Recreation

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

Cause Description: The initial 2016 303(d) Listing of these waters is a result of escherichia coli (E.Coli) excursions of the 235 cfu/100 ml instantaneous criterion in three of 23 samples. All three exceeding samples were found to have E.Coli concentrations of 250 cfu/100 ml. These waters are not meeting the Recreational Use. The 2020 data window extends this Recreational Use impairment upstream to the confluence of Little River.

9-NEW081.72 (Rt. 11 Bridge at Radford) - The 2022 data window applies new E.coli criterion and finds one Statistical Threshold Value exceedance in one or multiple 90-day periods but insufficient data to analyze geomean. The 2020 data window finds five of 42 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

9-NEW066.90 (New River at Whitethorne) The 2022 data window applies new E.coli criterion and finds one Statistical Threshold Value exceedance in one or multiple 90-day periods but insufficient data to analyze geomean. Nine of 36 E.coli samples exceed during the 2020 data window. The 2018 data window shows six of 24 Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion. Exceedances range from 241 to 383 cfu/100 ml. The 2016 data window found excursions in three of 23 samples. Exceeding values were all 250 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_NEW01A00 / New River / New River mainstem from the Watershed boundary, Crab Creek mouth, upstream to approximately one mile downstream of the Rt. 11 Bridge; end of the WQS public water supply (PWS) section (NE57).	5A	Escherichia coli (E. coli)	2020	L	3.33
VAW-N18R_NEW02A00 / New River / New River mainstem from approximately one mile downstream of the Rt. 11 Bridge upstream to the Radford City intake (NE57).	5A	Escherichia coli (E. coli)	2020	L	3.73
VAW-N18R_NEW04A00 / New River / New River mainstem waters from the mouth of Little River upstream to Claytor Dam (NE57).	5A	Escherichia coli (E. coli)	2020	L	0.60
VAW-N22R_NEW02A00 / New River / New River mainstem from the Radford Army Arsenal Plant downstream intake near Whitethorne downstream to the confluence of Back Creek (NE62).	5A	Escherichia coli (E. coli)	2016	L	2.87
VAW-N22R_NEW02B14 / New River / New River mainstem from the mouth of Toms Creek downstream to the RAAP downstream intake (NE62).	5A	Escherichia coli (E. coli)	2016	L	0.51
VAW-N22R_NEW03A00 / New River / New River mainstem from the confluence of Stroubles Creek downstream to the mouth of Toms Creek (NE59).	5A	Escherichia coli (E. coli)	2016	L	4.10
VAW-N22R_NEW04A00 / New River / New River mainstem from the Radford Army Arsenal Plant upstream intake/Pepper's Ferry Region POTW outfall downstream to the confluence of Stroubles Creek (NE59).	5A	Escherichia coli (E. coli)	2016	L	2.33

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_NEW05A00 / New River / New River mainstem from the Blacksburg /Christiansburg /VPI Authority intake at Rt. 114 downstream to the Radford Army Arsenal Plant upstream intake / Pepper's Ferry Regional POTW outfall (NE59).	5A	Escherichia coli (E. coli)	2020	L	1.77
VAW-N22R_NEW06A00 / New River / New River mainstem from the Watershed Boundary at the Crab Creek confluence downstream to the Blacksburg /Christiansburg /VPI Authority intake (NE59).	5A	Escherichia coli (E. coli)	2020	L	1.73

New River

### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			20.97

Sources: Livestock (Grazing or Feeding Operations); Unspecified Domestic Waste; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N22R-06-BEN** **Unnamed Tributaries XEJ and XEH to Slate Branch**

**Cause Location:** Unnamed Tributary XEH from its mouth on Slate Branch upstream to its headwaters. And Unnamed Tributary XEJ from its mouth on Unnamed Tributary XEH upstream to its headwaters.

**Cause City/County:** Montgomery County

**Use(s):** Aquatic Life

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

**Cause Description:** The 2008 assessment finds the Aquatic Life Use via the General Standard (Benthic) is impaired for a total of 2.51 miles. Unnamed Tributary to Slate Branch- XEH for 1.68 miles and Unnamed Tributary XEJ to XEH for 0.83 miles. There are no additional data for 9-XEH000.75 and 9-XEJ000.10 beyond the 2008 Integrated Report (IR). 9-XEH000.01 is a new station assessed in 2016.

9-XEH000.75- (Downstream of Villages Development at NRV Mall) There are no additional data beyond the 2008 IR. Bio 'IM' Two 2006 Virginia Stream Condition Index (VSCI) surveys with an average score of 23.1. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream near the New River Valley Mall complex. A crayfish/macro invertebrate kill in January 2006 impacted the stream with the source occurring somewhere above this station. The most noticeable difference between this site and the reference station is the low abundance of organisms collected in the spring sample compared to the reference site. The abundance increased in the fall and is comparable to the reference site (Falling Branch).

9-XEH000.01 (Near Huckleberry Trail, Downstream of XEJ) - This stream was originally sampled at a location upstream (9-XEH000.75). The 2016 and 2018 data windows find four VSCI scores average 52.0 (2013-2014). The headwaters of Slate Branch are developed with residential and commercial properties as well as Rt. 460 and Peppers Ferry Road. Storm water runoff from these areas may have an impact on water quality at the sampling station which is about one mile downstream of the New River Valley Mall. Habitat scores at this station were relatively good considering the proximity to developed lands upstream and appear favorable for macroinvertebrates. Specific conductance was high at this site during all surveys. Periphyton and algal growth was always thick even during the fall surveys which may be an indication of excessive nutrients.

9-XEJ000.10- (North of NRV Mall) There are no additional data beyond the 2008 IR. Bio 'IM' Two 2006 VSCI surveys with an average score of 23.8. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream and north of the New River Valley Mall and above the Huckleberry Tail crossing. The main source of impact appears to be recent development and urban land use resulting in altered hydrology, excessive storm water runoff, sediment deposition, bank erosion, and riparian vegetation removal.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_XEH01A08 / Slate Branch, UT (XEH) / Unnamed tributary XEH from its mouth on Slate Branch upstream to its headwaters (NE59).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	1.69
VAW-N22R_XEJ01A08 / Unnamed Trib. XEJ to XEH / Unnamed Tributary XEJ from its mouth on Unnamed Tributary XEH upstream to its headwaters (NE59).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	0.84

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Appendix 4 - Fact Sheets for  
Impaired (Category 4 or 5) Waters in 2022

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Unnamed Tributaries XEJ and XEH to Slate Branch

**Aquatic Life**

Estuary      Reservoir      River  
(Sq. Miles)      (Acres)      (Miles)

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water  
Type:

2.53

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Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N23R-01-BAC** **Sinking Creek**

Cause Location: Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of Gravel Hill Branch.

Cause City/County: Craig County; Giles County

Use(s): Recreation

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

Cause Description: The initial 21.03 mile 2010 303(d) Listing of these waters is due to bacteria excursions of the WQS instantaneous criterion for escherichia coli (E.coli).

9-SNK012.06 (Rt. 42 Bridge)- The 2020 data window finds five E.coli excursions out of 24 samples. One exceedance of the E.Coli instantaneous criterion (235 cfu/100 ml) occurs within the 2016 and 2018 data windows at 600 cfu/100 ml (2013). The 2010 IR found three of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The exceedance range is from 250 to greater than 2000 cfu/100 ml.

