Roanoke and Yadkin River Basins

Cause Group Code: L01R-01-BAC Roanoke River, South Fork and Goose Creek

Cause Location: South Fork Roanoke River mainstem from the mouth of Elliott Creek extending downstream to the confluence of the North and South Forks of the Roanoke River. And Goose Creek from the Lick Fork mouth downstream to its confluence with the South Fork Roanoke River.

Cause City/County: Floyd County; Montgomery County

Use(s): Recreation

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

Cause Description: The 2004 assessment initially 303(d) Listed the 12.61 mile fecal coliform (FC) bacteria impairment. Two stations on the S.F. Roanoke River, 4ARSF011.73 (located on the Rt. 637 Bridge) and 4ARSF002.20 (above the old Green Hill industrial site near Rt. 11/460), find the Recreational Use is not supported. The 2012 assessment extends the bacteria impairment upstream 6.27 miles based on data from station 4ARSF014.02. The 2012 assessment also incorporates the Goose Creek 2012 bacteria impairment. The South Fork Roanoke River nested extension of 6.43 miles and Goose Creek nested addition of 2.30 miles brings the total impaired miles to 19.61.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/06 [Fed ID 24538] with SWCB approval on 6/27/06. Assessment Units below are nested within the approved Roanoke River TMDL Watershed. Allocation scenario development applies to the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2016 total bacteria impaired length on the Roanoke River is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the South Fork Roanoke River or Goose Creek bacteria impairments but are nested within the overall Roanoke River Bacteria TMDL Watershed and allocations.

South Fork Roanoke River: 4ARSF014.02 (Persimmon Road Bridge) The 2018 Integrated Report found four of 12 E.Coli samples in excess of the 235 cfu/100 ml instantaneous criterion.

4ARSF011.73 (Rt. 637 Bridge) The 2004 Integrated Report (IR) reveals three excursions from 12 fecal coliform (FC) observations in excess of the former instantaneous criterion of 400 cfu/100 ml.

4ARSF002.20- (Private Bridge above Green Hill) 2004 IR - Three of 18 FC observations exceed the instantaneous criterion in 2004.

4ARSF000.88- (Rt. 11 Bridge - below Green Hill) The 2016 and 2018 Integrated Reports (IRs) find two of 12 E.coli collections exceed the WQS instantaneous criterion of 235 cfu/100 ml.

Goose Creek: 4AGOS000.71 (Along Rt. 653) The 2018 Integrated Report shows one E.Coli sample (292 cfu/100 ml) out of 12 exceeds the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_GOS01A02 / Goose Creek / Goose Creek from its confluence with the South Fork Roanoke R. upstream to the mouth of Lick Fork (RU01).	4A	Escherichia coli (E. coli)	2012	L	2.30
VAW-L01R_RSF01A00 / S.F. Roanoke River / South Fork Roanoke River mainstem extends from the PWS WQS upstream ending on downstream to the South Fork's confluence with the North Fork Roanoke River (RU05).	4A	Escherichia coli (E. coli)	2016	L	3.27

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_RSF02A00 / S.F. Roanoke River / South Fork Roanoke River mainstem segment extends from Shawsville STP downstream to the WQS designated PWS upstream ending (RU05).	4A	Escherichia coli (E. coli)	2016	L	3.00
VAW-L01R_RSF03A00 / S.F. Roanoke River / South Fork Roanoke River from the mouth of Elliott Creek downstream to the Shawsville STP (RU05).	4A	Escherichia coli (E. coli)	2012	L	6.43
VAW-L01R_RSF04A02 / S.F. Roanoke River / South Fork Roanoke R. from the confluence of Elliot Creek upstream to the mouth of Bottom Creek (RU03).	4A	Escherichia coli (E. coli)	2012	L	4.61

Roanoke River, South Fork and Goose Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			19.61

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

Roanoke and Yadkin River Basins

Cause Group Code: L01R-01-BEN Smith Creek, UT (XMV)

Cause Location: Smith Creek, UT (XMV) from its mouth on Smith Creek upstream to its headwaters.

Cause City/County: Montgomery County

Use(s): Aquatic Life

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

Cause Description: The 2010 original assessment finds the WQS General Standard contravened with benthic community impairment continuing through the 2012 and 2014 Cycles. There are no additional data beyond the 2010 Integrated Report (IR). The Roanoke River General Standard - Benthic (Sediment) TMDL Study received U.S. EPA approval on 5/10/06 [Fed. ID 33861] and SWCB approval on 9/07/06. The Smith Creek unnamed tributary (UT) is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed.

4AXMV000.63 (Off Rt. 615 along Chaucer Lane; a 2007 Probabilistic site) - Two Virginia Stream Condition Index (VSCI) surveys scoring spring 46.6 and fall 62.5 for an average score of 54.6 were recorded during the 2010 data window. Biologist notes that taxa richness scores were higher in the spring sample; however, the abundance of pollution-tolerant organisms was high as well resulting in a lower VSCI score. Stream habitat scores were affected by the lack of instream cover for macroinvertebrates and fish, lack of bank vegetation and lack of riparian vegetative buffer. The station is on a first order headwater stream. There are ponds upstream of the station and immediate land use is residences with mowed lawns adjacent to the stream.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_XMV01A10 / Smith Creek, UT (XMV) / Smith Creek, UT (XMV) from its mouth on Smith Creek upstream to its headwaters (RU04).	4A	Benthic Macroinvertebrates Bioassessments	2010	L	1.61

Smith Creek, UT (XMV)

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			1.61

Sources: Loss of Riparian Habitat

Roanoke and Yadkin River Basins

Cause Group Code: L01R-01-TEMP Roanoke River, South Fork

Cause Location: South Fork Roanoke River mainstem from the mouth of Bottom Creek extending downstream to the confluence of the South and North Forks of the Roanoke River.

Cause City/County: Montgomery County

Use(s): Aquatic Life

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

Cause Description: USGS Gaging Station 02053800 (S.F. Roanoke R. near Shawsville)- 2010 assessment reveals two of 12 temperature measurements exceed the Class V 21C criterion. Measurements in excess of the criterion occur on 8/07/2007 at 24.5C and 8/29/2007 at 22C. These data result in the return of 6.43 miles to the temperature 303(d) List that were partially de-listed with the 2008 IR. The temperature impairment is extended upstream for 4.61 miles based on 2012 Cycle data for 4ARSF014.02.

4ARSF014.02 (Persimmon Road Bridge) One excursion of the Class V 21C criterion occurs within the 2018, 2020, and 2022 data window at 23C (7/20/2016).

4ARSF011.73- (Rt. 637 Bridge) Observations within the 2010 data window find no excursions of the respective criterion for temperature. The 2008 IR finds only one exceedance of the Class V 21C criterion from 12 observations. 2008 data resulted in the partial de-list of temperature for 6.43 miles.

4ARSF002.20- (above the old Green Hill industrial site near Rt. 11/460) The 2004 IR records two of 18 temperature measurements exceed the WQS criterion. Each 2004 exceedance is 22C occurring on 7/22/99 and 6/06/01. The 6.27 mile waters remain impaired (Category 5C) for temperature.

4ARSF000.88- (Rt. 11 Bridge - below Green Hill) The 2022 data window finds 3/12 excursions at 21C at (7/10/19), 23C (8/7/19), and 23C (9/12/19).

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_RSF01A00 / S.F. Roanoke River / South Fork Roanoke River mainstem extends from the PWS WQS upstream ending on downstream to the South Fork's confluence with the North Fork Roanoke River (RU05).	5C	Temperature	2004	L	3.27
VAW-L01R_RSF02A00 / S.F. Roanoke River / South Fork Roanoke River mainstem segment extends from Shawsville STP downstream to the WQS designated PWS upstream ending (RU05).	5C	Temperature	2004	L	3.00
VAW-L01R_RSF03A00 / S.F. Roanoke River / South Fork Roanoke River from the mouth of Elliott Creek downstream to the Shawsville STP (RU05).	5C	Temperature	2010	L	6.43
VAW-L01R_RSF04A02 / S.F. Roanoke River / South Fork Roanoke R. from the confluence of Elliot Creek upstream to the mouth of Bottom Creek (RU03).	5C	Temperature	2012	L	4.61

Roanoke River, South Fork

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			17.31

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Roanoke and Yadkin River Basins

Cause Group Code: L01R-02-TEMP Bottom Creek

Cause Location: Bottom Creek mainstem from its mouth on the South Fork Roanoke River on upstream to the Rt. 669 crossing.

Cause City/County: Montgomery County

Use(s): Aquatic Life

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

Cause Description: 4ABTM000.04 (Rt. 637 Bridge)- Two 2015 temperature measurements within the 2018 IR data window do not exceed the Class VI criterion, but are insufficient to delist.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_BTM01A06 / Bottom Creek / Bottom Creek mainstem from its mouth on the South Fork Roanoke River on upstream to the downstream WQS Tier III ending at the southern most Nature Conservancy property boundary (RU02).	5C	Temperature	2008	L	2.33
VAW-L01R_BTM02A06 / Bottom Creek / Bottom Creek mainstem from the southern most Nature Conservancy property boundary upstream to the Rt. 669 crossing. WQS designated Tier III waters (RU02).	5C	Temperature	2008	L	2.18

Bottom Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			4.51

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Roanoke and Yadkin River Basins

Cause Group Code: L01R-03-TEMP Goose Creek

Cause Location: Goose Creek from its confluence with the South Fork Roanoke R. upstream to the mouth of Lick Fork (RU01).

Cause City/County: Floyd County; Montgomery County

Use(s): Aquatic Life

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

Cause Description: The 2020 data window records the initial Aquatic Life Use 303(d) listing of Goose Creek based on Temperature data collected in 2015 that exceeds the Class V Stockable Waters criterion of 21 degrees Celsius.

4AGOS000.71 (Along Rt. 653)- Two 2015 Temp measurements exceed the Class V 21 C criterion at 23 C (6/22/15) and 23 C (9/2/15). The 2022 data window adds one observation of 22 (7/13/21).

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L01R_GOS01A02 / Goose Creek / Goose Creek from its confluence with the South Fork Roanoke R. upstream to the mouth of Lick Fork (RU01).	5C	Temperature	2020	L	2.3

Goose Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			2.3

Sources: Natural Sources

Roanoke and Yadkin River Basins

Cause Group Code: L02R-01-BAC Roanoke River, North Fork

Cause Location: North Fork Roanoke River from the mouth of Dry Run on the North Fork Roanoke River downstream to an unnamed tributary in the community of Ironto.

Cause City/County: Montgomery County

Use(s): Recreation

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

Cause Description: Station 4ARNF013.66 located at Rt. 603 Bridge near Ellett (incorrectly coded 4ARNF015.09 in previous cycles), originally listed for fecal coliform (FC) bacteria in 2002 is now listed for escherichia coli (E.coli). The bacteria impairment is extended upstream with the 2012 assessment by 9.16 miles.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 9/07/2006. The Roanoke Bacteria TMDL watershed encompasses the North Fork Roanoke River. This recreational impairment is nested within the overall Roanoke River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake.

4ARNF016.80 (Rt. 712 Bridge) 2018 data window recorded nine of 24 Escherichia coli (E.Coli) measurements exceeding the 235 cfu/100 ml instantaneous criterion. E.coli exceed the 235 cfu/100 ml instantaneous criterion in six of 24 observations within the 2016 data window.

4ARNF013.66 (Rt. 603 Bridge) The 2024 data window finds three E.coli excursions from 12 total samples. .

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_RNF03A02 / N.F. Roanoke River / North Fork Roanoke River mainstem from a right bank entry of an unnamed tributary in the community of Ironto upstream to the mouth of Wilson Cr (RU07).	4A	Escherichia coli (E. coli)	2006	L	6.94
VAW-L02R_RNF04A02 / N.F. Roanoke River / North Fork Roanoke River mainstem from the mouth of Wilson Creek upstream to the mouth of Dry Run (RU06).	4A	Escherichia coli (E. coli)	2012	L	9.16

Roanoke River, North Fork

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			16.1

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

Roanoke and Yadkin River Basins

Cause Group Code: L02R-01-PH Bradshaw Creek

Cause Location: Bradshaw Creek from its mouth on the N.F. Roanoke River upstream to its headwaters.

Cause City/County: Montgomery County; Roanoke County

Use(s): Aquatic Life

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

Cause Description: 4ABDC002.36 (Rt. 629 Bridge)- The aquatic life use is impaired based on 2010 pH data. Four of 16 pH observations exceed the minimum pH criterion of 6.5.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_BDC01A04 / Bradshaw Creek / Bradshaw Creek from the upstream end of the WQS PWS designation downstream to its mouth on the North Fork Roanoke River (RU08).	5C	pH	2010	L	0.85
VAW-L02R_BDC02A04 / Bradshaw Creek / Bradshaw Creek mainstem from near its headwaters downstream to the upstream ending of the WQS PWS designation (RU08).	5C	pH	2010	L	9.52

Bradshaw Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			10.37

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Roanoke and Yadkin River Basins

Cause Group Code: L02R-02-BAC Wilson Creek and Wilson Creek, UT

Cause Location: Wilson Creek to include a northern unnamed tributary from its headwaters downstream to the Wilson Creek confluence on the North Fork Roanoke River.

Note: The northern arm extends upstream from mainstem Wilson Creek to near the Rt. 114 & Rt. 460 intersection behind a commercially developed area near New River Valley Mall.

Cause City/County: Montgomery County

Use(s): Recreation

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

Cause Description: The Wilson Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/02/2006 [Fed ID 23395] and SWCB approved 6/27/2007. Wilson Creek is originally 303(d) listed for bacteria (fecal coliform) with the 2002 assessment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 6.99 mile bacteria impairment remains.

4AWLN000.40 - E.coli data within the 2010 data window find 11 of 23 samples exceed the WQS 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_WLN01A00 / Wilson Creek / Wilson Creek mainstem segment extends from WLN02A00 downstream to the Wilson Creek mouth on the North Fork Roanoke River (RU07).	4A	Escherichia coli (E. coli)	2004	L	2.77
VAW-L02R_WLN02A00 / Wilson Creek / This northern arm extends upstream from mainstem Wilson Creek to the Rt. 114 & Rt. 460 intersection behind major developed area near New River Valley Mall (RU07).	4A	Escherichia coli (E. coli)	2004	L	1.74
VAW-L02R_WLN03A00 / Wilson Creek / Wilson Creek mainstem segment extends from near Rt. 460/I-81 intersection downstream to intersection of segments WLN02A with WLN01A (RU07).	4A	Escherichia coli (E. coli)	2004	L	2.51

Wilson Creek and Wilson Creek, UT

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.02

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

Roanoke and Yadkin River Basins

Cause Group Code: L02R-03-BAC Bradshaw Creek

Cause Location: Bradshaw Creek from its mouth on the N.F. Roanoke River upstream to its headwaters.

Cause City/County: Montgomery County; Roanoke County

Use(s): Recreation

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

Cause Description: The 2010 assessment finds Bradshaw Creek does not support the Recreational Use. Escherichia coli (E.coli) exceed the WQS instantaneous criterion. The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 9/07/2006. Bradshaw Creek is nested within the Roanoke River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ABDC002.36 (Rt. 629 Bridge)- The 2010 assessment finds E.coli exceeds the 235 cfu/100 ml instantaneous criterion in two of 12 observations.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L02R_BDC01A04 / Bradshaw Creek / Bradshaw Creek from the upstream end of the WQS PWS designation downstream to its mouth on the North Fork Roanoke River (RU08).	4A	Escherichia coli (E. coli)	2010	L	0.85
VAW-L02R_BDC02A04 / Bradshaw Creek / Bradshaw Creek mainstem from near its headwaters downstream to the upstream ending of the WQS PWS designation (RU08).	4A	Escherichia coli (E. coli)	2010	L	9.52

Bradshaw Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			10.37

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

Roanoke and Yadkin River Basins

Cause Group Code: L04R-01-BAC Roanoke River and Smith Mountain Lake

Cause Location: The upstream limit is at the confluence of the North and South Forks of the Roanoke River downstream to 3/4 miles upstream of the Hardy Ford Bridge.