9-SNK005.38 (Rt. 778 Bridge)- There are no new data beyond the 2014 data window. E.coli excursions of the 235 cfu/100 ml instantaneous criterion occur in four of 23 observations within the 2014 data window. Values in excess of the instantaneous criterion range from 275 to 600 cfu/100 ml. E.coli excursions of the instantaneous criterion occur in two of 11 observations within the 2010 and 2012 data windows. Values in excess of the instantaneous criterion are 480 and 600 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N23R_SNK01B10 / Sinking Creek / Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of an unnamed tributary near the Rt. 700 crossing (NE65).	5A	Escherichia coli (E. coli)	2010	L	3.03
VAW-N23R_SNK01C14 / Sinking Creek / Sinking Creek from just downstream of the Rt. 700 Bridge upstream to the junction of routes 601 & 604 - 6th Order Boundary (NE65)	5A	Escherichia coli (E. coli)	2010	L	2.75
VAW-N23R_SNK02A00 / Sinking Creek / Sinking Creek from the junction of routes 601 & 604 upstream to the mouth of Gravel Hill Branch- 6th Order Boundary (NE64).	5A	Escherichia coli (E. coli)	2010	L	15.26

Sinking Creek

**Recreation**

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			21.04

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N25R-01-BAC** Walker Creek and Town Creek

Cause Location: Walker Creek from the Route 52 crossing downstream to the confluence with an unnamed tributary just downstream of the Old Church Rd. (Rt. 713) crossing near White Gate and Town Creek from the headwaters downstream to the confluence with Crab Orchard Creek.

Cause City/County: Bland County; Giles County

Use(s): Recreation

Causes(s)/VA Category: Escherichia coli (E. coli)/4A; Escherichia coli (E. coli)/5A; Fecal Coliform/4A

Cause Description: The 2022 data window extends the Recreational Use impairment downstream due to data collected in 2020 at AWQM station located at 9-WLK033.90 had a geomean exceedance in any 90-day period. Stations 9-WLK060.32 had a 17% and 9-WLK044.06 has 16% exceedance of the previous E. coli water quality standard and station 9-TNC000.53 had a 66% exceedance of the previous E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N25R_TNC01A10 / Town Creek / From headwaters to Crab Orchard confluence at Town of Bland.	4A	Escherichia coli (E. coli)	2010	L	4.40
VAS-N25R_WLK04A00 / Walker Creek / Walker Creek mainstem from the Kimberling Creek confluence at the Giles/Bland County line, upstream to the Helveys Mill Creek confluence near Point Pleasant.	4A	Escherichia coli (E. coli)	2006	L	14.49
VAS-N25R_WLK04A12 / Walker Creek / Walker Creek mainstem from the Crab Orchard Creek confluence, upstream to the Rt. 52 crossing north of Walker Mountain.	4A	Escherichia coli (E. coli)	2006	L	8.46
VAS-N25R_WLK04B12 / Walker Creek / Walker Creek mainstem from the Helveys Mill Creek confluence, near Point Pleasant, upstream to the Crab Orchard Creek confluence, south of Bland.	4A	Escherichia coli (E. coli)	2006	L	10.60
VAW-N25R_WLK03B22 / Walker Creek / Walker Creek mainstem from the mouth of an unnamed tributary just downstream of the Old Church Rd. (Rt. 713) crossing near White Gate upstream to its confluence with Kimberling Creek (NE71).	5A	Escherichia coli (E. coli)	2022	L	6.49

Walker Creek and Town Creek

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			44.44

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N25R_WLK04A00 / Walker Creek / Walker Creek mainstem from the Kimberling Creek confluence at the Giles/Bland County line, upstream to the Helveys Mill Creek confluence near Point Pleasant.	4A	Fecal Coliform	2006	L	14.49
VAS-N25R_WLK04B12 / Walker Creek / Walker Creek mainstem from the Helveys Mill Creek confluence, near Point Pleasant, upstream to the Crab Orchard Creek confluence, south of Bland.	4A	Fecal Coliform	2006	L	10.60

Walker Creek and Town Creek

### Recreation

Fecal Coliform - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

25.09

Sources: Grazing in Riparian or Shoreline Zones; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N26R-01-BAC** **East Wilderness Creek and Nobusiness Creek**

**Cause Location:** This segment includes the mainstem of Nobusiness Creek from the Kimberling Creek confluence upstream 6.4 miles, East Wilderness Creek from the confluence with Wolfpen Branch upstream 3.2 miles.

**Cause City/County:** Bland County; Giles County

**Use(s):** Recreation

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

**Cause Description:** AWQM station 9-EWL000.06 had 18% of the samples exceed the previous E.coli water quality standard. Station 9-NBS000.70 had a 50% exceedance of the previous E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_EWL01A10 / East Wilderness Creek / A Wolfpen Branch tributary near Shady Grove Church from Wolf Creek Mountain to the north.	4A	Escherichia coli (E. coli)	2010	L	3.51
VAS-N26R_NBS01B04 / Nobusiness Creek / Nobusiness Creek from Kimberling Creek confluence to upstream of Panther Den Branch.	4A	Escherichia coli (E. coli)	2010	L	6.73

East Wilderness Creek and Nobusiness Creek

#### Recreation

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		10.24

Sources: Grazing in Riparian or Shoreline Zones; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N26R-01-BEN** Nobusiness Creek

Cause Location: From the Kimberling Creek confluence to upstream of Panther Den Branch.

Cause City/County: Bland County; Giles County

Use(s): Aquatic Life

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

Cause Description: Freshwater probabilistic monitoring station is impaired based on VSCI scores of 35 and 41 at 9-NBS003.08 in the 2019 monitoring season.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_NBS01B04 / Nobusiness Creek / Nobusiness Creek from Kimberling Creek confluence to upstream of Panther Den Branch.	5A	Benthic Macroinvertebrates Bioassessments	2022	L	6.73

Nobusiness Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		6.73

Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N26R-03-TEMP** Nobusiness Creek

Cause Location: This segment includes from the Kimberling Creek confluence to upstream of Panther Den Branch.

Cause City/County: Bland County; Giles County

Use(s): Aquatic Life

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

Cause Description: AWQM station 9-NBS000.70 had a 18% exceedance of the WQS for temperature in Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_NBS01B04 / Nobusiness Creek / Nobusiness Creek from Kimberling Creek confluence to upstream of Panther Den Branch.	5A	Temperature	2018	L	6.73

Nobusiness Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			6.73

Sources: Source Unknown



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N27R-01-BAC** Little Walker Creek

Cause Location: Little Walker Creek mainstem from its confluence with Walker Creek upstream to the mouth of Spur Branch.