Cause City/County: Bedford County; Franklin County; Montgomery County; Roanoke; Roanoke County; Salem

Use(s): Recreation

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

Cause Description: The Roanoke R. Bacteria TMDL is EPA approved 8/2/06 [Fed ID 24538] with SWCB approval 9/7/06.1996 & 2002 fecal coliform (FC) samples are the basis for the original bacteria listing. The 2010 total bacteria impaired length: 29.56 mi & 349.99 ac in Smith Mountain Lake. Previous geomean calculations are not valid in 2010 in light of the 4 samples/mo. requirement of the new WQS criterion. Improvement is noted in 4AROA202.20, 4AROA199.20, 4AROA196.05 and 4AROA192.94 within 2016 data window. E.coli maxima are greatly reduced as compared to previous assessments. 4AROA192.94 and 4AROA192.55 have exceedance rates <10.5%. Waters in Smith Mountain Lake from ~3/4 mi upstream of Hardy Road Bridge downstream to the confluence of Falling Creek were partially delisted in 2014 (184.70 ac). 4AROA202.20 also has an exceedance rate <10.5% but not proposed for delisting in 2014 or 2016 due to 4AROA199.20 & 4AROA196.05 continuing to exceed at rates >10.5 %. Upstream tributaries continue to have exceedances >10.5%.

4AROA227.42 (Rt. 773 Br, Lafayette) 1999 Fed Consent Decree Attachment B station for FC. This station was not listed in 2002 as exceedances of the former 1000 cfu/100 ml instantaneous criterion were at 5% and not delisted due to upcoming change of the FC WQS from 1000 to 400 cfu/100 ml. The 2004 cycle found 11.8% exceedance rate and the initial 303(d) Listing for FC. During the 2006 data window, 8/49 FC samples exceeded. The 2020 and 2018 data windows found excursion rates of 10/36 and 8/36, respectively. The 2022 and 2024 data windows confirm continued impairment with new E.coli criterion applied. The new E.coli criterion and E.coli impairment due to geomean exceedance in any 90-day period during the 2024 data window. Impairment during the 2022 data window is due to two or more Statistical Threshold Value (STV) excursions observed in the same 90-day period with fewer than 10 samples. 4AROA224.54 (Rt. 639 Br at Riverside) finds no new bacteria data since the 2008 data window where excursions occurred in 2/11 samples.
4AROA224.38 (Wayside Park) The 2024 data window finds E.coli impaired due to geomean exceedance in any 90-day period.
4AROA220.94 (Rt. 639 Br S. of Wabun) 2012, 2010, and 2008 data windows carry the bacteria impairment with no additional data (exceedance rate: 2/12). 4AROA215.13 (Mill Lane Br.) No new data since the 2008 data window where excursions were 1/12. 4AROA212.17 (Rt. 11 Br below Eaton, Inc.) There is no new bacteria data collected since the 2010 data window where excursions were 4/23. 4AROA211.96 (Salem Park) The 2024 data window finds 3/10 exceed the STV and 1/1 exceeds geomean. 4AROA205.73 (Franklin Rd Br) No additional E.coli data beyond the 2008 data window where excursions were observed in 8/32 and there were 3/5 geomean exceedances. 4AROA202.20 (13th St Br abv STP) The 2024 IR results find two of 22 E.coli observations exceed the 410 cfu/100 ml STV criterion. E.coli geomeans exceed the 126 cfu/100 ml criterion in three of three observations. 4AROA199.20 (Blue Ridge Parkway Br - Niagara) The 2020 data window finds 8/32 exceedances. 4AROA196.05 (McVeigh Ford) The 2016 data window finds 10/42 exceedances of applicable bacteria criteria. 4AROA192.94 (Upstream of Hardy Ford) The 2016 data window finds 4/43 exceedances. 4AROA192.55 (Hardy Bridge) 2016 and 2014 data windows find 1/24 and 1/36 excursions, respectively.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L03R_ROA01A00 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth upstream to the Rt. 419 Bridge (RU09).	4A	Escherichia coli (E. coli)	2006	L	1.21

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Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L03R_ROA02A00 / Roanoke River / Roanoke River mainstem from the Rt. 419 Bridge upstream to the City of Salem downtown intake on the Roanoke River (RU09).	4A	Escherichia coli (E. coli)	2006	L	2.68
VAW-L03R_ROA03A00 / Roanoke River / Roanoke River mainstem from the Salem City WTP downtown intake upstream to the Big Bear Branch mouth on the Roanoke River (RU09).	4A	Escherichia coli (E. coli)	2006	L	3.42
VAW-L03R_ROA04A00 / Roanoke River / Roanoke River mainstem from the Big Bear Rock Branch mouth upstream to end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns (RU09).	4A	Escherichia coli (E. coli)	2006	L	5.58
VAW-L03R_ROA05A00 / Roanoke River / Roanoke River mainstem from the end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns upstream to the Roanoke County Spring Hollow Reservoir intake (RU09).	4A	Escherichia coli (E. coli)	2006	L	1.44
VAW-L03R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Roanoke County Spring Hollow Reservoir intake upstream to the Montgomery/Roanoke County Line (RU09).	4A	Escherichia coli (E. coli)	2006	L	0.95
VAW-L03R_ROA07A12 / Roanoke River / Roanoke River mainstem from the Montgomery/Roanoke County Line upstream to the confluence of the North & South Forks of the Roanoke River (RU09).	4A	Escherichia coli (E. coli)	2022	L	1.27
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	4A	Escherichia coli (E. coli)	2006	L	3.17
VAW-L04R_ROA02A00 / Roanoke River Niagara / These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i) (RU14).	4A	Escherichia coli (E. coli)	2006	L	0.77
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	Escherichia coli (E. coli)	2006	L	0.87
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	Escherichia coli (E. coli)	2006	L	0.20

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Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	Escherichia coli (E. coli)	2006	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	Escherichia coli (E. coli)	2006	L	4.35
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	4A	Escherichia coli (E. coli)	2006	L	3.33
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	4A	Escherichia coli (E. coli)	2006	L	2.23
VAW-L07L_ROA05A14 / Smith Mtn. Lake (Roanoke River) / Roanoke River from the Back Creek confluence downstream to ~ 3/4 miles upstream of the Hardy Road Bridge.	4A	Escherichia coli (E. coli)	2006	L	165.30

Roanoke River and Smith Mountain Lake

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		165.3	31.87

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Sanitary Sewer Overflows (Collection System Failures); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L04R-01-BEN Roanoke River

Cause Location: Roanoke River mainstem from the Murray Run confluence downstream to the backwaters of the Niagara impoundment.

Note: Impounded waters of Niagara Dam are not included with this impairment.

Cause City/County: Roanoke; Roanoke County

Use(s): Aquatic Life

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

Cause Description: The Roanoke River General Standard - Benthic (Sediment) TMDL is U.S. EPA approved 5/10/06 [Fed. ID 33861] and SWCB approved 9/7/06. Formerly VAW-L04R-01. The 2010 303(d)/305(b) Water Quality Integrated Report (IR) extended the benthic impairment upstream 3.87 miles from the mouth of Mason Creek (Cr.). upstream to the City of Salem downtown intake on the Roanoke River (R.). These mainstem waters were delisted in the 2014 IR along with an additional 5.54 miles downstream to the Murray Run confluence on Roanoke R. A total of 9.41 miles were delisted based on stations 4AROA212.17 (Rt. 11 Bridge below Eaton, Inc.), 4AROA206.27 (Wasena Park), and probabilistic site 4AROA210.56 (Behind Veterans Admin Hospital-Salem). Category 4A waters equal 5.81 miles (impounded waters of Niagara Dam in). The benthic impairment was extended downstream in the 2008 IR 3.16 miles from Niagara Dam downstream to the mouth of Back Cr. (station 4AROA198.08). This portion of the Roanoke R. is assigned Category 5A as the TMDL Study did not address these waters. Cause Group Code L04R-03-BEN was assigned to this portion in the 2012 IR.

4AROA202.20 (13th Street Bridge above STP) Bio 'IM' from six VSCI scores (2020-22). Biologist notes: Six benthic evaluations conducted between 2020 and 2022 indicated a median score of 56, most recent of 54 and range of 39-66. Periodic scores below 50 (39 in Spring 2020 and 42 in Spring 2021) are a clear indication of a degraded benthic assemblage. The spring samples were dominated by pollution tolerant filterer and collector taxa such as blackfly (Simulium) and midge (Chironomilesdae) larvae. Sensitive EPT taxa richness was low in spring samples. Previous assessments observed that the benthic community declined overall from Fall 2003 to the Fall 2005 survey and that it improved during Spring and Fall 2004 before declining in the fall of 2005. The variability of the benthic macroinvertebrate community between spring and fall seasons and the consistently low spring scores indicates stress to the community. DEQ biologists conducted a relative bed stability (LRBS) survey in 2021 that resulted in a value of 0.27. Regional biologist plans to return to this station in 2023. Additional data are needed to confirm the biological condition of this station. Significant benthic algae growth was observed during 2021 and 2022 sampling events.

A TMDL study was completed to determine the stressors to the benthic community and the reductions in pollutants necessary to restore the community. Sediment was determined to be the stressor. The TMDL Implementation Plan process concluded in 2016 and identified the steps necessary to reduce sedimentation impacts and restore water quality. Additional historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA02A00 / Roanoke River Niagara / These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i) (RU14).	4A	Benthic Macroinvertebrates Bioassessments	2024	L	0.77
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	0.87

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	0.20
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	4.35

Roanoke River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.59

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial Point Source Discharge; Industrial/Commercial Site Stormwater Discharge (Permitted); Municipal (Urbanized High Density Area); Municipal Point Source Discharges; Post-development Erosion and Sedimentation; Residential Districts; Sediment Resuspension (Clean Sediment); Sediment Resuspension (Contaminated Sediment); Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-01-HG Roanoke River

Cause Location: Roanoke River from the confluence of Mason Creek downstream to the confluence of Tinker Creek.

Cause City/County: Roanoke; Roanoke County; Salem

Use(s): Fish Consumption

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

Cause Description: This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) and Virginia Department of Health (VDH) level of concern of 0.5 ppm are found in fish tissue causing impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. Please visit http://www.deq.virginia.gov for more information about mercury contamination and http://www.vdh.virginia.gov/environmental-epidemiology/public-health-toxicology/fish-consumption-advisories/ for VDH Advisories or Bans.

4AROA206.80 (Roanoke R. @Wasena Park near Rt. 11 Bridge)- Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.3 ppm is found in two species from 2006 collections; smallmouth bass (1 fish 37.0 cm) at 0.37 ppm and (4 fish composite 21.8-27.5 cm) at 0.537 ppm and rock bass (6 fish composite 17.4-19.4 cm) at 0.446 ppm.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	5A	Mercury in Fish Tissue	2010	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	5A	Mercury in Fish Tissue	2010	L	4.35
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	5A	Mercury in Fish Tissue	2010	L	3.33
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	5A	Mercury in Fish Tissue	2010	L	2.23

Roanoke River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			10.31

Sources: Landfills; Source Unknown; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-02-BAC Mud Lick Creek

Cause Location: Mud Lick Creek mainstem from its confluence on the Roanoke River upstream to its headwaters.

Cause City/County: Roanoke; Roanoke County; Salem

Use(s): Recreation

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

Cause Description: The Mud Lick Creek 2006 initially 303(d) Listed bacterial impairment extends for 7.61 miles.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2014 Roanoke River total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Mud Lick Creek bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMDL000.34- (Downstream of Brambleton Ave. behind Shell) 2010 IR. E.coli exceeds the WQS instantaneous criterion of 235 cfu/100 ml in four of 12 observations in both the 2010 and 2008 assessments.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MDL01A06 / Mud Lick Creek / Mud Lick Creek from its confluence on the Roanoke River upstream to its headwaters (RU14).	4A	Escherichia coli (E. coli)	2006	L	7.61

Mud Lick Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.61

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Municipal (Urbanized High Density Area); Sanitary Sewer Overflows (Collection System Failures); Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L04R-02-BEN Mud Lick Creek

Cause Location: Mud Lick Creek mainstem from its confluence on the Roanoke River upstream to its headwaters.

Cause City/County: Roanoke; Roanoke County; Salem

Use(s): Aquatic Life

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

Cause Description: Virginia Stream Condition Index (VSCI) survey results established the initial Mud Lick Creek Aquatic Life Use impairment (7.61 miles) during the 2008 303(d)/305(b) Water Quality Integrated Report (IR) period. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approved on 5/10/06 [Fed. ID 33861] and SWCB approved 9/07/06. The Mud Lick Creek benthic macroinvertebrate community impairment is nested within the Roanoke River Benthic (Sediment) TMDL watershed. The TMDL Implementation Plan process concluded in 2016 and identified the steps necessary to reduce sedimentation impacts and restore water quality.

4AMDL003.34- (Downstream of Brambleton Ave. behind Shell) Two VSCI surveys of 22.2 (spring 2006) and 35.1 (fall 2005) are considered impaired. Biologist notes: Habitat data show stream impacts related to sedimentation, extensive bank erosion, and riparian zone disturbance. Low scores were observed for most of the eight individual metrics in the VSCI indicating a benthic community that is tolerant of pollution. Urban land cover with high levels of impervious surface causes an altered hydrology and resulting bank erosion. Sedimentation impacts may also be increased as land in the watershed is quickly being developed.

4AMDL002.93- (Near Foot Bridge Lower Station) The 2020 data window reports impairment from four VSCI scores (2017-18). The spring season VSCI scores average 32 and fall VSCI scores average 35. Biologist notes: This station was sampled to collect data after a stream restoration project in 2008 as well as to validate citizen (Save-Our-Streams) monitoring. Roanoke County implemented a stream restoration project along the Garst Mill Park Greenway in 2008. Habitat data indicated stream impacts related to sedimentation, extensive bank erosion, and riparian zone disturbance. Most of the individual metrics in the VSCI show a degraded benthic community that is tolerant of pollution. Suburban and commercial land cover with high levels of impervious surface causes an altered hydrology resulting in flashy flows during storm events and severe bank erosion. Sediment from upstream sources possibly impacts this section of Mud Lick Creek. After the stream bank enhancement project was completed in 2008, scores for bank stability and bank vegetation improved in some sections of the creek.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MDL01A06 / Mud Lick Creek / Mud Lick Creek from its confluence on the Roanoke River upstream to its headwaters (RU14).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	7.61

Mud Lick Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.61

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers

Roanoke and Yadkin River Basins

Cause Group Code: L04R-03-BEN Roanoke River

Cause Location: Roanoke River mainstem from Niagara Dam downstream to the mouth of Back Creek.

Cause City/County: Bedford County; Roanoke County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use (benthic macroinvertebrate community) impairment is extended downstream with the 2008 303(d)/305(b) Water Quality Integrated Report (IR) for 3.16 miles from Niagara Dam downstream to the mouth of Back Creek. The 2008 and 2010 IRs assigned a Cause Group Code of L04R-01-BEN incorporating the entire 14.45 mile benthic macroinvertebrate community impairment. This 3.14 mile portion is considered Category 5A as the TMDL Study (The Roanoke River General Standard - Benthic (Sediment) TMDL is U.S. EPA approved 5/10/06 [Fed. ID 33861] and SWCB approved 9/7/06) did not address these waters. Cause Group Code L04R-03-BEN was assigned with the 2012 IR and does not include the impounded waters of Niagara Dam.