Cause City/County: Pulaski County

Use(s): Recreation

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

Cause Description: The initial 2004 303(d) Listing of these waters is the result of fecal coliform (FC) bacteria exceedances (two exceeding from 18 observations) causing a 17.48 mile impairment. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LWK000.77 (Rt. 100 Bridge) - The 2020 data window finds 8 excursions out of 34 samples. E.coli exceed the 235 cfu/100 ml instantaneous criterion in eight of 34 and five of 22 samples within the 2018 and 2016 data windows, respectively. Exceedance range is 337 to greater than 2000 cfu/100 ml. The 2014 data window found three of 11 samples in exceedance of the instantaneous criterion. Values exceeding the criterion range from 275 to greater than 2000 cfu/100 ml. The 2008 through 2012 assessments find E.coli exceed the instantaneous criterion in five of 12 samples. Values exceeding the criterion range from 320 to 500 cfu/100 ml. Four of nine excursions are reported in 2006 with the range of exceedance from 350 to 500 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N27R_LWK01A00 / Little Walker Creek / Little Walker Creek mainstem from its confluence with Walker Creek upstream to the mouth of Spur Branch (NE72).	5A	Escherichia coli (E. coli)	2006	L	17.48

Little Walker Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			17.48

Sources: Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

**Virginia Department of Environmental Quality**  
**Appendix 4 - Fact Sheets for**  
**Impaired (Category 4 or 5) Waters in 2022**

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**New River Basin**

**Cause Group Code:** **N29R-01-PCB** New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.

**Cause Location:** The impairment begins at the I-77 bridge crossing the New River and extends downstream to the VA/WVA State Line and includes the tributaries Peak Creek and Reed Creek as described below.

**Cause City/County:** Giles County; Montgomery County; Pulaski County; Radford; Wythe County

**Use(s):** Fish Consumption; Wildlife

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

**Cause Description:** The VDH issued a fish consumption advisory 8/6/01 for PCBs for the lower portion of the New River (Rt. 114 Bridge downstream to the VA/WV Line - 52.0 mi) based on fish tissue collections from carp. Advisory extension to Claytor dam was issued 8/6/03 (11.47 mi) and further extended upstream on New River (13 mi) to the I-77 Bridge to include the lower portions of Peak Ck (4.02 mi), Reed Ck (16.35 mi) and Claytor Lake (4,287 ac) on 12/2/04. Stony Ck is a 2010 IR addition to the original 2002 303(d) Listing. An unnamed tributary (XAG) is an addition with the 2016 IR. The VDH level of concern is 50 parts per billion (ppb) in fish tissue.

Water column (WC) data from 2010-16 are listed below where excursions of the WQS criterion of 640 pg/L are contravened causing an Observed Effect (OE) or 303(d) Listing for 'PCBs in Water Column'. Collections are made in wet weather (WW) & dry weather (DW) conditions. A complete listing of fish tissue sites and data are available at <https://www.deq.virginia.gov>. VDH Advisory information is available at <https://www.vdh.virginia.gov>.

9-RDC009.00 (Near Rt. 619 at Grahams Forge) 2012 2 species: Carp 5 fish composite [62.6-69.4 cm] at 68.24 ppb. Smouth Bass 5 fish comp. [21.8-26.6] 3.04 ppb. 2014 2 sp: Carp 4 fish [67.9-76.5] 75.67 ppb & 5 fish [64.5-69.8] 85.77. Smouth Bass 5 fish [23.1-30.3] 2.46 ppb.

9-NEW107.51 (New R. near Allisonia) 2014 3 sp: Channel Catfish 3 fish comp. [61.2-69.5] 23.02 ppb; Smouth Bass 3 fish [40.1-49.6] 2.45 ppb; Carp 5 fish [56.5-70.4] 45.12 ppb & 5 fish [55.3-71.3] 8.79 ppb.

9-NEW098.32 (Rt. 672 Br, Lighthouse) 2012 4 sp: Channel Catfish 2 fish [70.5-71.5] 65.15 ppb. Lmouth Bass 5 fish [34.5-43.1] 7.76 ppb; Spotted Bass 5 fish [34.2-38.2] 11.00 ppb; Carp 3 fish [45.8-56.5] 6.04 ppb.

9-PKC009.53 (Upstream of XAG confluence) 2014 DW 197.02 pg/L- 'FS'; WW 799.75 pg/L- 'OE'

9-XAG000.01 (Mouth of X-Trib XAG near former Allied Site) 2014: DW 1,458.87 pg/L (7/31/2014); WW 1,754.02 pg/L (10/15/2014).

9-XFQ000.77 (Off Pierce Ave. near Calfee Park) 2014: DW 194.99 pg/L- 'FS'; WW 686.76 pg/L- 'OE'

9-PKC007.82 (Rt. 99 Br) 2012 3 sp: Stoneroller 15 fish [14.3-16.0] 33.18 ppb. Rock Bass 5 fish [16.7-18.6] 10.49 ppb; Redbreast Sunfish 5 fish [14.3-18.1] 3.01 ppb. 2013: DW 1,193.64 pg/L; WW 2,436.73 pg/L; 2014 1 sample 'FS' DW 389.51 pg/L; WW 1,252.42 pg/L

9-PKC004.65 (Rt. 100 Br) 2012 4 sp: Channel catfish 2 fish [63.1-69.0] 33.15 ppb. Lmouth Bass 5 fish [33.4-40.8] 2.68 ppb; Carp 2 sizes: 4 fish [54.6-62.0] 2.32 ppb & 4 fish [54.6-62.0] 9.16 ppb; Smouth Bass 3 fish [35.3-42.6] 6.90 ppb. 2014 WC PCB: 1,075.73 pg/L

9-NEW088.86 (New R. Claytor Lake at Dam) 2012 6 sp: Flathead Catfish 2 fish [83.0-87.5] 86.67 ppb. Carp 4 fish [56.5-67.0] 2.05 ppb; Channel Catfish 1 fish [58.8 cm] 7.43 ppb; Lmouth Bass 5 fish [32.5-34.5] 0.36 ppb; Smouth Bass 4 fish [27.0-32.2] 0.88 ppb; Spotted Bass 3 fish [28.8-36.8] 0.00 ppb.

9-NEW085.94 (New R. downstream of Claytor Dam) 2012 2 sp: Flathead Catfish 5 fish [57.5-70.3] 33.74 ppb. Carp 5 fish [62.6-81.0] 11.27 ppb.

9-NEW081.72 (Rt. 11 Br at Radford) 2010: DW 320 pg/L - 'FS'; WW 4,739- 'OE'. 2011 WW 243.70 pg/L - 'FS'. 2013 WW 647.88 pg/L- 'OE'

9-NEW079.19 (New R. below Radford Univ.) 2012 1 sp: Carp 2 fish [67.5-76.5] 53.28 ppb & 2 fish [76.8-83.6] 94.85 ppb.

9-NEW066.90 (New R. at Whitethorne) 2012 1 sp: Carp 1 fish [72.0 cm] 125.58 ppb.

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

9-LWK000.77 (Rt. 100 Br) 2011 WW 642.4 pg/L- 'OE'; 2014 DW 39.79 pg/L- 'FS'

9-WLK004.34 (Rt. 622 Br - Giles Co.) 2010 WW 1,706 pg/L & 2011 WW 648.8 pg/L. 2014 DW 60.12 pg/L 'FS'

9-NEW050.70 (New R. near Pembroke) 2012 3 sp: Carp 2 fish [67.5-71.6] 419.87 ppb; Channel Catfish 1 fish [58.1] 23.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_NEW01A02 / New River / Mainstem, north of Barren Springs, from Reed Creek confluence downstream to Big Reed Island Creek confluence.	4A	PCBs in Fish Tissue	2006	L	5.71
VAS-N11R_RDC01B00 / Reed Creek / Lower mainstem from Muskrat Branch confluence downstream to Rt. 52 bridge south of Max Meadows.	4A	PCBs in Fish Tissue	2016	L	5.85
VAS-N11R_RDC01B06 / Reed Creek / Lower mainstem from Rt. 52 bridge downstream to Miller Creek confluence south of Max Meadows.	4A	PCBs in Fish Tissue	2006	L	0.61
VAS-N11R_RDC02B02 / Reed Creek / Reed Creek from Miller Creek confluence at Max Meadows downstream to the Glade Creek confluence, near Boiling Spring.	4A	PCBs in Fish Tissue	2006	L	6.09
VAS-N11R_RDC03B04 / Reed Creek / From New River confluence near Lone Ash, upstream to the Glade Creek confluence near Boiling Spring.	4A	PCBs in Fish Tissue	2006	L	9.88
VAW-N16L_NEW01A02 / Claytor Lake (New River) / Claytor Lake from its impounding structure upstream to the Claytor State Park Cabins.	4A	PCBs in Fish Tissue	2006	L	1196.92
VAW-N16L_NEW01B14 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the former Burlington Industries water intake.	4A	PCBs in Fish Tissue	2006	L	602.03
VAW-N16L_NEW02A02 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the confluence of Peak Creek	4A	PCBs in Fish Tissue	2006	L	278.52
VAW-N16L_NEW03A02 / Claytor Lake (New River) / Claytor Lake from the confluence of Peak Creek upstream to the end of the WQS public water supply (PWS) designation. The segment ends five miles upstream of the former Burlington Industries intake.	4A	PCBs in Fish Tissue	2006	L	671.89
VAW-N16L_NEW04A02 / Claytor Lake (New River) / Claytor Lake from the end of the Burlington WQS public water supply (PWS) designation upstream to the Pulaski County PSA intake.	4A	PCBs in Fish Tissue	2006	L	447.80
VAW-N16L_NEW05A02 / Claytor Lake (New River) / Claytor Lake from the Pulaski County PSA intake upstream to the end of the WQS public water supply (PWS) designation. Five miles upstream from the Pulaski County PSA intake.	4A	PCBs in Fish Tissue	2006	L	660.27
VAW-N16L_NEW06A02 / Claytor Lake (New River) / Claytor Lake from the upstream end of the Pulaski County PSA WQS public water supply (PWS) designation upstream to the backwaters of Claytor Lake at Allisonia.	4A	PCBs in Fish Tissue	2006	L	152.14

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N16R_NEW01A00 / New River / This section of the New River extends from the mouth of Big Reed Island Creek downstream to the backwaters of Claytor Lake Class IV sec. 2c (NE43).	4A	PCBs in Fish Tissue	2006	L	0.61
VAW-N17L_PKC01A10 / Claytor Lake (Peak Creek) / Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation.	4A	PCBs in Fish Tissue	2002	L	216.87
VAW-N17L_PKC02A10 / Claytor Lake (Peak Creek) / Peak Creek from the end of the WQS public water supply (PWS) designation upstream to its backwaters.	4A	PCBs in Fish Tissue	2002	L	78.17
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	PCBs in Fish Tissue	2002	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	PCBs in Fish Tissue	2002	L	1.66
VAW-N17R_PKC03A00 / Peak Creek / This portion of Peak Creek extends from the mouth of Tract Fork to downstream of the Washington Ave. Bridge (~0.20 miles) (NE46).	4A	PCBs in Fish Tissue	2006	L	0.51
VAW-N18R_NEW01A00 / New River / New River mainstem from the Watershed boundary, Crab Creek mouth, upstream to approximately one mile downstream of the Rt. 11 Bridge; end of the WQS public water supply (PWS) section (NE57).	4A	PCBs in Fish Tissue	2006	L	3.33
VAW-N18R_NEW02A00 / New River / New River mainstem from approximately one mile downstream of the Rt. 11 Bridge upstream to the Radford City intake (NE57).	4A	PCBs in Fish Tissue	2006	L	3.73
VAW-N18R_NEW03A00 / New River / New River mainstem from the City of Radford water intake upstream to the confluence of Little River (NE57).	4A	PCBs in Fish Tissue	2006	L	2.15
VAW-N18R_NEW04A00 / New River / New River mainstem waters from the mouth of Little River upstream to Claytor Dam (NE57).	4A	PCBs in Fish Tissue	2006	L	0.60
VAW-N22R_NEW01A00 / New River / The New River mainstem from the confluence of Back Creek downstream to the Watershed Boundary at the Montgomery / Giles County Line (NE62).	4A	PCBs in Fish Tissue	2002	L	3.45
VAW-N22R_NEW02A00 / New River / New River mainstem from the Radford Army Arsenal Plant downstream intake near Whitethorne downstream to the confluence of Back Creek (NE62).	4A	PCBs in Fish Tissue	2002	L	2.87

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_NEW02B14 / New River / New River mainstem from the mouth of Toms Creek downstream to the RAAP downstream intake (NE62).	4A	PCBs in Fish Tissue	2002	L	0.51
VAW-N22R_NEW03A00 / New River / New River mainstem from the confluence of Stroubles Creek downstream to the mouth of Toms Creek (NE59).	4A	PCBs in Fish Tissue	2002	L	4.10
VAW-N22R_NEW04A00 / New River / New River mainstem from the Radford Army Arsenal Plant upstream intake/Pepper's Ferry Region POTW outfall downstream to the confluence of Stroubles Creek (NE59).	4A	PCBs in Fish Tissue	2002	L	2.33
VAW-N22R_NEW05A00 / New River / New River mainstem from the Blacksburg /Christiansburg /VPI Authority intake at Rt. 114 downstream to the Radford Army Arsenal Plant upstream intake / Pepper's Ferry Regional POTW outfall (NE59).	4A	PCBs in Fish Tissue	2002	L	1.77
VAW-N22R_NEW06A00 / New River / New River mainstem from the Watershed Boundary at the Crab Creek confluence downstream to the Blacksburg /Christiansburg /VPI Authority intake (NE59).	4A	PCBs in Fish Tissue	2006	L	1.73
VAW-N23R_NEW01A00 / New River / New River mainstem from the Giles/Montgomery County Line downstream to the confluence of Sinking Creek (NE63).	4A	PCBs in Fish Tissue	2002	L	5.48
VAW-N24R_NEW01A00 / New River / New River mainstem from the confluence of Stony Creek upstream to the mouth of Walker Creek on the New River (NE74).	4A	PCBs in Fish Tissue	2002	L	3.87
VAW-N24R_NEW02A00 / New River / New River mainstem waters from the mouth of Walker Creek upstream to the confluence of Little Stony Creek with the New River (NE74).	4A	PCBs in Fish Tissue	2002	L	2.00
VAW-N24R_NEW03A00 / New River / New River mainstem waters from the confluence of Little Stony Creek upstream to mouth of Sinking Creek on the New River. (NE74)	4A	PCBs in Fish Tissue	2002	L	3.87
VAW-N28R_SNC01A00 / Stony Creek / Stony Creek mainstem waters from its mouth on the New River upstream to Chemical Lime Company's outfall on Stony Creek (NE75).	4A	PCBs in Fish Tissue	2010	L	1.37
VAW-N28R_SNC02A00 / Stony Creek / Stony Creek mainstem waters from the Chemical Lime Company outfall on Stony Creek upstream to the Kimballton Branch confluence on Stony Creek (NE75).	4A	PCBs in Fish Tissue	2010	L	0.63
VAW-N28R_SNC03A00 / Stony Creek / Stony Creek mainstem waters from the confluence of Kimballton Branch upstream to the mouth of Laurel Branch (NE75).	4A	PCBs in Fish Tissue	2010	L	1.69