4AROA198.08- (Explore Park near the Shenandoah Pavilion) - The 2024 data window contains eight Virginia Stream Condition Index (VSCI) scores (2017-22). Biologist notes: Spring VSCI average is 44 and fall average is 54. Previous surveys yielded benthic communities dominated by net-spinning caddisfly larvae (Hydropsychidae). Spring 2017-2022 surveys were dominated by tolerant Diptera taxa from the midge family (Chironomidae). These organisms typically dominate streams that have high amounts of organic matter. All surveys had low taxa richness and diversity as well as low numbers of pollution-sensitive taxa such as mayflies, stoneflies, and caddisflies. Instream habitat, riparian zone vegetation, and bank stability were all suboptimal/optimal providing conditions favorable for a healthy community. DEQ conducted a relative bed stability (LRBS) survey in 2021 that resulted in a value of 0.575.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	5A	Benthic Macroinvertebrates Bioassessments	2008	H	3.17

Roanoke River

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

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Industrial Point Source Discharge; Industrial/Commercial Site Stormwater Discharge (Permitted); Municipal (Urbanized High Density Area); Municipal Point Source Discharges; Post-development Erosion and Sedimentation; Residential Districts; Sediment Resuspension (Clean Sediment); Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-04-BAC Ore Branch

Cause Location: Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (Garden City and Roanoke Quads).

Cause City/County: Roanoke; Roanoke County

Use(s): Recreation

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

Cause Description: The Ore Branch Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/02/2006 [Fed ID 24539] and SWCB approved 6/27/2007. The impairment was initially Listed in 1996 for fecal coliform bacteria.

4AORE000.19- (Sherwood Avenue - Roanoke City) The 2012 data window finds six of the remaining 12 samples exceed the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ORE01A00 / Ore Branch / Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (RU14).	4A	Escherichia coli (E. coli)	2006	L	2.56

Ore Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.56

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Municipal (Urbanized High Density Area); Sanitary Sewer Overflows (Collection System Failures); Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L04R-04-BEN Ore Branch

Cause Location: Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (Garden City and Roanoke Quads).

Cause City/County: Roanoke; Roanoke County

Use(s): Aquatic Life

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

Cause Description: The Roanoke River General Standard - Benthic (Sediment) TMDL Study is US EPA approved 5/10/06 (FED ID: 33861) and State Water Control Board (SWCB) approved 9/07/06. Ore Branch is nested within the Roanoke River General Standard- Benthic (Sediment) TMDL watershed.

4AORE000.01 (Mouth of Ore Branch; 2011 Probabilistic site) - Two Virginia Stream Condition Index (VSCI) surveys found benthic macroinvertebrate community impairment with scores: spring 22.5 and fall 24.1. Biologist notes: The benthic community is severely impacted. Both samples were dominated by midges (Chironomidae) which can tolerate sediment deposition, nutrient enrichment and/or other impacts. VDEQ uses a target of 200 (minimum) organisms per sample in its benthic lab procedures. The entire sample was processed resulting in only 142 (spring) and 78 (fall) organisms collected.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ORE01A00 / Ore Branch / Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (RU14).	4A	Benthic Macroinvertebrates Bioassessments	2014	L	2.56

Ore Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.56

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-05-BAC Mason Creek

Cause Location: Mason Creek mainstem from the Mason Cove Community, river mile 7.61, extending downstream to the mouth of Mason Creek on the Roanoke River (Salem Quad).

Cause City/County: Roanoke County; Salem

Use(s): Recreation

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

Cause Description: The Mason Creek Recreational Use remains impaired for 7.72 miles from the original 2002 303(d) Listing based on 1997 special study (SS 975101) data and fecal coliform exceedances.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/06 [Fed ID 24538] with SWCB approval on 6/27/07. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Mason Creek bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment.

4AMSN000.67- (Boulevard) The 2018 data window finds E.Coli exceeds 235 cfu/100ml instantaneous criterion in four of 12 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MSN01A00 / Mason Creek / Mason Creek mainstem from its confluence with the Roanoke River upstream to near the Mason Cove Community (RU10).	4A	Escherichia coli (E. coli)	2006	L	7.72

Mason Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.72

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Municipal (Urbanized High Density Area); Sanitary Sewer Overflows (Collection System Failures); Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L04R-05-BEN Mason Creek

Cause Location: Mason Creek mainstem from the Mason Cove Community, river mile 7.61, extending downstream to the mouth of Mason Creek on the Roanoke River (Salem Quad).

Cause City/County: Roanoke County; Salem

Use(s): Aquatic Life

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

Cause Description: The Mason Creek benthic macroinvertebrate community exhibits impaired conditions for the 7.72 mile 2008 303(d) Impaired Waters listing. The Roanoke River General Standard - Benthic (Sediment) TMDL Study received U.S. EPA approval on 5/10/06 [Fed. ID 33861] and SWCB approval on 9/07/06. Mason Creek is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed.

4AMSN003.05- (Off Kessler Mill Rd.) There are no additional data beyond the 2008 IR. Three Virginia Stream Condition Index (VSCI) surveys (2004 - 2005) were assessed as impaired due to an average score of 55.4. Biologist notes: The average VSCI score indicates the benthic community is impaired. Most of the habitat scores are in the optimal and sub-optimal range indicating that potential water quality problems are related to water chemistry rather than habitat limitations.

4AMSN000.53- (Arnold Burton Technical School Campus) Two VSCI surveys (2013) scored 45.5 (spring sample) and 43.4 (fall sample). Biologist notes: The benthic community is dominated by pollution tolerant organisms, particularly Chironomidae (midges) in the spring and Hydropsychidae (net-spinning caddisfly) in the fall. The watershed is in an urban setting with industrial, commercial and residential land uses. Most of the habitat scores are in the optimal and sub-optimal range indicating that potential water quality problems are related to water chemistry rather than habitat limitations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MSN01A00 / Mason Creek / Mason Creek mainstem from its confluence with the Roanoke River upstream to near the Mason Cove Community (RU10).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	7.72

Mason Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.72

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Residential Districts; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-06-BAC Peters Creek

Cause Location: Peters Creek mainstem from its headwaters (Salem Quad) extending downstream to the Peters Creek confluence on the Roanoke River (Roanoke Quad).

Cause City/County: Roanoke; Roanoke County

Use(s): Recreation

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

Cause Description: The 2002 303(d) Listed 7.20 mile Peters Creek Recreational impairment remains.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke River bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles on the Roanoke and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Peters Creek bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4APEE001.04- (Shenandoah Avenue Bridge) 2012 assessment which reported escherichia coli (E.coli) exceedances of the 235 cfu/100 ml instantaneous criterion in two of 14 samples at 280 and 420 cfu/10 ml. The original 2002 bacteria 303(d) Listing is based on a Special Study (SS 975101) conducted in 1997 where fecal coliform data resulted in geometric mean exceedances of the former WQS criterion and frequency of samples derived from the special study data.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_PEE01A02 / Peters Creek / Peters Creek mainstem from its confluence with the Roanoke River upstream to the Melrose Avenue Bridge (Rt. 11/460) (RU14).	4A	Escherichia coli (E. coli)	2006	L	2.59
VAW-L04R_PEE02A02 / Peters Creek / Peters Creek mainstem from the Melrose Avenue Bridge (Rt. 11/460) upstream to its headwaters (RU14).	4A	Escherichia coli (E. coli)	2006	L	4.62

Peters Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.21

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

Roanoke and Yadkin River Basins

Cause Group Code: L04R-06-BEN Barnhardt Creek

Cause Location: Barnhardt Creek from its confluence on the Roanoke River upstream to its headwaters.

Cause City/County: Roanoke; Roanoke County; Salem

Use(s): Aquatic Life

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

Cause Description: The Roanoke River General Standard - Benthic (Sediment) TMDL Study received U.S. EPA approval on 5/10/06 [Fed. ID 33861] and SWCB approval on 9/07/06. Barnhardt Creek is nested within the Roanoke River General Standard- Benthic (Sediment) TMDL watershed.

4ABHT001.90 (Downstream of Rt. 419, Roanoke City) Three Virginia Stream Condition Index (VSCI) surveys (2009-10) with an average score of 36.8 indicate an impaired benthic macroinvertebrate community dominated by pollution-tolerant taxa. Biologist notes: Although several habitat scores were sub-optimal, the habitat in this reach should support more mayfly and stonefly taxa which were observed in extremely low numbers during the surveys. Suburban land cover with a major road (Rt. 419) upstream of this station may cause altered hydrology and resulting bank erosion, sediment deposition, and runoff. Riparian buffers are impacted on both sides by the sports fields at the school and residential backyards.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_BHT01A10 / Barnhardt Creek / Barnhardt Creek from its confluence on the Roanoke River upstream to its headwaters (RU14).	4A	Benthic Macroinvertebrates Bioassessments	2012	L	5.31

Barnhardt Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.31

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-07-BAC Murray Run

Cause Location: Murray Run mainstem from its headwaters to its mouth on the Roanoke River.

Cause City/County: Roanoke; Roanoke County

Use(s): Recreation

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: The Murray Run 3.57 mile 2004 303(d) Listed Recreational impairment remains.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke River bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Murray Run bacteria impairment but is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMUR001.63- The 2004 Integrated Report (IR) reports FC exceeds the former 400 cfu/100 ml instantaneous criterion in two of six observations.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MUR01A00 / Murray Run / Murray Run mainstem from its headwaters to its mouth on the Roanoke River (RU14).	4A	Fecal Coliform	2004	L	3.58

Murray Run

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			3.58

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Municipal (Urbanized High Density Area); Sanitary Sewer Overflows (Collection System Failures); Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L04R-07-BEN Murray Run

Cause Location: Murray Run mainstem from its headwaters to its mouth on the Roanoke River.

Cause City/County: Roanoke; Roanoke County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment on Murray Run is established in the 2012 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR). The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approval on 5/10/06 [Fed. ID 33861] and SWCB approved 9/07/06. Murray Run is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed.

4AMUR001.82 (Fishburn Park, Roanoke) The 2012 IR reports three VSCI surveys (2009-10; average score: 19.4) indicating an impaired benthic community dominated by pollution-tolerant taxa most notably Chironomidae (midge larvae). Biologist notes: Although several habitat scores were sub-optimal, the habitat in this reach should support more mayfly and stonefly taxa which were observed in extremely low numbers or absent during the surveys. Urban land cover with high levels of impervious surface upstream causes altered hydrology and resulting bank erosion, sediment deposition, and runoff of toxic substances from roads. Riparian buffers are good on one side of the stream while the opposite side of the stream is bordered by a mowed field.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_MUR01A00 / Murray Run / Murray Run mainstem from its headwaters to its mouth on the Roanoke River (RU14).	4A	Benthic Macroinvertebrates Bioassessments	2012	L	3.58

Murray Run

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

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Streambank Modifications/Destabilization; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-08-BEN Gish Branch

Cause Location: Gish Branch mainstem from its mouth on Mason Creek upstream to its headwaters.

Cause City/County: Roanoke County

Use(s): Aquatic Life

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

Cause Description: The Gish Branch benthic macroinvertebrate community is assessed as impaired for 2.40 miles during the 2014 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Reporting (IR) period. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approval on 5/10/06 [Fed. ID 33861] and SWCB approved 9/07/06. Gish Branch is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed. There are no additional data beyond the 2014 IR.

4AGSH001.28 (Off Rt. 311 downstream of I-81; 2012 Probabilistic Monitoring site) Two 2012 Virginia Stream Condition Index (VSCI) surveys scored an average of 47.9. Biologist notes: The results of sampling indicate an impaired benthic macroinvertebrate community dominated by pollution-tolerant taxa in the both spring and fall. There were more midges (Chironomidae) and stoneflies (Nemouridae) in the spring sample whereas beetles accounted for a high percentage (33.1%) of the fall sample. Beetles in the fall are from the families Psephenidae (water pennies) and Elmidae (riffle beetles) which helped increase the Percent Scraper score. Both seasons had relatively low taxa richness and low numbers of mayflies. The instream habitat was affected by sediment deposition. The sediment load results in a low embeddedness score meaning that the interstitial spaces between rocks is clogged by fine material thus limiting available habitat for sensitive macroinvertebrates. The banks appeared eroded possibly due to flashy flows from storm water runoff from highways in the upper reaches of the watershed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_GSH01A14 / Gish Branch / Gish Branch mainstem from its mouth on Mason Creek upstream to its headwaters (RU10).	4A	Benthic Macroinvertebrates Bioassessments	2014	L	2.4

Gish Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.4

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Residential Districts; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-09-BEN Peters Creek

Cause Location: Peters Creek mainstem from its headwaters (Salem Quad) extending downstream to the Peters Creek confluence on the Roanoke River (Roanoke Quad).

Cause City/County: Roanoke; Roanoke County

Use(s): Aquatic Life

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

Cause Description: The Peters Creek benthic macroinvertebrate community exhibits impaired conditions for the 7.20 mile 2016 initially 303(d) Impaired Waters Listing. The Roanoke River General Standard - Benthic (Sediment) TMDL Study received U.S. EPA approval on 5/10/06 [Fed. ID 33861] and SWCB approved 9/07/06. Peters Creek is nested within the Roanoke River General Standard - Benthic (Sediment) TMDL watershed during the 2016 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Reporting (IR) period.

4APEE001.16 (Strauss Park, Westside Boulevard in Roanoke) Two 2013 Virginia Stream Condition Index (VSCI) surveys scored 26.3 (spring) and 27.5 (fall). Biologist notes: The benthic community is dominated by pollution tolerant organisms, particularly Chironomidae (midges), in both spring and fall. This station is located in a suburban and commercial watershed which receives high levels of storm water runoff. During both sampling events algae is very thick on stream substrate indicating nutrient enrichment. Habitat scores were impacted by excessive sedimentation, eroded stream banks and sparse riparian buffers.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_PEE01A02 / Peters Creek / Peters Creek mainstem from its confluence with the Roanoke River upstream to the Melrose Avenue Bridge (Rt. 11/460) (RU14).	4A	Benthic Macroinvertebrates Bioassessments	2016	L	2.59
VAW-L04R_PEE02A02 / Peters Creek / Peters Creek mainstem from the Melrose Avenue Bridge (Rt. 11/460) upstream to its headwaters (RU14).	4A	Benthic Macroinvertebrates Bioassessments	2016	L	4.62

Peters Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.21

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Residential Districts; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L04R-10-BAC Wolf Creek

Cause Location: Wolf Creek from its mouth on the Roanoke River upstream to its headwaters (RU14).

Cause City/County: Roanoke County

Use(s): Recreation

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

Cause Description: Wolf Creek is first listed for not meeting the Recreational Use during the 2018 IR window. The impairment is 4.5 miles.

The Roanoke River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/02/2006 [Fed ID 24538] with SWCB approval on 6/27/2007. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke River bacteria impaired listing. The 2014 total bacteria impaired length is 29.56 miles and 165.29 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Wolf Creek bacteria impairment but Wolf Creek is nested within the Roanoke Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AWOR000.34 - Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in five of 12 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_WOR01A10 / Wolf Creek / Wolf Creek from its mouth on the Roanoke River upstream to the confluence with an unnamed tributary (37.282093, -79.866286) in Goode Park (RU14).	4A	Escherichia coli (E. coli)	2018	L	2.62
VAW-L04R_WOR02A08 / Wolf Creek / Wolf Creek mainstem from the confluence with an unnamed tributary (37.282093, -79.866286) to its headwaters (RU14).	4A	Escherichia coli (E. coli)	2018	L	1.90

Wolf Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.52

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

Roanoke and Yadkin River Basins

Cause Group Code: L04R-10-BEN Wolf Creek

Cause Location: Wolf Creek from its mouth on the Roanoke River upstream to its headwaters (RU14).

Cause City/County: Roanoke County

Use(s): Aquatic Life

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

Cause Description: This initial 2018 303(d) Impaired Waters listing is based on benthic macroinvertebrate community collections during the 2018 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Reporting (IR) window. The Aquatic Life Use impairment is 4.5 miles.

4AWOR000.34 (Niagara Rd. Crossing) The 2024 IR reports benthic macroinvertebrate community impairment based on four Virginia Stream Condition Index (VSCI) scores collected in 2017 (spring 46, fall 44) and 2022 (spring 36, fall 53). Biologist notes: The samples collected during this assessment cycle scored well below the VSCI impairment threshold. High abundances of net spinning caddisflies (Cheumatopsyche) and low abundances of sensitive EPT taxa resulted in lower scores. This station was sampled to collect data for TMDL development. The stream is impacted by fine sediments, lack of instream habitat and eroded stream banks. The average total habitat score for this assessment period was 124. Total Habitat Scores (>100 and <130) indicate a medium probability of stress to aquatic life. DEQ conducted relative bed stability (LRBS) surveys in 2017 and 2021 that resulted in a mean value of -1.124. According to the VDEQ Stressor Analysis in Virginia: Data Collection and Stressor Thresholds Report, values between -1.5 and -1.0 equate to a medium probability of stress to aquatic life and indicate an unstable streambed consisting of smaller particles than expected. The LRBS surveys also indicated high levels of fine sediments accumulating in between the instream substrate. The average substrate embeddedness value was 69.2 percent. The original 2018 listing was based on four VSCI scores (2015-16) averaging 49.4. 2015 and 2016 Fall samples scored above the impairment threshold (VSCI 60). Spring scores scored well below the impairment threshold. Spring samples had lower numbers of total taxa and pollution sensitive stonefly and caddisfly larvae than the fall samples. Fall samples contained fewer midges from the Chironomidae family.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_WOR01A10 / Wolf Creek / Wolf Creek from its mouth on the Roanoke River upstream to the confluence with an unnamed tributary (37.282093, -79.866286) in Goode Park (RU14).	5A	Benthic Macroinvertebrates Bioassessments	2018	H	2.62
VAW-L04R_WOR02A08 / Wolf Creek / Wolf Creek mainstem from the confluence with an unnamed tributary (37.282093, -79.866286) to its headwaters (RU14).	5A	Benthic Macroinvertebrates Bioassessments	2018	H	1.90

Wolf Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.52

Sources: Clean Sediments; Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Non-Point Source; Residential Districts; Streambank Modifications/Destabilization

Roanoke and Yadkin River Basins

Cause Group Code: L05R-01-BAC Tinker Creek

Cause Location: Tinker Creek mainstem from its headwaters downstream to the Tinker Creek confluence with the Roanoke River.

Cause City/County: Botetourt County; Roanoke; Roanoke County

Use(s): Recreation

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

Cause Description: Originally 303(d) Listed in 1998 for fecal coliform (FC) bacteria the Tinker Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/05/04 [Fed IDs: 7787 (FC), 21671 and 21672] and SWCB approved 12/02/04. The 19.58 mile bacteria impairment remains.

4ATKR016.01 (Ivy Lane Rd, low water bridge) 2024 IR finds four of 12 escherichia coli (E.coli) samples exceed the 410 cfu/100 ml Statistical Threshold Value (STV) criterion resulting in impairment due to 2 or more STV hits in the same 90-day period with < 10 samples.

4ATKR015.88 (Off Rt. 779 at USGS Gage) The 2014 data window finds 10 of 24 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion.

4ATKR009.30 (Rt. 11 Bridge near Hollins) The 2024 data window applies new E.coli criteria and finds 2 or more Statistical Threshold Value (STV) hits in the same 90-day period with < 10 samples.

4ATKR000.69 (Rt. 24 Bridge, Vinton) The 2022 data window finds new Ecoli WQS confirms 'IM' with 2 or more STV hits in the same 90-day period with < 10 samples. E.coli data is considered insufficient during the 2024 data window due to only one STV exceedance in one or multiple 90-day periods (insufficient data to analyze geomean).

4ATKR000.36 (Tinker Cr. Boat Ramp) - The 2024 data window finds E.coli impairment from a geomean exceedance in one 90-day period.

4ATKR000.08 (Upstream of Roanoke R. confluence) - E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 18 of 24 and 9 of 12 samples within the 2020 and 2018 IR data windows, respectively.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_TKR01A00 / Tinker Creek / Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the mouth of Carvin Creek (RU13).	4A	Escherichia coli (E. coli)	2006	L	5.37
VAW-L05R_TKR01B06 / Tinker Creek / Tinker Creek mainstem from the Carvin Creek mouth upstream to the confluence of Buffalo Creek (RU11).	4A	Escherichia coli (E. coli)	2006	L	6.51
VAW-L05R_TKR02A00 / Tinker Creek / Tinker Creek mainstem from the mouth of Buffalo Creek upstream to the Roanoke City diversion tunnel located just upstream of the USGS stream gaging station (RU11).	4A	Escherichia coli (E. coli)	2006	L	4.47
VAW-L05R_TKR03A00 / Tinker Creek / Tinker Creek mainstem from the Roanoke City diversion tunnel to Carvin Cove on upstream to its headwaters (RU11).	4A	Escherichia coli (E. coli)	2006	L	3.26

Tinker Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			19.61

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

Roanoke and Yadkin River Basins

Cause Group Code: L05R-01-BEN Tinker Creek

Cause Location: Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the confluence of Buffalo Creek.

Cause City/County: Botetourt County; Roanoke; Roanoke County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use (benthic macroinvertebrate community) is impaired for 5.37 miles based on Virginia Stream Condition Index (VSCI) surveys collected during the 2008 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) period. The 2018 IR data window extends the benthic impairment 6.5 miles upstream for a total of 11.87 miles.

4ATKR009.30 (Rt. 11 bridge near Hollins) The 2024 IR finds impairment due to six VSCI scores (2018-19, 2021) with seasonal averages of 56 (spring) and 71 (fall). Biologist notes that this station was sampled for TMDL development purposes in 2015 and 2016. In July 2017, a fishkill occurred in this section Tinker Creek due to the release of a surfactant from a chemical manufacturing plant. Sampling in 2018 occurred as part of follow-up monitoring from the fishkill and continued through 2019. This station is in the middle of the five-plus mile section that was affected during the fishkill. Macroinvertebrates including crayfish, caddisflies and snails were also affected during the fishkill. The Spring VSCI scores indicate an impaired condition; whereas, fall scores indicate non-impaired condition. The spring samples had a higher percentage of Chironomidae midges which are tolerant of pollution. Fall samples generally had a higher percentage of sensitive organisms such as Stoneflies and Caddisflies and Scrapers.

4ATKR003.03 (Mason Mill Park) and 4ATKR002.26 (Along 13th St. NE) show full support of the Aquatic Life Use from 2024 data window benthic macroinvertebrate community collections.

4ATKR000.69 (Rt. 24 Bridge - Vinton) The 2024 data window finds impairment from four VSCI Scores collected in 2017 and 2022: 40 (spring average) and 42 (fall average). Biologist notes: High relative abundances of pollution tolerant taxa such as midge (Chrironomidae) and net spinning caddislfy larvae (Hydropsychidae) contributed to low VSCI scores for this station. Habitat surveys indicated a stream section with substrates that were impacted by sediment, eroded banks and sparse riparian vegetative buffers. This section is impacted by a highly developed watershed. The VDEQ Stressor Analysis in Virginia: Data Collection and Stressor Thresholds Report considers RBPII Total Habitat Scores <100 to be in the high probability of stress to Aquatic Life category. The median Total Habitat score for this station was 97. DEQ conducted a relative bed stability (LRBS) survey in 2021 that resulted in a value of 0.43. The LRBS survey also indicated high levels of fine sediments accumulating in between the instream substrate. The average substrate embeddedness value was 63.3 percent.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_TKR01A00 / Tinker Creek / Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the mouth of Carvin Creek (RU13).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	5.37
VAW-L05R_TKR01B06 / Tinker Creek / Tinker Creek mainstem from the Carvin Creek mouth upstream to the confluence of Buffalo Creek (RU11).	5A	Benthic Macroinvertebrates Bioassessments	2018	H	6.51

Tinker Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			11.88

Sources: Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Non-Point Source; Residential Districts; Sediment Resuspension (Clean Sediment); Source Unknown; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L05R-02-BAC Carvin Creek

Cause Location: Carvin Creek mainstem from just upstream of I-81 at the mouth of an unnamed tributary extending downstream to the mouth of Carvin Creek on Tinker Creek (Roanoke Quad).

Cause City/County: Roanoke County

Use(s): Recreation

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

Cause Description: The Carvin Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/05/04 [Fed ID 24541] and SWCB approved on 12/02/04 (formerly VAW-L05R-02). These waters are previously 303(d) Listed in 2002 based on 1997 Special Study data. The 5.45 mile impairment remains with the 2016 and 2018 Integrated Reports (IR).

4ACRV005.10- (Hollins U. campus back parking lot) E.coli exceeds the 235 cfu/100ml instantaneous criterion in five of 12 samples (exceedance range 259-563 cfu/100ml) during the 2018 IR window.

4ACRV001.88- (Brookside Park off Rt. 623 Hollins) 2012 assessment where six of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion.

4ACRV000.28- (Plantation Road -Rt. 115) The 2010 assessment reports five of 10 escherichia coli (E.coli) samples exceed the instantaneous criterion of 235 cfu/100 ml.

Original 2002 Listing stations below had exceedances of the former fecal coliform instantaneous criterion of 400 cfu/100 ml. 4ACRV005.58- (Plantation Road -Rt. 115)
4ACRV001.88- (Brookside Park off Rt. 623 Hollins) 4ACRV000.28- (Plantation Road -Rt. 115)

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_CRV01A00 / Carvin Creek / Carvin Creek mainstem from its confluence with Tinker Creek upstream to the mouth of Deer Branch (RU12).	4A	Escherichia coli (E. coli)	2004	L	1.83
VAW-L05R_CRV02A00 / Carvin Creek / Carvin Creek mainstem from the mouth of Deer Branch upstream to an unnamed tributary upstream of I-81 (RU12).	4A	Escherichia coli (E. coli)	2006	L	3.62

Carvin Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.45

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

Roanoke and Yadkin River Basins

Cause Group Code: L05R-02-BEN Deer Branch

Cause Location: Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118).

Cause City/County: Roanoke County

Use(s): Aquatic Life

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

Cause Description: The 2014 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) lists 1.38 miles of Deer Branch as impaired for the Aquatic Life Use (General Standard - Benthic). These waters are nested during the 2022 IR in the Upper Roanoke River Sediment TMDL which was approved by EPA on 5/10/06. A TMDL Implementation Plan addressing sediment and bacteria in the watershed was approved by EPA on 4/22/16.

4ADEE000.06 (Brookside Park, Roanoke City) The most recent Virginia Stream Condition Index (VSCI) scores were reported during the 2018 IR window. Six VSCI scores (2012, 2015-16) averaging 47.2 resulted in a continued impairment listing for Deer Branch. Biologist notes: This station was originally sampled to validate citizen Save Our Streams monitoring, but in 2016 this station was sampled as a targeted-stressed station for the Probabilistic Monitoring Program. The benthic community is dominated by pollution-tolerant taxa in the spring. Midges (Chironomidae) dominated the spring samples; whereas, fall samples had a high abundance of filter-feeding caddisflies (Hydropsychidae and Philopotamidae). Suburban/commercial land cover along with major roads upstream of this station may cause periodic flooding which causes bank erosion, sediment deposition, and runoff of toxic substances. Riparian buffers are impacted on both sides of the stream by homes and a golf course. Riparian buffers are impacted on both banks.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_DEE01A08 / Deer Branch / Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118) (RU12).	4A	Benthic Macroinvertebrates Bioassessments	2014	L	1.38

Deer Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			1.38

Sources: Industrial/Commercial Site Stormwater Discharge (Permitted); Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Municipal Point Source Discharges; Post-development Erosion and Sedimentation; Residential Districts; Sediment Resuspension (Clean Sediment); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L05R-03-BAC Glade Creek

Cause Location: Glade Creek mainstem from its headwaters (Stewartsville Quad) downstream to its confluence with Tinker Creek at river mile 0.83 (Roanoke Quad).

Cause City/County: Botetourt County; Roanoke; Roanoke County

Use(s): Recreation

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

Cause Description: The fecal coliform bacteria impairment originally 303(d) Listed in 1998 for 5.97 miles and extended in 2002 (6.98 miles) now totals 12.95 miles. The Glade Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/05/04 [Fed ID 24799] and SWCB approved 12/02/04. Formerly VAW-L05R-03.

4AGLA008.10- 2010 data find three of 10 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion.

4AGLA004.39- 2024 IR window finds two of six values exceeding the 410 cfu/100ml STV criterion. ECOLI: Insufficient Information (Prioritize for follow up monitoring)- One STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean.

4AGLA000.20- 2024 IR window finds four of 11 values exceeding the 410 cfu/100ml STV criterion. ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_GLA01A00 / Glade Creek / Glade Creek mainstem from the Glade Creek mouth on Tinker Creek upstream to the Berkley Rd. crossing (RU13).	4A	Escherichia coli (E. coli)	2006	L	1.59
VAW-L05R_GLA02A00 / Glade Creek / Glade Creek mainstem from the Berkley Rd. Crossing on upstream to the confluence of Cook Creek (RU13).	4A	Escherichia coli (E. coli)	2006	L	3.15
VAW-L05R_GLA03A00 / Glade Creek / Glade Creek mainstem from the Cook Creek mouth upstream to the confluence of Coyner Spring Branch (RU13).	4A	Escherichia coli (E. coli)	2006	L	1.23
VAW-L05R_GLA04A00 / Glade Creek / Glade Creek mainstem from the mouth of Coyner Spring Branch upstream to its headwaters (RU13).	4A	Escherichia coli (E. coli)	2006	L	6.98

Glade Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			12.95

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

Roanoke and Yadkin River Basins

Cause Group Code: L05R-04-BAC Lick Run

Cause Location: The upper limit is near Shaffers Crossing rail yard and headwaters from along I-581 on downstream to the mouth of Lick Run on Tinker Creek at river mile 1.41. The 1996, 1998 and 2002 impaired waters have expanded by 5.01 miles with the 2004 Listing (Roanoke Quad).

Cause City/County: Roanoke

Use(s): Recreation

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

Cause Description: Originally 303(d) Listed in 2002 for fecal coliform (FC) bacteria. The Tinker Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/05/04 [Fed ID 24540] and SWCB approved 12/02/04. The bacteria impairment remains for these 9.64 mile waters.

4ALCK002.17- (Washington Park) One of three remaining escherichia coli (E.coli) samples exceed the instantaneous criterion at 250 cfu/100 ml in 2012.