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## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N28R_SNC04A00 / Stony Creek / Stony Creek mainstem from the confluence of Laurel Branch upstream to the mouth of Pine Swamp Branch (NE75).	4A	PCBs in Fish Tissue	2010	L	4.70
VAW-N29R_NEW01A02 / New River / New River mainstem from the backwaters of Bluestone Reservoir, Route 460, to the confluence of Rich Creek.	4A	PCBs in Fish Tissue	2002	L	3.21
VAW-N29R_NEW02A02 / New River / New River mainstem from the mouth of Rich Creek upstream to the confluence of Wolf Creek.	4A	PCBs in Fish Tissue	2002	L	3.55
VAW-N29R_NEW03A02 / New River / New River mainstem from the confluence of Wolf Creek upstream to the Celanese Acetate Plant outfalls.	4A	PCBs in Fish Tissue	2002	L	2.80
VAW-N29R_NEW04A02 / New River / New River mainstem from the Celanese Acetate Plant outfalls upstream to the watershed boundary at the confluence of Stony Creek.	4A	PCBs in Fish Tissue	2002	L	5.78
VAW-N35R_NEW01A00 / New River / New River mainstem from the Rt. 460 Bridge at Glen Lyn downstream to the Virginia/West Virginia State Line.	4A	PCBs in Fish Tissue	2002	L	6.92

New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.

### Fish Consumption

PCBs in Fish Tissue - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	4304.61	105.19

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Polychlorinated biphenyls (PCBs)	2016	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Polychlorinated biphenyls (PCBs)	2016	L	1.66
VAW-N17R_XAG01A02 / Peak Creek, UT (XAG) / An unnamed tributary to Peak Creek not within WQS designated public water supply (PWS) sections. The unnamed tributary mouth is located @37°02'47" / 80°46'03" (NE46).	4A	Polychlorinated biphenyls (PCBs)	2016	L	3.20

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N25R_WLK01A00 / Walker Creek / Walker Creek mainstem waters from its mouth on the New River upstream to the Cecil Branch confluence at the Rt. 100 crossing (NE73).	4A	Polychlorinated biphenyls (PCBs)	2014	L	8.40

New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.

### Fish Consumption

Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		15.09

New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.

### Wildlife

Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		6.69

Sources: Atmospheric Deposition; Contaminated Sediments; Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial Point Source Discharge; Industrial/Commercial Site Stormwater Discharge (Permitted); Municipal Point Source Discharges; Non-Point Source; Source Unknown; Unspecified Urban Stormwater



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N30R-01-BAC** **Wolf Creek and Tributaries**

**Cause Location:** This segment extends from the Burkes Garden Creek confluence downstream between the confluence with Clear Fork and Wilderness Creek and Little Creek, a Wolf Creek tributary upstream to the Tazewell County Sportsmen Club impoundment.

**Cause City/County:** Bland County; Tazewell County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station located at 9-WFC039.16 had a 91% exceedance of the previous E.coli water quality standard. Station 9-WFC050.16 had a 78% exceedance, and station 9-WFC024.57 had a 17% exceedance. Station 9-LTL001.22 had a 50% exceedance of the previous E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_LTL02A10 / Little Creek / A Wolf Creek tributary upstream to Tazewell County Sportsmen Club impoundment.	4A	Escherichia coli (E. coli)	2014	L	1.89
VAS-N30R_WFC01A00 / Wolf Creek / Mainstem from unnamed tributary downstream of Carter Branch at Grapefield downstream to the Hunting Camp Creek confluence north of Bastian.	4A	Escherichia coli (E. coli)	2006	L	9.11
VAS-N30R_WFC01A04 / Wolf Creek / From Burkes Garden Creek confluence downstream to unnamed tributary downstream of Carter Branch at Grapefield.	4A	Escherichia coli (E. coli)	2006	L	7.98
VAS-N30R_WFC01A06 / Wolf Creek, headwaters / Upper segment of Wolf Creek inside Burkes Garden from Snyder Branch confluence downstream to Little Creek confluence (37.1484/-81.2483).	4A	Escherichia coli (E. coli)	2006	L	3.81
VAS-N30R_WFC01B06 / Wolf Creek / Mainstem from the Hunting Camp Creek confluence downstream to Wilderness Creek confluence at South Gap.	4A	Escherichia coli (E. coli)	2006	L	6.40
VAS-N32R_WFC01A10 / Wolf Creek / Wolf Creek between confluence with Clear Fork at Rocky Gap and Wilderness Creek at South Gap, parallel to I-77 at Rocky Gap.	4A	Escherichia coli (E. coli)	2010	L	1.89

### Wolf Creek and Tributaries

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			31.08



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## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_WFC01A00 / Wolf Creek / Mainstem from unnamed tributary downstream of Carter Branch at Grapefield downstream to the Hunting Camp Creek confluence north of Bastian.	4A	Fecal Coliform	2002	L	9.11

#### Wolf Creek and Tributaries

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			9.11

Sources: Grazing in Riparian or Shoreline Zones; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

Cause Group Code: **N30R-02-BEN** Unnamed Tributary to Station Spring Creek

Cause Location: West of Little Town in Burkes Garden.

Cause City/County: Tazewell County

Use(s): Aquatic Life

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

Cause Description: Probabilistic monitoring station, 9-XLX000.45 had a VSCI score of 50 during the 2020 monitoring season.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_XLX01A22 / Unnamed Tributary to Staton Spring Creek / West of Little Town in Burkes Garden.	5A	Benthic Macroinvertebrates Bioassessments	2022	L	5.49

Unnamed Tributary to Station Spring Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		5.49

Sources: Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N31R-01-BAC** **Hunting Camp Creek**

**Cause Location:** This segment extends from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50.

**Cause City/County:** Bland County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station located at 9-HCC001.40 had a 18% exceedance and station 9-HCC005.57 had 2 or more STV hits in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N31R_HCC01A00 / Hunting Camp Creek / Segment is from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50.	4A	Escherichia coli (E. coli)	2006	L	8.94

Hunting Camp Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.94

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N31R-01-BEN** **Hunting Camp Creek**

Cause Location: From the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment.