4ALCK000.38 (Norfolk Southern parking lot bridge) The 2002 original listing station found exceedances of the former FC instantaneous and geomean criteria in a Special Study conducted in 1997. Five E.coli observations exceed from the remaining 12 samples in 2014 with values ranging from 350 to greater than 2000 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_LCK01A00 / Lick Run / Lick Run mainstem from near Shaffer's Crossing downstream to Lick Run mouth on Tinker Creek.	4A	Escherichia coli (E. coli)	2004	L	9.65

Lick Run

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.65

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Municipal (Urbanized High Density Area); Sanitary Sewer Overflows (Collection System Failures); Unspecified Domestic Waste; Wastes from Pets; Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L05R-05-BAC Laymantown Creek

Cause Location: Laymantown Creek mainstem from just upstream of the Rt. 657 Bridge at a small pond downstream to the mouth of Laymantown Creek on Glade Creek (Stewartsville Quad).

Cause City/County: Botetourt County

Use(s): Recreation

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

Cause Description: The 2.11 mile 2002 303(d) Listed Laymantown Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/05/04 [Fed ID: 24544] and SWCB approved 12/02/2004.

4ALAY000.37- (Rt. 460 Bridge - near Blue Ridge) 2008 IR where escherichia coli (E.coli) samples exceed the 235 cfu/100 ml WQS instantaneous criterion in two of nine samples. The original 2002 fecal coliform (FC) listing is based on a Special Study conducted in 1997 where the former FC instantaneous criterion were exceeded.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_LAY01A00 / Laymantown Creek / Laymantown Creek mainstem from an outlet of a small pond downstream to the Laymantown Creek mouth on Glade Creek (RU13).	4A	Escherichia coli (E. coli)	2006	L	2.12

Laymantown Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.12

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

Roanoke and Yadkin River Basins

Cause Group Code: L05R-06-BAC Deer Branch

Cause Location: Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118) (RU12).

Cause City/County: Roanoke County

Use(s): Recreation

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

Cause Description: The 1.08 mile Deer Branch is initially 303(d) listed with the 2018 Integrated Report and Nested within the Tinker Cr. Bacteria TMDL US EPA approved 8/05/04 Fed ID 24541. SWCB approved 12/2/2004.

4ADEE000.05 (Brookside Park, Roanoke City) - The 2018 assessment cycle finds Escherichia Coli (E.Coli) excursions of the 235 cfu/100 ml instantaneous criterion in five of 13 samples during 2015 and 2016.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L05R_DEE01A08 / Deer Branch / Deer Branch from its mouth on Carvin Creek upstream to Airport Road (Rt. 118) (RU12).	4A	Escherichia coli (E. coli)	2018	L	1.38

Deer Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			1.38

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

Roanoke and Yadkin River Basins

Cause Group Code: L06R-01-BEN Back Creek

Cause Location: Back Creek mainstem waters from ~0.1 miles downstream of the Mt. Haran Church on downstream of the Blue Ridge Parkway crossing and downstream of the Back Creek Church.

Cause City/County: Roanoke County

Use(s): Aquatic Life

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

Cause Description: The 2014 initial 303(d) Impaired Waters Listing for the Aquatic Life Use is based on Virginia Stream Condition Index (VSCI) surveys collected on Back Creek in 2005, 2008, 2009, and 2012 as described below.

4ABAA023.07 (Along Rt. 221 Roanoke County) A fall 2005 discharge of sediment laden water from a holding pond at a construction site prompted initial benthic macroinvertebrate community sampling at this site. The 2005 fall VSCI score of 61.3 and 2006 scores of 50.9 (spring) and 60.9 (fall) caused assessment decisions to be reserved due to the improvement of scores in fall 2006 and fall 2008 (70.3). Subsequent 2009 fall survey scored 52.8 and 2012 surveys scored 52.5 (spring) and 64.9 (fall). Biologist notes: The abundance of macroinvertebrates that feed by scraping algae and periphyton (Percent Scrapers) had been low indicating a lack of clean substrate or often scoured substrates. The 2008, 2009, and 2012 habitat surveys find sand and fine sediment impact the stream substrate indicating continued sources of fines beyond the initial 2005 release. The 2018 and 2022 data windows found full support of the Aquatic Life Use standard from six VSCI surveys averaging 62.1 (2012, 2015-2016) and eight VSCI scores averaging 62 (2015-17, 2019), respectively. An upstream station (4ABAA023.29) was used as a control site during earlier surveys. While this station is showing signs of recovery, the impairment remains while additional data is collected at this station and 4ABAA017.14.

Anecdotal biomonitoring data is presented from 4ABAA017.14 (Rt. 613 near Merriman Soccer Complex) which was subsequently identified as impaired for the Aquatic Life Use. Six VSCI scores (2017, 2019, 2022) with seasonal averages of 58 (spring) and 55 (fall). Biologist notes: Most scores for taxonomic richness and percent scrapers were low especially for a third order stream. The assemblage appears unbalanced with seasonally low scores for Percent Mayflies and Percent Stoneflies and Caddisflies minus the pollution tolerant caddisfly family Hydropsychidae. Higher than normal rainfall and flows in 2018 appeared to have an impact on instream erosion. In October 2018, heavy rainfall and from tropical storm Michael caused the flow of this stream to increase to almost 17,000 ft3/s in less than eight hours. 2019 RBP II embeddedness scores declined by 16 points representing a fall from optimal to poor conditions. Substrate habitat and sediment scores also declined indicating a loss of habitat due to sedimentation. 2019 surveys yielded decreases in scraper and mayfly (Ephemeroptera) abundances and slight increases in Chironomidae abundance.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L06R_BAA04A00 / Back Creek / Back Creek mainstem waters from the confluence of an unnamed tributary (XVE) on downstream of the Blue Ridge Parkway crossing and Back Creek Church (RU15).	5A	Benthic Macroinvertebrates Bioassessments	2014	L	5.12
VAW-L06R_BAA04B14 / Back Creek / Back Creek mainstem waters from the mouth of Little Back Creek on downstream to the confluence of an unnamed tributary to Back Creek (XVE) (RU15).	5A	Benthic Macroinvertebrates Bioassessments	2014	L	1.26

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L06R_BAA05A08 / Back Creek / Back Creek from ~0.1 miles downstream of the Mt. Haran Church on downstream to the mouth of Little Back Creek (RU15).	5A	Benthic Macroinvertebrates Bioassessments	2014	L	0.57

Back Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.95

Sources: Municipal (Urbanized High Density Area); Non-Point Source; Residential Districts; Site Clearance (Land Development or Redevelopment); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L06R-02-BAC Back Creek

Cause Location: Back Creek mainstem waters from ~0.1 miles downstream of the Mt. Haran Church downstream to the confluence of an unnamed tributary to Back Creek (XVE) (RU15).

Cause City/County: Roanoke County

Use(s): Recreation

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

Cause Description: The 2020 data window finds Recreational Use impairment and 303(d) lists the upper section of Back Creek. These waters are Nested in the Roanoke River Bacteria Total Maximum Daily Load (TMDL) which was U.S. EPA approved on 8/02/06 [Fed ID 24538] and SWCB approved on 9/07/06.

4ABAA023.07 (Below Old Mill Plantation) - The 2020 data window finds three excursions of the 235 cfu/100 ml instantaneous criterion from twelve total samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L06R_BAA04B14 / Back Creek / Back Creek mainstem waters from the mouth of Little Back Creek on downstream to the confluence of an unnamed tributary to Back Creek (XVE) (RU15).	4A	Escherichia coli (E. coli)	2020	L	1.26
VAW-L06R_BAA05A08 / Back Creek / Back Creek from ~0.1 miles downstream of the Mt. Haran Church on downstream to the mouth of Little Back Creek (RU15).	4A	Escherichia coli (E. coli)	2020	L	0.57

Back Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			1.83

Sources: Discharges from Municipal Separate Storm Sewer Systems (MS4); Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Sanitary Sewer Overflows (Collection System Failures); Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L07L-01-PH Beaverdam Reservoir

Cause Location: Beaverdam Reservoir, Bedford County

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: Beaverdam Creek Reservoir located in Bedford County is owned by the Western Virginia Water Authority. The reservoir is fenced and public access is not permitted. There are no known sources other than from the natural landscape.

4AXKD0003.34 (100 ft. from Dam) There are no additional data within the 2014 data window. The reservoir 2012 data window reports 5 of 36 pH measurements in excess of the Class IV pH acidity criterion of 6.0.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07L_XKD01A02 / Beaverdam Reservoir (XKD) / Beaverdam Reservoir from its impounding structure upstream to its backwaters.	5C	pH	2012	L	66.93

Beaverdam Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		66.93	

Sources: Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Roanoke and Yadkin River Basins

Cause Group Code: L07L-02-BAC Smith Mtn. Lake (Lynville Creek)

Cause Location: Lynville Creek from its confluence on the Roanoke River upstream to its backwaters.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The initial 2020 303(d) Listing of these waters is a result of escherichia coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion in six of 12 samples.

2022: E.coli- Impaired - 2 or more STV exceedances in the same 90 day period with <10 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07L_LVL01A10 / Smith Mtn. Lake (Lynville Creek) / Lynville Creek from its confluence on the Roanoke River upstream to its backwaters.	4A	Escherichia coli (E. coli)	2020	L	76.75

Smith Mtn. Lake (Lynville Creek)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		76.75	

Sources: Agriculture; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

Roanoke and Yadkin River Basins

Cause Group Code: L07L-03-BAC Smith Mtn. Lake (Roanoke River)

Cause Location: Roanoke River from ~ 3/4 miles upstream of the Hardy Road Bridge downstream to the confluence of Falling Creek.

Cause City/County: Bedford County; Franklin County

Use(s): Recreation

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

Cause Description: 4AROA192.94: The initial 2020 303(d) Listing of these waters is a result of escherichia coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion in seven of 40 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07L_ROA04A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from ~ 3/4 miles upstream of the Hardy Road Bridge downstream to the confluence of Falling Creek.	4A	Escherichia coli (E. coli)	2010	L	184.71

Smith Mtn. Lake (Roanoke River)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		184.71	

Sources: Agriculture; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

Roanoke and Yadkin River Basins

Cause Group Code: L07R-01-BAC Beaverdam Creek

Cause Location: Beaverdam Creek mainstem waters from the WQS designated public water supply (PWS) section, eg. 5 miles above the 795 ft. pool elevation of Smith Mtn. Lake on downstream to the inundation of Beaverdam Creek's waters at Smith Mountain Lake at River Mile 2.78 (Stewartsville, Irving, Goodview and Hardy Quads).

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: Beaverdam Creek Bacteria TMDL Load Duration is U.S. EPA approved 7/07/2006 [Fed ID 17733] and SWCB approved 6/27/2007. The 1999 Federal Consent Decree includes 4ABDA003.63 as an Attachment B station for fecal coliform bacteria- 303(d) Listed 2002. The 4.98 bacteria impairment remains.

4ABDA003.63- (Off Rt. 757) 2016 data window are eight of 23 observations and the same range of exceedance.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07R_BDA01A00 / Beaverdam Creek / Beaverdam Creek mainstem waters from the WQS designated public water supply (PWS) section 6i, eg. 5 miles above the 795 ft. pool elevation of Smith Mtn. Lake on downstream to the inundation of Beaverdam Creek's waters at Smith Mtn. Lake (RU17).	4A	Escherichia coli (E. coli)	2006	L	4.99

Beaverdam Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.99

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

Roanoke and Yadkin River Basins

Cause Group Code: L07R-01-BEN Beaverdam Creek

Cause Location: Beaverdam Creek mainstem waters from the 795 ft. pool elevation of Smith Mtn. Lake on upstream to its headwaters (Stewartsville, Irving, Goodview and Hardy Quads).

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The 2010 10.33 mile 303(d) Aquatic Life Use Listing of Beaverdam Creek is based on benthic macroinvertebrate community collections as described below.

4ABDA006.72 (Rt. 24 Crossing) Two 2008 Virginia Stream Condition Index (VSCI) surveys with an average score of 45.0 find an impaired benthic macroinvertebrate community. Biologist notes: This watershed is influenced by agricultural land use with open pastures including some with no riparian vegetation. Habitat scores show this stream reach is impacted by sediment deposition and a poor riparian buffer.

4ABDA004.14 (Rt. 757 Bridge; not an original listing station) The 2022 data window finds impairment from six VSCI Scores (2017-19) with seasonal averages of 51 (spring) and 59 (fall). Biologist notes: This site was sampled for the development of a future aquatic life use TMDL. The habitat scores at this site indicate a medium probability of stress to aquatic life due to habitat impacts. Bank stability and sediment scores are the lowest and were mostly scored as °marginal.° This site was assessed as impaired during the last two assessment cycles. 2019 benthic surveys confirmed that this site should remain impaired for this current assessment cycle.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07R_BDA01A00 / Beaverdam Creek / Beaverdam Creek mainstem waters from the WQS designated public water supply (PWS) section 6i, eg. 5 miles above the 795 ft. pool elevation of Smith Mtn. Lake on downstream to the inundation of Beaverdam Creek's waters at Smith Mtn. Lake (RU17).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	4.99
VAW-L07R_BDA02A00 / Beaverdam Creek / Beaverdam Creek mainstem from its headwaters downstream to the WQS designated public water supply (PWS) ending section 6i, eg. 5 miles above the Smith Mtn. Lake 795 ft. pool elevation (RU17).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	5.36

Beaverdam Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			10.35

Sources: Agriculture; Loss of Riparian Habitat; Residential Districts; Rural (Residential Areas); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L07R-02-BAC Merriman Run, UT (XUO)

Cause Location: Merriman Run, UT (XUO) mainstem from the backwaters of Smith Mtn. Lake upstream to its headwaters; public water supply (PWS) section 6i, eg. within 5 miles of 795 ft. Smith Mtn. Lake pool elevation (RU19).

Cause City/County: Bedford County; Franklin County

Use(s): Recreation

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

Cause Description: The Recreational Use is 303(d) listed based on E.coli samples collected during the 2020 data window.

4AXUO000.49 (Free flowing to Smith Mtn. Lake backwaters) shows nine of 12 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion during the 2020 data window. E.coli impairment carries during the 2022 cycle due to new E.coli WQS finding one Statistical Threshold Value (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
VAW-L07R_XUO01A06 / Merriman Run, UT (XUO) / Merriman Run, UT (XUO) mainstem from the backwaters of Smith Mtn. Lake upstream to its headwaters; public water supply (PWS) section 6i, eg. within 5 miles of 795 ft. Smith Mtn. Lake pool elevation (RU19).	5A	Escherichia coli (E. coli)	2020	L	0.88

Merriman Run, UT (XUO)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			0.88

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

Roanoke and Yadkin River Basins

Cause Group Code: L07R-04-BEN Lynville Creek

Cause Location: Lynville Creek mainstem from the backwaters of Smith Mtn. Lake (pool elevation 795 ft.) within the WQS designated public water supply (PWS) section 6i, eg. within 5 miles of Smith Mtn. Lake pool elevation (RU16).

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The 2020 303(d) listing of the Aquatic Life Use on Lynville Creek is a result of benthic macroinvertebrate community samples collected during 2017 and 2018 as a follow-up to Virginia Save-Our-Streams citizen monitoring.

4ALVL003.26 (Eaton Road near Hardy) There is no new data collected since the 2020 data window where benthic macroinvertebrate community impairment is found from four 2017-18 VSCI scores with seasonal averages of 51 (spring) and 54 (fall). Biologist notes: This site is in a watershed that has agricultural land cover. Habitat scores indicated excessive sediment deposition and eroded banks in the immediate stream reach. High rainfall and flooding in 2018 possibly affected the benthic community. A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07R_LVL01A02 / Lynville Creek / Lynville Creek mainstem from the backwaters of Smith Mtn. Lake (pool elevation 795 ft.) within the WQS designated public water supply (PWS) section 6i, eg. within 5 miles of Smith Mtn. Lake pool elevation (RU16).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	4.85

Lynville Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.85

Sources: Clean Sediments; Loss of Riparian Habitat; Non-Point Source

Roanoke and Yadkin River Basins

Cause Group Code: L08R-01-BAC Green Creek

Cause Location: Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork of the Blackwater River begins (Callaway Quad).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Green Creek 4.09 mile bacteria impairment is a 2004 303(d) Listing due to fecal coliform (FC) exceedances (formerly VAW-L08R-01). The Bacteria Total Maximum Daily Load (TMDL) for the South Fork Blackwater River is U.S. EPA approved 02/02/01 [Fed IDs: 1886 / 7791 / 21330 / 24549] and SWCB approved 6/17/04. The SWCB approved the Bacteria Implementation Plan on 6/17/04.

The Upper Blackwater River Bacteria Implementation Plan (IP) received SWCB approval on 6/17/2004. Green Creek is tributary to the South Fork and is included in the TMDL Watershed and allocations. The TMDL identified Wildlife as a major source based on Bacteria Source Tracking (BST). The Bacteria IP encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks.

4AGCR000.01- (Rt. 739 Bridge at Algoma) 2016 data window are one of 12 and 2014 three of 24 measurements.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_GCR01A00 / Green Creek / Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork Blackwater River begins (RU21).	4A	Escherichia coli (E. coli)	2008	L	4.1

Green Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.1

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

Roanoke and Yadkin River Basins

Cause Group Code: L08R-01-TEMP Green Creek

Cause Location: Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork of the Blackwater River begins.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The 4.09 mile temperature impairment returns with the 2012 assessment. The 2010 IR de-listed the temperature impairment.

4AGCR000.01- (Rt. 739 Bridge at Algoma) The 2020 and 2018 data windows report no exceedances of the temperature Class VI 20 C criterion from two samples taken in 2015. Impairment remains due to the small sample size (n=2). Prior to 2018, there were no additional data beyond the 2012 IR. The 2012 assessment finds four of 33 temperature measurements exceed the Class VI 20 C criterion for an exceedance rate of 12%. The exceeding values occur in the summer months with an exceedance range from 21.6 C to 22.6 C. Data remaining within the 2016 data window are two of 12 measurements exceed and within the 2014 data window two of 24. The waters were initially Listed in 2002 with two of 17 temperature measurements exceeding the Class VI 20 C criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_GCR01A00 / Green Creek / Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork Blackwater River begins (RU21).	5C	Temperature	2012	L	4.1

Green Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			4.1

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L08R-02-BAC Blackwater River, South Fork

Cause Location: South Fork Blackwater waters from the Rt. 739 Bridge in Algoma, Va. (Callaway Quad) on downstream just west of the Rt. 641 Bridge where the North and South Forks join forming the Blackwater River.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The South Fork Blackwater River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 2/02/01 [Fed. IDs: 1886/7791/21330/24549] and SWCB approved 6/17/04. The Bacteria Implementation Plan (IP) is SWCB approved 6/17/04. The waters are originally 303(d) Listed in 1996 for fecal coliform bacteria (FC) for 6.21 miles. The Upper Blackwater River Bacteria Implementation Plan is complete as of 8/23/01 with SWCB approval on 6/17/04. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The South Fork Blackwater River 1996 303(d) Listed impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform bacteria sample collections. Abundant fecal coliform bacteria counts failed to support the recreational use by exceedances of both the former fecal coliform (FC) geometric mean (200 cfu/100 ml & 2 samples 30 day) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) now replaces FC as the bacteria indicator in the Blackwater River drainage as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 6.21 mile bacteria impairment remains.

4ABSF001.15- (Rt. 641 Bridge east of Callaway) - The 2024 data window confirms impairment. Finds six of 12 E.coli samples in exceedance of the 410 cfu/100 ml STV criterion. 4ADRU002.43- (Rt.642 Bridge) - Two of 12 E.coli samples exceed the instantaneous 235 cfu/100 ml criterion. ————- Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BSF01A00 / S.F. Blackwater River / South Fork Blackwater River mainstem from the Callaway Community downstream to the South Fork's confluence with the North Fork Blackwater River (RU21).	4A	Escherichia coli (E. coli)	2004	L	2.27
VAW-L08R_BSF02A00 / S.F. Blackwater River / South Fork Blackwater River mainstem from Algoma, Green Creek mouth, downstream to the Callaway community (RU21).	4A	Escherichia coli (E. coli)	2004	L	3.95
VAW-L08R_DRU01A16 / Daniel's Run / Daniel's Run from its confluence with the South Fork Blackwater River upstream to an Unnamed Tributary (37 00'21.4" / 80 05'43.7") (RU21).	4A	Escherichia coli (E. coli)	2018	L	3.23

Blackwater River, South Fork

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.45

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

Roanoke and Yadkin River Basins

Cause Group Code: L08R-03-BAC Blackwater River, North Fork

Cause Location: North Fork Blackwater River headwaters (~12.25 mi. upstream) on the Bent Mt. Quad on downstream to its confluence with the South Fork Blackwater River forming the Blackwater River (Callaway Quad).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The North Fork of the Blackwater River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 3/09/2001 [Fed. IDs: 7790 & 20479] and SWCB approved on 6/17/04. The Upper Blackwater River Bacteria Implementation Plan (IP) is complete (8/23/01) receiving SWCB approval on 6/17/2004. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study allocations and Implementation Plans can be viewed at http://www.deq.virginia.gov.

The 12.44 mile North Fork Blackwater River bacteria impairment initially 303(d) Listed in 1996 is based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. Abundant fecal coliform bacteria counts failed to support the Recreational Use by exceedances of both the former fecal coliform (FC) geometric mean (200 cfu/100 ml & 2 samples/month) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform as the bacteria indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ABNR004.56- (Rt. 742 Bridge near Dillions Mill) 2010 IR where E.coli exceed the 235 cfu/100 ml instantaneous criterion in four of 15 observations.

4ABNR000.40- (Rt. 740 Bridge S.W. of Retreat) The 2024 data window confirms ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples. E.coli excursions of the 410 cfu/100ml STV criterion were found in five of 12 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BNR01A00 / N.F. Blackwater River / North Fork Blackwater River mainstem from the Dillions Mill community downstream to the North Fork's confluence with the South Fork on the Blackwater River (RU20).	4A	Escherichia coli (E. coli)	2004	L	3.22
VAW-L08R_BNR02A00 / N.F. Blackwater River / North Fork Blackwater River mainstem headwaters downstream to the Dillions Mill Community (RU20).	4A	Escherichia coli (E. coli)	2006	L	9.24

Blackwater River, North Fork

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			12.46

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

Roanoke and Yadkin River Basins

Cause Group Code: L08R-03-BEN Blackwater River, North Fork

Cause Location: North Fork Blackwater River mainstem from the Dillions Mill community downstream to the North Fork's confluence with the South Fork on the Blackwater River.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: North Fork Blackwater River General Standard Benthic Total Maximum Daily Load (TMDL) is U.S. EPA approved 4/26/04 [Fed ID 24548 Phosphorus & 24550 Sediment] and SWCB approved 8/31/04. Originally 303(d) listed in 1996. Recovery is documented at the upstream station during the 2024 data window; however the 3.22 mile benthic impairment remains due to continued benthic macroinvertebrate community impairment at the lower station.

4ABNR001.53 (Rt. 738 Bridge) The 2024 data window finds fully supporting Virginia Stream Condition Index (VSCI) scores with a spring average of 63 and fall average 64 (2018-19). Biologist notes: This site was initially sampled to determine the effect of dairy farms on water quality in this section of the stream. It was revisited in 2010 to assess improvements as the result of Best Management Practices in the watershed and to collect additional data for development of a future Aquatic Life Use TMDL. The instream habitat (substrate) at this site has been impacted by fine sediment. The riparian vegetative zone scores in the marginal to poor categories. A TMDL study indicating sediment and phosphorus as the stressors was approved by the EPA in 2004. Currently, the Soil and Water Conservation District is implementing agricultural best management practices in the watershed.

4ABNR000.40 (Rt. 740 Bridge) The impairment remains at this station due to five (2009-2011) VSCI surveys with an average score of 47.1. Biologist notes: The instream habitat (substrate) at this site has been impacted by fine sediment. The riparian zone vegetation has been removed and stream banks are highly eroded due to the combination of unrestricted cattle access to the stream and no riparian vegetation.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BNR01A00 / N.F. Blackwater River / North Fork Blackwater River mainstem from the Dillions Mill community downstream to the North Fork's confluence with the South Fork on the Blackwater River (RU20).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	3.22

Blackwater River, North Fork

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.22

Sources: Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization

Roanoke and Yadkin River Basins

Cause Group Code: L08R-04-BAC Blackwater River (Upper)

Cause Location: Blackwater River from the confluence of the North and South Forks of the Blackwater River (Callaway Quad) on downstream to the Rt. 122 bridge crossing.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Bacteria TMDL Studies and allocations are complete for the Upper, Middle and Lower Blackwater R drainages. These studies incorporate tributary streams that lie within the boundaries of watershed VAW-L08R and a portion of L10R. This fact sheet addresses the Upper and Middle Blackwater R drainages. Bacteria TMDL approval (EPA) 3/9/01 for the Upper Blackwater R [Fed. ID 1887 / 9634], the Middle Blackwater 12/4/01 [Fed. IDs: 1887 / 1889 / 9633] and the Lower Blackwater R 4/27/01 [Fed. ID 1888]. Each of the aforementioned TMDLs were approved by the SWCB 6/17/04. The studies were formerly coded: Upper Blackwater R - VAW-L08R-01-Green Cr and VAW-L08R-04-Blackwater. Middle Blackwater - VAW-L08R-04 - Blackwater, VAW-L08R-05 - Little Cr, VAW-L08R-06 - Teels Cr). Lower Blackwater R - VAW-L08R-04 ° Blackwater.

The Upper Blackwater R Bacteria IP covering Upper and Middle Blackwater R TMDLs is complete (8/23/01) and SWCB approved 6/17/04. The Lower Blackwater R Bacteria IP is complete and SWCB approved 9/27/06. The Upper Blackwater R Bacteria IP encompasses the Upper Blackwater R drainage (L08R) to include the North and South Forks, Little and Teels Cr. The Lower Blackwater R Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills Cr (L11R).

Blackwater R: The Blackwater R impairment is originally based on a 319 funded special study (SS 925102) and ambient fecal coliform (FC) bacteria sample collections. Initially 303(d) Listed in 1996, found abundant FC counts failed to support recreational use by exceedances of the former FC geomean (200 cfu/100 ml & 2 samples/mo) and former (2002) inst criterion of 1000 cfu/100 ml. Below addresses 28.27 mi of the Blackwater R mainstem bacteria impairment that totals 39.48 mi (See L10R-01-BAC Fact Sheet for the remainder). Escherichia coli (E.coli) replaced FC as the indicator bacteria per [9 VAC 25-260-170. Bacteria; other waters].

Upper Blackwater R. (15.71 miles): 4ABWR061.20- (Rt. 641 Br) 2024 : Seven escherichia coli (E. coli) samples exceed the 410 cfu/100 ml STV criterion from a total of 12 samples. ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples.

4ABWR054.81- (Rt. 734 Br) 2024: Four escherichia coli (E. coli) samples exceed the 410 cfu/100 ml STV criterion from a total of 12 samples. ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples.

Middle Blackwater R (12.56 miles): 4ABWR045.80- (Rt. 812 Bridge) ECOLI: Insufficient Information (Prioritize for follow up monitoring)- One STV exceedance in one or multiple 90-day periods but insufficient data to analyze geomean. E.coli exceed the 410 cfu/100 ml STV in three out of 12 samp[les. 4ABWR032.32- (Rt. 122 Br at gaging station) This station will no longer be sampled due to safety concerns. 2006 IR reports E.coli exceed the 235 cfu/100 ml instantaneous criterion in 6/21. E.coli samples within the 2008 data window find one of 10 in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BWR01B06 / Blackwater River / Blackwater River mainstem from downstream of the Rt. 921 Bridge ~ 1.3 miles at the confluence of an unnamed tributary downstream to the Rt. 122 Bridge (RU22).	4A	Escherichia coli (E. coli)	2004	L	2.97
VAW-L08R_BWR02A00 / Blackwater River / Blackwater River mainstem from the Town of Rocky Mount's water intake on the Blackwater River on downstream of the Rt. 921 Bridge approximately 1.3 miles at the confluence of an unnamed tributary (RU22).	4A	Escherichia coli (E. coli)	2004	L	4.59
VAW-L08R_BWR03A00 / Blackwater River / Blackwater River mainstem from the WQS designated public water supply (PWS) section 6f ending approximately 2 miles upstream of Little Creek's mouth on the Blackwater downstream to the Town of Rocky Mount's water intake on the Blackwater River (RU22).	4A	Escherichia coli (E. coli)	2004	L	5.01
VAW-L08R_BWR04A00 / Blackwater River / Blackwater River mainstem from the mouth of Maple Branch (37.02063, -79.79814) downstream to the WQS PWS section 6f ending approximately 2 miles upstream of Little Creek's mouth on the Blackwater River (37.04044, -79.91376) (RU22).	4A	Escherichia coli (E. coli)	2004	L	10.10
VAW-L08R_BWR05A00 / Blackwater River / Blackwater River mainstem from the confluence of the North and South Forks of the Blackwater downstream to the mouth of Maple Branch (37°01'14" / 79°58'42") (RU22).	4A	Escherichia coli (E. coli)	2004	L	5.61

Blackwater River (Upper)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			28.28

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

Roanoke and Yadkin River Basins

Cause Group Code: L08R-04-BEN Blackwater River

Cause Location: Blackwater River from the confluence of the North and South Forks of the Blackwater downstream to the mouth of Maple Branch (37°01'14" / 79°58'42").

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The Upper Blackwater River General Standard Benthic Total Maximum Daily Load (TMDL) is U.S. EPA approved on 4/26/04 [Phosphorus Fed ID 7789 & Sediment Fed ID 23397] and SWCB approved on 8/31/04 (formerly VAW-L08R-04).

The original 1996 General Standard benthic impairment was based on Green Creek (Blue Ridge) as a reference site. The reference site for the Blackwater River mainstem stations is now in the Pigg River drainage (transitional Blue Ridge to Piedmont). The Pigg River reference site is believed to more closely reflect conditions in the Blackwater River mainstem.

The original 1996 303(d) Listed benthic impaired waters extended from the confluence of the North and South Forks of the Blackwater River on downstream of the Rt. 921 Bridge approximately 1.3 miles at the confluence of an unnamed tributary (25.24 miles). The impaired waters were shortened with the 2004 Integrated Report partial delisting based on improved conditions at downstream stations 4ABWR049.73 and 4ABWR045.80 through the former Rapid Bioassessment Protocol II (RBP II Method) benthic surveys. The US Environmental Protection Agency approved the partial delisting on 1/27/04. The General Standard (Benthic) impairment is now spans 5.61 miles (Category 4A).