Cause City/County: Bland County

Use(s): Aquatic Life

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

Cause Description: Station 9-HCC000.29 is impaired based on VSCI scores of 77 and 49 in 2020. In addition, station 9-HCC007.83 is impaired based on VSCI scores of 39 and 65 in 2019.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N31R_HCC01A00 / Hunting Camp Creek / Segment is from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50.	4A	Benthic Macroinvertebrates Bioassessments	2022	L	8.94

Hunting Camp Creek

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		8.94

Sources: Agriculture; Erosion and Sedimentation; Livestock (Grazing or Feeding Operations)

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N32R-01-BAC** **Wolf Creek**

**Cause Location:** Wolf Creek mainstem waters from the mouth of Clear Fork Creek downstream to the confluence of Wolf Creek with the New River.

**Cause City/County:** Bland County; Giles County

**Use(s):** Recreation

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

**Cause Description:** The originally listed 2004 portion of the overall extent described above began near the intersection of Routes 61 and 724 at the confluence of an unnamed tributary extending downstream to the mouth of Wolf Creek on the New River. A total of 5.60 miles. A bacteria TMDL was completed in 2015: E.coli TMDL Development for Wolf Creek and Tributaries in Giles, Bland, and Tazewell Counties, VA [Approved: EPA 7/27/16, SWCB 6/27/16; TMDL ID: 66175].

The 2006 Integrated Report (IR) extends the 2004 303(d) Listed fecal coliform (FC) bacteria impairment 16.71 miles upstream. The total bacteria impairment is 22.31 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-WFC017.31 (Bridge #6065 on Rt. 644 off Rt. 61) Six out of 36 E.Coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2016 data window. Five exceeding values are found from 24 E.coli observations in 2014. The range of exceedance is from 250 to greater than 2000 cfu/100 ml. Two of 15 E.coli samples exceed the 235 cfu/100 ml criterion within the 2012 data window. The 2010 and 2008 assessments find two of 12 E.coli samples exceed the 235 cfu/100 ml criterion. Two of nine E.coli samples exceed the criterion in 2006.

9-WFC011.05- (Rt. 676 Bridge at Boxely) The 2016 data window finds two of 36 E.Coli samples exceed the 235 cfu/100 ml instantaneous criterion (400 cfu/100ml and >2000 cfu/100 ml). One exceeding value of greater than 2000 cfu/100 ml exceeds the 235 cfu/100 ml instantaneous criterion from 12 observations within the 2014 data window. There were no additional data within the 2012 data window. Both the 2008 and 2010 assessments find E.coli bacteria exceed the instantaneous criterion in two of 10 samples.

9-WFC005.61 (Rt. 673 Bridge at Penvir) Four of 35 E.Coli samples exceed the instantaneous criterion of 235 cfu/100 ml in the 2016 data window. Excursions range from 250 to 625 cfu/100 ml. The 2014 data window found two of 12 samples in exceedance of the 235 cfu/100 ml instantaneous criterion. There were no additional data within the 2012 data window. E.coli exceedances are found in five of 12 samples in 2008 and 2010. Values in excess of the 235 cfu/100 ml criterion range from 250 to greater than 2000. E.coli exceedances are found in three of nine samples and the same range of exceedance as in 2008.

9-WFC000.20 (Rt. 61 Bridge) The 2022 data window applies new E.coli criterion and finds no Statistical Threshold Value exceedances but insufficient data to analyze geomean from 34 samples. E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in five of 48 samples within the 2018 data window. The 2016 data window finds three of 48 samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions range from 275 to 425 cfu/100 ml. Two of 24 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in 2014. The 2012 assessment finds one of 14 E.coli samples exceeding the instantaneous criterion of 235 cfu/100 ml at 1200. E.coli exceeds the instantaneous criterion in three of 12 samples in 2008 and 2010. Each excursion of the criterion is 520, 900 and 1200 cfu/100 ml. E.coli excursions in 2006 are two of nine samples. The 2004 IR finds FC exceedances of the 400 cfu/100 ml instantaneous criterion in two of 18 samples resulting in a 2004 impairment listing that remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N32R_WFC01A00 / Wolf Creek / Wolf Creek mainstem from its mouth on the New River upstream to the former Narrows STP outfall on Wolf Creek. Mill Creek confluence (NE81)	4A	Escherichia coli (E. coli)	2006	L	0.40

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N32R_WFC02A00 / Wolf Creek / Wolf Creek mainstem from the mouth of Mill Creek former Narrows STP outfall upstream to an unnamed bridge crossing Wolf Creek (NE81).	4A	Escherichia coli (E. coli)	2006	L	5.22
VAW-N32R_WFC03A00 / Wolf Creek / Wolf Creek mainstem waters from an unnamed bridge upstream to Bland/Giles County Line (NE81).	4A	Escherichia coli (E. coli)	2006	L	8.80
VAW-N32R_WFC04A00 / Wolf Creek / Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek (NE81).	4A	Escherichia coli (E. coli)	2006	L	7.91

Wolf Creek

### Recreation

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		22.33

Escherichia coli (E. coli) - Total Impaired Size by Water Type:

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N32R-01-TEMP**    **Wolf Creek**

**Cause Location:** Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek.

**Cause City/County:** Bland County

**Use(s):** Aquatic Life

**Causes(s)/VA Category:** Temperature/5C

**Cause Description:** The Aquatic Life Use impairment for temperature returns with the 2014 Integrated Report (IR).

9-WFC017.31 (Bridge #6065 on Rt. 644 off Rt. 61) No additional data collected since the 2016 data window. The 2016 data window finds four of 36 exceedances of the 21°C Class V - Stockable Trout Waters criterion. One exceedance occurs at 22.9°C (7/23/13) in addition to the exceedances within the 2014 data window. Three of 24 temperature measurements exceed the WQS Class V - Stockable Trout water criterion of 21°C in 2014. Values in excess of the criterion are 24.7°C (7/12/11), 23.0°C (6/25/12) and 21.2°C (8/21/12). These waters were delisted with the 2012 IR as temperature excursions of the WQS Class V criterion of 21°C are zero of 15 measurements or an exceedance rate of 0.0% at station 9-WFC017.31. Originally listed in 2008 these waters should have been listed in 2006 with two of nine exceeding values and a TMDL Schedule of 2018. Two of 12 temperature measurements exceed the Class V stockable trout water 21°C criterion within the 2008 and 2010 data windows. Exceeding values are 21.1°C on 8/4/2003 and 21.9°C on 8/30/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N32R_WFC04A00 / Wolf Creek / Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek (NE81).	5C	Temperature	2014	L	7.91

Wolf Creek

#### Aquatic Life

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			7.91

Sources: Natural Sources; Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N33R-01-BAC** **Dry Fork**

**Cause Location:** This segment includes Dry Fork south of East River Mountain at the West Virginia state line, downstream to North Gap (excluding the headwaters).

**Cause City/County:** Bland County

**Use(s):** Recreation

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

**Cause Description:** The AWQM station located at 9-DYF000.07 had 17% exceedance of the previous e.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N33R_DYF01A12 / Dry Fork / Dry Fork south of East River Mountain, the WV state line, downstream to North Gap, excluding headwaters.	5A	Escherichia coli (E. coli)	2012	L	5.24

Dry Fork

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.24

Sources: Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations)



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N34R-01-BAC** **Rich Creek**

**Cause Location:** The impaired waters begin just downstream of Peterstown, West Virginia at the mouth of Brush Creek on Rich Creek and extends to the Rich Creek confluence on the New River (Peterstown, WVA Quad).