4ABWR061.20 (Rt. 641 Bridge) The 2022 data window finds benthic macroinvertebrate community impairment from four (2018-19) Virginia Stream Condition Index (VSCI) scores with seasonal averages of 52 (spring) and 57 (fall). Biologist notes: Water quality in this reach is affected by nonpoint source pollution from dairy farms from both forks of the Blackwater River. Habitat degradation in the form of sediment deposition and riparian vegetation removal was observed at this site and is the result of agricultural practices. Installation of agricultural best management practices in the watershed is most likely improving water quality.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BWR05A00 / Blackwater River / Blackwater River mainstem from the confluence of the North and South Forks of the Blackwater downstream to the mouth of Maple Branch (37°01'14" / 79°58'42") (RU22).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	5.61

Blackwater River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.61

Sources: Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization

Roanoke and Yadkin River Basins

Cause Group Code: L08R-05-BAC Little Creek and Little Creek, UT (XKF)

Cause Location: Little Creek and an unnamed tributary (XKF) from just west of Helm off Rt. 693 extending downstream to the Little Creek mouth on the Blackwater River (Boones Mill Quad).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Little Creek bacteria impairment is a 1998 (2002) 303(d) Listing for fecal coliform bacteria (formerly VAW-L08R-05). An unnamed tributary (XKF) contributes to the impairment for a total of 8.60 bacteria impaired miles. The Middle Blackwater River Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 12/04/2001 [Fed. IDs: 1887(1889)/9633] and SWCB approved 6/17/2004. The Upper Blackwater River Bacteria Implementation Plan is complete (8/23/2001) and SWCB approved on 6/17/2004. Little Creek (formerly VAW-L08R-05) is tributary to the Blackwater River and is included in the approved Middle Blackwater River Bacteria TMDL. The TMDL identified Wildlife as a major source based on Bacteria Source Tracking (BST). The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL with allocations and the Implementation Plan can be viewed at http://www.deq.virginia.gov.

The Blackwater River bacteria impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant fecal coliform bacteria counts failed to support the recreational use by exceedances of both the former fecal coliform geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Little Creek (7.85 miles): 4ALLE005.22 (Rt. 697 Bridge) The 2022 data window new E.coli criterion confirms impairment due to geomean exceedance in any 90-day period. Twenty of 36 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2020 and 2018 data windows.

Little Creek, UT (XKF 1.04 miles): 4AXKF000.20- (Off Rt. 735) 2008 Integrated Report (IR). Five of five E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_LLE01A00 / Little Creek / Little Creek mainstem PWS section 6f from an unnamed tributary's mouth on Little Creek off Rt. 775 downstream to the Little Creek confluence with the Blackwater River (RU22).	4A	Escherichia coli (E. coli)	2004	L	1.90
VAW-L08R_LLE02A00 / Little Creek / Little Creek mainstem from the mouth of Teels Creek downstream to the PWS section 6f upstream end (RU22).	4A	Escherichia coli (E. coli)	2004	L	0.86
VAW-L08R_LLE03A00 / Little Creek / Little Creek mainstem headwaters west of the Helm community off Rt. 693 downstream to the mouth of Teels Creek (RU22).	4A	Escherichia coli (E. coli)	2004	L	5.12
VAW-L08R_XKF01A06 / Little Creek, UT (XKF) / Little Creek, UT (XKF) mainstem from its mouth on Little Creek upstream to its headwaters (RU22).	4A	Escherichia coli (E. coli)	2006	L	1.04

Little Creek and Little Creek, UT (XKF)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.92

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

Roanoke and Yadkin River Basins

Cause Group Code: L08R-05-BEN Little Creek

Cause Location: Little Creek mainstem extending from the confluence of an unnamed tributary (XKF) from just west of Helm off Rt. 693 on downstream to the Little Creek mouth on the Blackwater River (Boones Mill Quad).

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is not supported on 7.85 miles of Little Creek due to contravention of the General Standard for aquatic life (formerly VAW-L08R-05). The waters are categorized 5A for the General Standard (Benthic) impairment. The benthic impairment is not addressed by the EPA approved Upper Blackwater River Benthic TMDL Study. The General Standard (Benthic) impairment is a 2002 initial 303(d) Listing.

4ALLE005.22 (Rt. 697 Bridge) Benthic macroinvertebrate community impairment is documented from five Virginia Stream Condition Index (VSCI) scores with an overall average of 52 (2018-22) during the 2024 data window. Biologist notes: 2020 VSCI averages set the highest record since sampling began in 2000. Scores improved based on increases of sensitive caddisfly (Trichoptera) and mayfly (Ephemeroptera taxa such as Glossosoma, Rhyacophila, Neophylax, Teloganopsis) increasing total taxa and Ephemeroptera/Plecoptera/Trichoptera taxa metrics. Fall VSCI score continue to show improvement during this assessment cycle.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_LLE01A00 / Little Creek / Little Creek mainstem PWS section 6f from an unnamed tributary's mouth on Little Creek off Rt. 775 downstream to the Little Creek confluence with the Blackwater River (RU22).	5A	Benthic Macroinvertebrates Bioassessments	2002	L	1.90
VAW-L08R_LLE02A00 / Little Creek / Little Creek mainstem from the mouth of Teels Creek downstream to the PWS section 6f upstream end (RU22).	5A	Benthic Macroinvertebrates Bioassessments	2002	L	0.86
VAW-L08R_LLE03A00 / Little Creek / Little Creek mainstem headwaters west of the Helm community off Rt. 693 downstream to the mouth of Teels Creek (RU22).	5A	Benthic Macroinvertebrates Bioassessments	2002	L	5.12

Little Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.88

Sources: Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L08R-06-BAC Teels Creek

Cause Location: Teel Creek mainstem perennial headwaters downstream to its confluence with Little Creek (Boones Mill Quad).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Middle Blackwater River Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 12/04/2001 [Fed. IDs: 1887 / 1889 / 9633] and SWCB approval on 6/17/2004. The SWCB approved the Bacteria Implementation Plan on 6/17/2004. The Teels Creek bacteria impairment is a 4.59 mile 1998 (2002) 303(d) Listing for fecal coliform (FC) bacteria (formerly VAW-L08R-06). The Upper Blackwater River Bacteria Implementation Plan is complete (8/23/2001) and SWCB approved on 6/17/2004. Teels Creek is tributary to Little Creek and then onto the Blackwater River and is included in this approved Middle Blackwater River bacteria TMDL Watershed. The TMDL identified Wildlife as a major source based on Bacteria Source Tracking (BST). The Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks.

The Blackwater River bacteria impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform bacteria sample collections. The 1996 303(d) Listed Blackwater River waters found abundant fecal coliform bacteria counts failed to support the Recreational Use by exceedances of both the former fecal coliform geometric mean (200 cfu/100 ml & 2 samples/calendar month) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) now replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ATEL001.02- (Rt. 697 Bridge) E.coli excursions during the 2024 data window are four of 12.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_TEL01A00 / Teels Creek / Teels Creek mainstem perennial headwaters downstream to its confluence with Little Creek (RU22).	4A	Escherichia coli (E. coli)	2004	L	4.76

Teels Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.76

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

Roanoke and Yadkin River Basins

Cause Group Code: L08R-06-BEN Teels Creek

Cause Location: Teel Creek mainstem perennial headwaters downstream to its confluence with Little Creek (Boones Mill Quad).

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is not supported for 4.76 miles due to contravention of the General Standard for aquatic life (formerly VAW-L08R-06). The waters are categorized 5A for the 2002 initially 303(d) Listed General Standard (Benthic) impairment. The General Standard (benthic) impairment is not addressed in the EPA approved Upper Blackwater River Benthic TMDL Study.

4ATEL001.02 (Rt. 697 Bridge) The 2024 data window finds benthic macroinvertebrate community impairment from nine Virginia Stream Condition Index (VSCI) scores from 2018-22. Seasonal average VSCI scores are 54 (spring) and 65 (fall). Biologist notes: The average VSCI score was has slightly increased to 58.8 during this assessment cycle which is below the VSCI impairment threshold of 60. Three of the four most recent samples collected (Fall 2020-Fall 2022) have passed the VSCI threshold this assessment cycle indicating biological improvement. The instream habitat (substrate) at this site has been impacted by fine sediment. Total habitat scores indicate that the loss of epifaunal substrate is likely due to sediment deposition and unstable banks. All total habitat scores resulted in a medium probability of causing stress to aquatic life during this assessment cycle. Biologist plans to return to this station to monitor improvement.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_TEL01A00 / Teels Creek / Teels Creek mainstem perennial headwaters downstream to its confluence with Little Creek (RU22).	5A	Benthic Macroinvertebrates Bioassessments	2002	L	4.76

Teels Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.76

Sources: Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L08R-07-BAC Buck Run

Cause Location: Buck Run from its confluence on Little Creek upstream to its headwaters.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The 2014 initial Listing of these waters are a result of a 58% failure rate to meet the 235 cfu/10 ml Water Quality Standard instantaneous criterion. These waters are nested within the Middle Blackwater River Bacteria TMDL Study U.S. EPA approved on 12/04/2001. Fed. ID 1887 / 1889 / 9633. SWCB approved 6/17/2004. Bacteria Implementation Plan SWCB approved 6/17/2004.

4ABCE001.32 (Above Rt. 731 Bridge) Seven of 12 escherichia coli (E.coli) samples exceed the 235 cfu/10 ml instantaneous criterion in 2014.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BCE01A08 / Buck Run / Buck Run from its confluence with Little Creek upstream to its headwaters (RU22).	4A	Escherichia coli (E. coli)	2014	L	3.77

Buck Run

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

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

Roanoke and Yadkin River Basins

Cause Group Code: L08R-07-BEN Buck Run

Cause Location: Buck Run from its confluence on Little Creek upstream to its headwaters.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The 2008 303(d) Impaired Waters List included 3.77 miles of Buck Run due to benthic macroinvertebrate community impairment.

4ABCE001.32 (Above Rt. 731 Bridge) The 2024 data window finds impairment from eight Virginia Stream Condition Index (VSCI) scores collected 2018-2022. The average spring VSCI score is 39 and fall average is 53. Biologist notes: Samples are mostly dominated by pollution tolerant taxa from the midge (Chironomidae). The most recent fall samples indicate a minor improvement of the biological community resulting in higher scores due to a decrease in midge (Chironomidae) relative abundance while numerous mayfly taxa and abundances increased. This is an agricultural watershed. Runoff along with reduced riparian vegetation has contributed to sedimentation of instream habitat. Stream channel is greatly incised.

4ABCE000.87- (Downstream of Rt. 731; end of Twin Hollow Lane) No new data since 2006-07 where VSCI surveys resulted in an average score of 35.0. Biologist notes: This station is located in a small second order stream in a watershed influenced by agricultural land use (dairy farms, corn fields). The watershed upstream of this station is dominated by agricultural land cover (67%). The instream habitat was affected by sediment deposition and thick periphyton growth on rocky substrates. Bank vegetation and riparian zones are impacted by the land use. Water chemistry results indicated high nutrients relative to other Probabilistic stations in the region.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BCE01A08 / Buck Run / Buck Run from its confluence with Little Creek upstream to its headwaters (RU22).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	3.77

Buck Run

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.77

Sources: Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Sediment Resuspension (Clean Sediment)

Roanoke and Yadkin River Basins

Cause Group Code: L09R-01-BAC Maggodee Creek

Cause Location: The upstream limit is Maggodee Creek mainstem waters from the North and South Forks confluence downstream to the mouth of Maggodee Creek on the Blackwater River.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Maggodee Cr Bacteria Total Maximum Daily Load (TMDL) was U.S. EPA approved 4/27/01 [Fed. IDs: 1562/9475] and SWCB approved 6/17/04 (formerly VAW-L09R-01) for the former 20.58 mile impairment. A total of 16.15 mi remained impaired after the delisting of VAW-L09R_MEE05A00 in 2008 for Recreational Use.

The 2008 IR results from station 4AMEE021.13 (Rt. 613 Br Below Conflu./w Fork) found 0/12 excursions of the E.coli 235 cfu/100 ml inst. criterion. This portion (4.43 mi) was delisted (EPA approved 12/18/08) with the 2008 IR. This portion returns with the 2012 assessment as described below for 4.43 mi returning the impaired mileage to 20.58 mi. The TMDL Study incorporates tributaries in VAW-L09R. The Lower Blackwater R Bacteria Implementation Plan (IP) received SWCB approval 9/27/06 and encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks. The bacteria impairment is a 1996 303(d) Listing based on a 319 funded special study (SS 925102) and ambient sample collections. Abundant fecal coliform (FC) bacteria counts failed to support Recreational Use by exceedances of the former FC geometric mean (200 n/100 ml) & 2 samples/mo) and the former (2002) inst. criterion of 1000 n/100 ml. Escherichia coli (E.coli) now replaces FC bacteria as the indicator per WQS [9 VAC 25-260-170. Bacteria; other waters].

4AMEE021.13 (Rt. 613 Br Below Conflu./w Fork): delisted in 2008 but relisted with the 2012 assessment. . 2016: 5/23. . 2008: 0/12 resulting in full support of Recreational Use and delisting this portion (VAW-L09R_MEE05A00).

4AMEE016.75- (Rt. 684 Winding Way Road Bridge) Station established in 2014 as a Probabilistic Ambient site. 2014: 0/6. 4AMEE016.75 replaces 4AMEE017.24, the original 2014 probabilistic site.

4AMEE009.86- (Rt. 635 Br) 2018: 3/12.

4AMEE007.85- (Rt. 687 Br above Mollie Br) 2008: 2/6.

4AMEE004.90- (Rt. 697 Br) 2024 : Seven E.coli samples of 12 exceed the 410 cfu/100mu STV criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE01A00 / Maggodee Creek / Maggodee Creek mainstem from Piedmont Mill Dam downstream to the mouth of Maggodee Creek on the Blackwater River (RU23).	4A	Escherichia coli (E. coli)	2004	L	7.48
VAW-L09R_MEE02A00 / Maggodee Creek / Maggodee Creek mainstem from just above Piedmont Mill downstream to Mill Dam (RU23).	4A	Escherichia coli (E. coli)	2004	L	1.67
VAW-L09R_MEE03A00 / Maggodee Creek / Maggodee Creek mainstem waters downstream of Boones Mill STP to just above Piedmont Mill (RU23).	4A	Escherichia coli (E. coli)	2004	L	6.03

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE04A00 / Maggodee Creek / Maggodee Creek mainstem waters from the Boones Mill Town area downstream to Boones Mill STP (RU23).	4A	Escherichia coli (E. coli)	2006	L	0.99
VAW-L09R_MEE05A00 / Maggodee Creek / Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill (RU23).	4A	Escherichia coli (E. coli)	2012	L	4.44

Maggodee Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			20.61

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

Roanoke and Yadkin River Basins

Cause Group Code: L09R-01-BEN Maggodee Creek

Cause Location: Maggodee Creek mainstem from Piedmont Mill Dam downstream to the mouth of Maggodee Creek on the Blackwater River.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The original Aquatic Life Use impairment (2002- formerly VAW-L09R-01) is based on Rapid Bioassessment Protocol II surveys (RBP II) conducted at 4AMEE002.38. This station is now assessed using the Virginia Stream Condition Index (VSCI). The 7.47 mile 2002 303(d) Listed General Standard (Benthic) impairment remains.

4AMEE002.38 (Rt. 6987 Ford, Franklin Co.) The 2014 data window yields four (2010-2011) impaired VSCI surveys with an average score of 57.4. Biologist notes: The instream habitat (substrate) at this site has been impacted by fine sediment. The immediate riparian zone vegetation has been reduced and stream banks are eroded due to reduced vegetation. Runoff from this type of landuse affects water quality by adding sediment, nutrients, and bacteria to the stream.

4AMEE000.70- (Below Rt. 122 Bridge) One impaired 2002 Virginia Stream Condition Index (VSCI) survey scoring 47.2. Biologist notes: Sediment deposition from agricultural runoff appears to have a large impact on the benthic community. Habitat scores for embeddedness and sediment deposition were the lowest of the ten habitat parameters. Both parameters fell in the marginal category. In 2006 three RBP II surveys, outside the 2008 data window, produce an average score of 44.9 at this site.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE01A00 / Maggodee Creek / Maggodee Creek mainstem from Piedmont Mill Dam downstream to the mouth of Maggodee Creek on the Blackwater River (RU23).	5A	Benthic Macroinvertebrates Bioassessments	2002	L	7.48

Maggodee Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.48

Sources: Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment)

Roanoke and Yadkin River Basins

Cause Group Code: L09R-01-TEMP Maggodee Creek

Cause Location: Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is not supported for 4.43 miles due to temperature exceedances for this stockable trout water (21 C).