**Cause City/County:** Giles County

**Use(s):** Recreation

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

**Cause Description:** The 2002 2.85 mile fecal coliform (FC) bacteria impairment remains. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-RHC000.08 (Rt. 806 Bridge) - The 2022 data window's E.coli exceedances occur in one of 12 observations of the statistical threshold value of 410 cfu/100ml and not enough data to analyze the geomean (Insufficient Data). 2020 data windows escherichia coli exceedances occur in 12 of 24 observations. 2018 data windows escherichia coli exceedances occur in 10 of 24 observations. 2014 and 2016 data windows escherichia coli exceedances occur in 14 of 35 observations. Exceedances range from 275 to 1575 cfu/100 ml. E.coli exceed the 235 cfu/100 ml instantaneous criterion in 14 of 32 samples within the 2012 data window. Exceedances range from 350 to 1010 cfu/100 ml. The 2010 assessment finds E.coli exceed the instantaneous criterion in 10 of 21 samples. Exceedances range from 400 to 1010 cfu/100 ml. E.coli exceed the instantaneous criterion in three of nine samples in 2008 ranging from 400 to 900 cfu/100 ml. Data within the 2006 data window exceed the former FC 400 cfu/100 ml instantaneous criterion in five of nine samples with an exceedance range of 1000 to 2800 cfu/100 ml. The 2004 IR reports FC exceeds the former instantaneous criterion in 10 of 18 samples. Exceeding values range from 500 to 2800 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N34R_RHC01A00 / Rich Creek / Rich Creek mainstem from its mouth on the New River upstream to the Rt. 219 crossing at the Virginia/West Virginia State Line.	5A	Escherichia coli (E. coli)	2008	L	2.85

Rich Creek

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.85

Sources: Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N35R-01-BAC** **Adair Run**

**Cause Location:** The Adair Run impairment begins at the Virginia / West Virginia State Line and extends downstream to the Adair Run confluence with the New River.

**Cause City/County:** Giles County

**Use(s):** Recreation

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

**Cause Description:** The 2004 303(d) Listed 0.37 mile bacteria impaired waters find the Recreational Use is not supported. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-ADR000.13 (Rt. 648 Bridge) The 2022 assessment finds E.coli exceed the 410 cfu/100 ml WQS statistical threshold value in three of 12 samples and not enough data to analyze the geomean-Insufficient Information. The 2020 assessment finds E.coli exceed the 235 cfu/100 ml WQS instantaneous criterion in five of 12 samples. The 2018 assessment finds E.coli exceed the 235 cfu/100 ml WQS instantaneous criterion in two of 12 samples. The 2016 assessment finds E.coli exceed the 235 cfu/100 ml WQS instantaneous criterion in two of 12 samples. The 2014 assessment finds E.coli exceed the 235 cfu/100 ml WQS instantaneous criterion in five of 32 samples. Values in excess of the criterion range from 325 to 1650 cfu/100 ml. There are no additional data within the 2012 data window. The 2010 assessment finds escherichia coli exceed the 235 cfu/100 ml WQS instantaneous criterion in three of 20 samples. Values in excess of the criterion are 450, 1050 and 1200 cfu/100 ml. The 2004 IR reports fecal coliform exceeds the former 400 cfu/100 ml instantaneous criterion in six of 26 observations. Exceeding values range from 500 to 4200 cfu/100 ml. FC exceeds the former instantaneous criterion in six of 20 observations within the 2006 data window. Exceeding values range from 500 to 4200 cfu/100 ml. FC data within the 2008 data window find four of 14 samples exceeding the former instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N35R_ADR01A00 / Adair Run / Adair Run mainstem from its mouth on the New River upstream to the Virginia/West Virginia State Line.	5A	Escherichia coli (E. coli)	2010	L	0.37

Adair Run

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			0.37

Sources: Unspecified Domestic Waste; Wildlife Other than Waterfowl

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N36R-01-BAC** **Bluestone River and Big Branch**

**Cause Location:** This segment extends from Route 460 bridge downstream to the West Virginia political boundary and includes Big Branch from the headwaters downstream to the confluence with the Bluestone River. It also includes Mud Fork, a Bluestone River tributary at Falls Mills (does not include privately owned reservoir).

**Cause City/County:** Tazewell County

**Use(s):** Recreation

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

**Cause Description:** Station 9-BST066.80 had 2 or more STV hits in the same 90-day period with less than 10 samples. The AWQM station located at 9-BST062.47 had a 77% exceedance of the previous E.coli water quality standard, station 9-BST073.32 had a 23% exceedance. Stations 9-BIG000.12 had a 88% exceedance of the previous bacteria water quality standard and 9-MFK000.11 had 2 or more STV exceedances in the same 90-day period with less than 10 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence.	4A	Fecal Coliform	2002	L	1.73
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards.	4A	Fecal Coliform	2002	L	0.62

### Bluestone River and Big Branch

#### Recreation

Estuary (Sq. Miles)    Reservoir (Acres)    River (Miles)  
 Fecal Coliform - Total Impaired Size by Water Type: 2.35

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills.	4A	Escherichia coli (E. coli)	2004	L	6.24
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence.	4A	Escherichia coli (E. coli)	2006	L	1.73
VAS-N36R_BST05A02 / Bluestone River / From Town of Bluefield PWS intake, upstream to Rt. 460 bridge near Shannandale.	4A	Escherichia coli (E. coli)	2006	L	5.05
VAS-N36R_MFK01A06 / Mud Fork / Bluestone tributary at Falls Mills, north of Stony Ridge upstream to SR 608 bridge. Does not include privately owned reservoir.	4A	Escherichia coli (E. coli)	2018	L	2.98
VAS-N37R_BIG01A10 / Big Branch / Bluestone tributary south of Abbs Valley Ridge, parallel Rt. 698.	4A	Escherichia coli (E. coli)	2010	L	3.33

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for

### Impaired (Category 4 or 5) Waters in 2022

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards.	4A	Escherichia coli (E. coli)	2006	L	0.62

Bluestone River and Big Branch

#### Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			19.95

Sources: Rural (Residential Areas); Sewage Discharges in Unsewered Areas; Silviculture Activities

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N36R-01-BEN** **Bluestone River**

**Cause Location:** This segment extends from the Wright's Valley Creek confluence downstream to the West Virginia political boundary.

**Cause City/County:** Tazewell County

**Use(s):** Aquatic Life

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

**Cause Description:** VSCI scores at 9-BST066.80 were 31 and 26 in 2008. Recent benthic sampling at 9-BST069.82 resulted in VSCI scores of 56.2 and 58.2 in 2017. In addition, station 9-BST069.21 had VSCI scores of 53.8 and 49.7 in 2016.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills.	4A	Benthic Macroinvertebrates Bioassessments	2002	L	6.24
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards.	4A	Benthic Macroinvertebrates Bioassessments	2002	L	0.62

Bluestone River

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		6.86

Sources: Crop Production (Crop Land or Dry Land); Illegal Dumps or Other Inappropriate Waste Disposal; Silviculture Activities; Unrestricted Cattle Access

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N36R-01-CDANE** **Bluestone River**

**Cause Location:** This segment includes the mainstem from the confluence with Big Branch downstream to West Virginia political boundary; may be found on the Bramwell quad sheet.

**Cause City/County:** Tazewell County

**Use(s):** Fish Consumption

**Causes(s)/VA Category:** Chlordane/5A

**Cause Description:** The fish tissue and sediment sampling stations at 9-BST065.01 (9-BST21.26) had total chlordane levels detected in the sediment in 2002 above DEQ's screening value.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards.	5A	Chlordane	2004	L	0.62

Bluestone River

<b>Fish Consumption</b>	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			0.62

Sources: Illegal Dumps or Other Inappropriate Waste Disposal; Source Unknown

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

### New River Basin

**Cause Group Code:** **N36R-01-PCB** **Bluestone River and Tributaries**

**Cause Location:** This segment begins at the Route 460 bridge downstream to the West Virginia political boundary. It also includes a segment of Beaverpond Creek that flows from West Virginia into Virginia, sometimes under city buildings and streets and into the Bluestone River and Brush Fork from the west Virginia state line to the confluence with the Bluestone River in Falls Mills. Whitley Creek, a Bluestone River tributary in Bluefield VA, mostly under streets and buildings. Wrights Valley Creek from the St. Clair community downstream to the confluence with the Bluestone River.

**Cause City/County:** Tazewell County

**Use(s):** Aquatic Life; Fish Consumption; Wildlife

**Causes(s)/VA Category:** PCBs in Fish Tissue/5A; Polychlorinated biphenyls (PCBs)/5A

**Cause Description:** The Virginia Department of Health issued a fish consumption advisory on the Bluestone River August 6, 2001. The advisory limits the consumption of white sucker, rock bass, and largemouth bass to no more than two meals per month and recommends avoiding the consumption of carp.

Water column PCB sampling in 2017 and 2018 shows exceedances of the water quality criteria at 9-BFK000.02, 9-BPB000.02, 9-BPB000.44, 9-BPB001.51, 9-BPB003.17, 9-BST069.12, 9-BST065.01, 9-WHI000.03, and 9-WVC000.05.

Water column PCB samples were collected on Brush Fork at 9-BFK000.02 and 9-BFK003.33 in 2017 and 2018. The three samples collected at 9-BFK000.02 exceeded the water quality criteria for PCBs in surface waters. Water column PCB samples were also collected on Beaverpond Creek at 9-BPB000.02, 9-BPB000.44, and 9-BPB001.51 in 2017 and 2018. All samples collected exceeded the water quality criteria for PCBs in surface waters.

Fish tissue was collected from the mainstem Bluestone River in late summer 2014. Station 9-BST065.01 had composite samples of rock bass, white sucker and carp exceed the tissue value for PCB. Station 9-BST069.09 had composite samples of rock bass and white sucker exceed the tissue value for PCBs. At station 9-BST073.32, two composite samples of rock bass and white sucker were collected, none exceeded the tissue value for PCBs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BFK01A06 / Brush Fork / Bluestone tributary from WV state line downstream to Bluestone River at Falls Mills parallel to Rt. 643.	5A	Polychlorinated biphenyls (PCBs)	2010	L	1.48
VAS-N36R_BPB01A06 / Beaverpond Creek / Bluestone tributary from WV state line, sometimes under town buildings and streets in Bluefield, downstream to Bluestone confluence.	5A	Polychlorinated biphenyls (PCBs)	2012	L	2.99
VAS-N36R_WHI01A08 / Whitley Creek / Bluestone tributary in Bluefield, VA, mostly under streets and buildings.	5A	Polychlorinated biphenyls (PCBs)	2022	L	0.71
VAS-N36R_WVC01A06 / Wrights Valley Creek / From St Clair community downstream to confluence with the Bluestone River.	5A	Polychlorinated biphenyls (PCBs)	2022	L	2.30
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards.	5A	Polychlorinated biphenyls (PCBs)	2022	H	0.62

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

Bluestone River and Tributaries

### Aquatic Life

Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		8.1

Bluestone River and Tributaries

### Fish Consumption

Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		7.48

Bluestone River and Tributaries

### Wildlife

Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		8.1

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills.	5A	PCBs in Fish Tissue	2002	H	6.24
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence.	5A	PCBs in Fish Tissue	2002	H	1.73
VAS-N36R_BST05A02 / Bluestone River / From Town of Bluefield PWS intake, upstream to Rt. 460 bridge near Shannandale.	5A	PCBs in Fish Tissue	2002	H	5.05
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards.	5A	PCBs in Fish Tissue	2002	H	0.62

Bluestone River and Tributaries

### Fish Consumption

PCBs in Fish Tissue - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		13.64

Sources: Crop Production (Crop Land or Dry Land); Illegal Dumps or Other Inappropriate Waste Disposal; Silviculture Activities; Source Unknown; Unrestricted Cattle Access



# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N37R-01-BAC** **Laurel Fork**

Cause Location: Laurel Fork mainstem from the Curran Branch confluence at Boissevain to the WV state line east of Pocahontas.

Cause City/County: Tazewell County

Use(s): Recreation

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

Cause Description: The AWQM station located at 9-LRR001.39 had a 83% exceedance of the previous E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR01A94 / Laurel Fork / Laurel Fork mainstem from the Curran Branch confluence at Boissevain, to WV state line east of Pocahontas.	4A	Escherichia coli (E. coli)	2006	L	4.7

Laurel Fork

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.7

Sources: Sanitary Sewer Overflows (Collection System Failures); Septage Disposal

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N37R-01-BEN** **Laurel Fork**

Cause Location: Laurel Fork mainstem from the Curran Branch confluence at Boissevain to the WV state line east of Pocahontas.

Cause City/County: Tazewell County

Use(s): Aquatic Life

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

Cause Description: The biological station at 9-LRR001.39 found that the segment was impaired based on the VSCI.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR01A94 / Laurel Fork / Laurel Fork mainstem from the Curran Branch confluence at Boissevain, to WV state line east of Pocahontas.	4A	Benthic Macroinvertebrates Bioassessments	1996	L	4.7

Laurel Fork

#### Aquatic Life

Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:

Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
		4.7

Sources: Impacts from Abandoned Mine Lands (Inactive); Silviculture Activities

# Virginia Department of Environmental Quality

## Appendix 4 - Fact Sheets for Impaired (Category 4 or 5) Waters in 2022

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### New River Basin

**Cause Group Code:** **N37R-02-BEN** **Laurel Fork**

Cause Location: Upstream of the Curran Branch confluence at Boissevain to headwaters on Yokel Ridge (parallel to the West Virginia state line).

Cause City/County: Tazewell County

Use(s): Aquatic Life

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

Cause Description: Probabilistic monitoring station at 9-LRR012.30 was impaired based on VSCI scores of 54.7 and 56.3 in 2016, 51.31 and 50.38 in 2018, and 40.3 in 2020.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR02A02 / Laurel Fork / Upstream of the Curran Branch confluence at Boissevain to headwaters on Yokel Ridge (parallel WV state line).	4A	Benthic Macroinvertebrates Bioassessments	2014	L	8.3

Laurel Fork

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.3

Sources: Impacts from Abandoned Mine Lands (Inactive); Silviculture Activities