4AMEE021.13- (Rt. 613 Bridge Below Conflu./w Fork) Five of 23 measurements exceed within the 2016 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE05A00 / Maggodee Creek / Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill (RU23).	5C	Temperature	2008	L	4.44

Maggodee Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			4.44

Sources: Agriculture; Clean Sediments; Livestock (Grazing or Feeding Operations); Non-Point Source; Sediment Resuspension (Clean Sediment); Source Unknown; Urban Runoff/Storm Sewers

Roanoke and Yadkin River Basins

Cause Group Code: L09R-02-BAC Mollie Branch

Cause Location: The impairment begins in the headwaters of Mollie Branch and extends to its mouth on Maggodee Creek (Boones Mill and Redwood Quads).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Maggodee Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 4/27/2001 [Fed. ID 1562 / 9475] and SWCB approved on 6/17/2004 (formerly VAW-L09R-02). Originally 303(d) Listed in 1998 (2002) for FC. The study incorporates tributary streams that lie within the boundaries of watershed VAW-L09R. The Lower Blackwater River Bacteria Implementation Plan (IP) is complete with SWCB approval on 9/27/2006. The Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study can be viewed at http://www.deq.virginia.gov.

The Mollie Branch bacteria impairment is recorded as a 2.74 mile 1998 303(d) Listing for fecal coliform (FC) bacteria based on a 319 funded special study (SS 925102) and ambient sample collections. Actual listing occurred with the 2002 Assessment Cycle. Abundant fecal coliform bacteria counts failed to support the recreational use by exceedances of both the former fecal coliform geometric mean (200 n/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AMHA000.01 (Off Rt. 687 at confluence/w Maggodee) E.coli observations within the 2008 data window find three of six E.coli excursions of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MHA01A00 / Mollie Branch / Mollie Branch mainstem from an unnamed tributary upstream of Piedmont Mill downstream to Mollie Branch mouth on Maggodee Creek (RU23).	4A	Escherichia coli (E. coli)	2004	L	0.92
VAW-L09R_MHA02A00 / Mollie Branch / Mollie Branch mainstem perennial headwaters downstream to an unnamed tributary above Piedmont Mill (RU23).	4A	Escherichia coli (E. coli)	2006	L	1.84

Mollie Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.76

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

Roanoke and Yadkin River Basins

Cause Group Code: L09R-02-BEN Maggodee Creek

Cause Location: Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to the Boones Mill STP outfall (RU23).

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The 2016 initial 5.42 mile Aquatic Life Use (General Standard - Benthic) impairment is the result of benthic macroinvertebrate surveys that show an impaired status.

4AMEE017.24 (Upstream of Rt. 220 near Boones Mill) Virginia Stream Condition Index (VSCI) surveys collected in 2014 result in a spring score of 46.8 and a fall score of 57.9 which indicate an impaired benthic macroinvertebrate community. Biologist notes: The VSCI scores reflect a benthic community lacking in diversity and dominated by pollution-tolerant organisms. Some instream habitat scores were good; however, those related to sediment deposition were low. Bank erosion and riparian zone width scores were also low. This section of Maggodee Creek appears to be impacted by runoff from Rt. 220 and Rt. 613 upstream of the sampling site as well as agricultural land in the headwaters.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L09R_MEE04A00 / Maggodee Creek / Maggodee Creek mainstem waters from the Boones Mill Town area downstream to Boones Mill STP (RU23).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	0.99
VAW-L09R_MEE05A00 / Maggodee Creek / Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill (RU23).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	4.44

Maggodee Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.43

Sources: Agriculture; Clean Sediments; Livestock (Grazing or Feeding Operations); Non-Point Source; Sediment Resuspension (Clean Sediment); Source Unknown; Urban Runoff/Storm Sewers

Roanoke and Yadkin River Basins

Cause Group Code: L10L-01-HG Blackwater River

Cause Location: Blackwater River mainstem waters from the Maggodee Creek confluence downstream ending at 37°03'03" / 79°43'49" located ~1.7 miles upstream of the 4H Camp in Smith Mountain Lake.

Cause City/County: Franklin County

Use(s): Fish Consumption

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

Cause Description: This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) and Virginia Department of Health (VDH) level of concern of 0.5 ppm are found in fish tissue causing impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ABWR019.75 (Rt. 834 Bridge - Brooks Mill Bridge)- 2006 fish tissue collections find from a total of 12 fish, a flathead catfish and a largemouth bass whose tissue values are in excess of the WQS based tissue value (TV) of 0.3 ppm for mercury; flathead catfish (1 fish 96.0 cm) at 0.477 ppm and largemouth base (1 fish 46.5 cm) at 0.514.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10L_BWR03A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from ~1.6 miles downstream of the Brooks Mill Bridge on downstream to the 4H Camp (RU24).	5A	Mercury in Fish Tissue	2010	L	351.98
VAW-L10L_BWR03B14 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its back waters downstream to ~1.6 miles downstream of the Brooks Mill Bridge (RU24).	5A	Mercury in Fish Tissue	2010	L	114.22
VAW-L10L_PCP01A10 / Smith Mtn. Lake (Poplar Camp Creek) / Poplar Camp Creek from its confluence with the Blackwater River upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	58.60
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	5A	Mercury in Fish Tissue	2010	L	0.40
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	5A	Mercury in Fish Tissue	2010	L	5.21
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	5A	Mercury in Fish Tissue	2010	L	2.62

Blackwater River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		524.8	8.23

Sources: Atmospheric Deposition; Contaminated Sediments; Industrial Point Source Discharge; Landfills; Source Unknown; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L10L-05-BAC Smith Mountain Lake - Crazy Horse Camp Ground

Cause Location: Crazy Horse Camp Ground Beach and Marina area.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: Crazy Horse Camp Ground and Marina is located on an unnamed tributary to the Blackwater River. The VDH issued a beach closure at the facility for one week each in June and July 2000 noting a recurrence of bacterial contamination is likely. The facility is located off Route 601 at 37°04'04" / 79°38'54" on the Moneta SW Quad. This is a 2004 Listing (formerly VAW-L12LR-05 & L12L-05-BAC).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10L_XUV01A10 / Smith Mtn. Lake - Crazy Horse Camp Ground and Marina / Off Route 601, Franklin County, on backwaters of an unnamed tributary (XUV) to Blackwater River in Smith Mountain Lake (37.067778, -79.648333).	4A	Escherichia coli (E. coli)	2004	L	30.27

Smith Mountain Lake - Crazy Horse Camp Ground

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		30.27	

Sources: Agriculture; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Urban Runoff/Storm Sewers

Roanoke and Yadkin River Basins

Cause Group Code: L10R-01-BAC Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)

Cause Location: Blackwater River from the Rt. 122 Bridge Crossing on downstream into Smith Mountain Lake (Redwood Quad). Downstream ending at ~1.6 miles downstream of the Brooks Mill Bridge. And Foul Ground Creek from its headwaters (37°01'45" / 79°47'28") downstream to its inundation on the Blackwater River in Smith Mountain Lake (37°03'03" / 79°45'26").

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Bacteria Total Maximum Daily Load (TMDL) Studies are complete for the Upper, Middle and Lower Blackwater River drainages. These studies incorporate tributary streams that lie within the boundaries of VAW-L08R, L09R, L10R and L11R. This Fact sheet addresses the Lower Blackwater River drainage.

TMDL approvals from the U.S. EPA were obtained 3/9/01 for the Upper Blackwater River [Fed. ID 1887/9634], the Middle 12/4/01 [Fed. ID 1887(1889)/9633], & the Lower 4/27/01 [Fed. ID 1888]. Each TMDL was approved by the SWCB 6/17/04.

The Upper Blackwater River Bacteria Implementation Plan (IP) covering Upper and Middle Blackwater River TMDL Studies is complete (8/23/01) and SWCB approved 6/17/04. The Lower Blackwater River Bacteria IP is complete with SWCB approval 9/27/06. The Upper Blackwater River Bacteria IP encompasses the Upper Blackwater River (L08R), the North and South Forks, Little & Teels Creeks. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L12L), Maggodee (L09R) & Gills Creeks (L11R).

352.23 ac in Smith Mtn. Lake are delisted with the 2014 Integrated Report (IR). Escherichia coli (E.coli)) excursions of the 235 cfu/100 ml instantaneous criterion are 2/38 observations at 4ABWR017.42 (Smith Mtn. Lake- Franklin Co.). 114.22 ac remain impaired for Recreational Use.

Blackwater River: The Blackwater River Impairment is originally based on a 319 funded special study (SS 925102) & ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant FC counts failed to support recreational use by exceedances of both the former geomean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. The Blackwater River mainstem bacteria impaired miles total 39.48 (See L08R-04-BAC Fact Sheet). E.coli has replaced FC as the indicator per WQS [9 VAC 25-260-170. Bacteria; other waters].

Lower Blackwater River (11.21 miles): 4ABWR032.32- (Rt. 122 Bridge at the stream gaging station) No additional data beyond the 2006 Integrated Report (IR) where 6/21 samples ranging from 490 to >800 cfu/100 ml. 2008: 1/10 remaining sample in excess of the instantaneous criterion. This station will no longer be sampled due to safety concerns.

4ABWR019.75 (Rt. 834 Bridge or Brooks Mill Bridge) 2024: E.coli impairment due to seven of 12 exceedances of the STV of 410 cf/100ml in any 90-day period;

Foul Ground Creek (4.04 miles): A 2004 addition to the original bacteria impairment is a 4.04 mile section on Foul Ground Creek. [Fed. ID 1888]. The impairment begins at the Foul Ground Creek headwaters and extends downstream to its inundation on the Blackwater River in Smith Mountain Lake.

4AFGC002.52 (Rt. 834 Bridge) No additional data beyond the 2004 IR where 5/11 FC samples exceed the former 400 cfu/100 ml instantaneous criterion. 2008: 0/2 FC samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L08R_BWR01A00 / Blackwater River / Blackwater River mainstem from the Rt. 122 Bridge downstream to the mouth of Maggodee Creek (RU22).	4A	Escherichia coli (E. coli)	2004	L	3.03
VAW-L10L_BWR03A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from ~1.6 miles downstream of the Brooks Mill Bridge on downstream to the 4H Camp (RU24).	4A	Escherichia coli (E. coli)	2022	L	351.98
VAW-L10L_BWR03B14 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its back waters downstream to ~1.6 miles downstream of the Brooks Mill Bridge (RU24).	4A	Escherichia coli (E. coli)	2006	L	114.22
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	4A	Escherichia coli (E. coli)	2006	L	0.40
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	4A	Escherichia coli (E. coli)	2006	L	5.21
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	4A	Escherichia coli (E. coli)	2006	L	2.62

Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		466.2	11.26

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10R_FGC01A00 / Foul Ground Creek / Foul Ground Creek mainstem from its inundation at Smith Mountain Lake on the Blackwater River upstream to its headwaters. The segment is within the WQS designated public water supply (PWS) section 6i (RU24).	4A	Fecal Coliform	2004	L	4.2

Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			4.2

Sources: Agriculture; Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Urban Runoff/Storm Sewers; Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L10R-01-BEN Blackwater River

Cause Location: Blackwater River mainstem from the mouth of Maggodee Creek downstream to the backwaters of Smith Mountain Lake (L10R) at the 795 ft pool elevation.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: An upstream portion (5.99 miles) of the Blackwater River General Standard - Benthic impairment is delisted based on Virginia Stream Condition Index (VSCI) survey data from station 4ABWR029.51. The waters downstream of Maggodee Creek (8.19 miles) remain impaired until sufficient benthic survey data can confirm support or non-support of the Aquatic Life Use in this downstream reach. Habitat impacts include excessive sediment deposition. Water quality in this reach is affected by NPS pollution.

4ABWR029.51- (Downstream of Rt. 122 Bridge) Both the 2010 and 2008 assessment cycles find benthic impairment from two 2004 Virginia Stream Condition Index (VSCI) surveys scoring 60.7 (spring) and (50.1) fall. Subsequent surveys in 2011 and 2012 find three non-impaired and one impaired score but averaging 69.4. The station is located upstream of Maggodee Creek with no additional benthic survey data downstream of Maggodee Creek. A partial delisting (5.99 miles) is a result of these additional surveys. 2011 VSCI scores are: spring 69.4; fall 73.6. And 2012 scores are: spring 58.6; fall 74.8.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	0.40
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	5.21
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	2.62

Blackwater River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.23

Sources: Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat; Sediment Resuspension (Clean Sediment); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L11R-01-BAC Gills Creek

Cause Location: Gills Creek mainstem from west of the Rt. 684 Bridge in Franklin County (Garden City Quad) on downstream into the inundated Gills Creek backwaters of Smith Mountain Lake near the end of Rt. 665. (Moneta S.W. Quad).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Gills Creek Bacteria Total Maximum Daily Load (TMDL) Study received U.S. EPA approval on 5/31/2002 [Fed ID: 9472 / 18765] and SWCB approval on 6/17/04 (formerly VAW-L11R-01). The TMDL Study incorporates tributary streams that lie within the boundaries of watershed VAW-L11R. The Lower Blackwater River Bacteria Implementation Plan (IP) is approved by the SWCB on 9/27/06. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks.

The bacteria impairment is a 1996 303(d) Listing based on a 319 funded special study (SS 925102) and ambient sample collections. Abundant fecal coliform (FC) bacteria counts failed to support the recreational use by exceedances of both the former geometric mean (200 cfu/100 ml) and the former (2002) instantaneous criterion (1000 cfu/100 ml). The Recreational Use impairment remains for 20.46 miles and 197.42 acres in the backwaters of Smith Mountain Lake.

4AGIL023.22- (Rt. 657 Bridge) 2012 Integrated Report (IR) where 11 of 23 escherichia coli (E.coli) samples exceed the WQS 235 cfu/100 ml instantaneous criterion

4AGIL008.30- (Rt. 834 Bridge near Booker T. Washington National Park) The 2012 assessment finds escherichia coli (E.coli) exceed the WQS instantaneous criterion of 235 cfu/100 ml in 12 of 24 samples.

4AGIL004.46 (Rt. 688 Bridge)- 2024 data window confirms impairment due to 2 or more Statistical Threshold Value (STV) hits in the same 90-day period with < 10 samples. Seven of 12 E.coli samples exceed the STV of 410 cfu/100 ml. .

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L11L_GIL02A10 / Smith Mtn. Lake (Gills Creek) / Gills Creek from the end of Route 665 upstream to its backwaters (RU25).	4A	Escherichia coli (E. coli)	2004	L	197.42
VAW-L11R_GIL01A00 / Gills Creek / Gills Creek mainstem from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Smith Mountain Lake, eg. waters within 5 miles of the 795 ft. pool elevation of Smith Mtn. Lake (RU25).	4A	Escherichia coli (E. coli)	2004	L	4.85
VAW-L11R_GIL02A02 / Gills Creek / Gills Creek mainstem from an unnamed tributary just north of the Rt. 122 crossing downstream to the WQS designated public water supply (PWS) section 6i. These waters are not within 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU25).	4A	Escherichia coli (E. coli)	2004	L	4.39

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L11R_GIL03A02 / Gills Creek / Gills Creek mainstem perennial headwaters downstream to an unnamed tributary just north of the Rt. 122 crossing of Gills Creek. These waters are not within 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU25).	4A	Escherichia coli (E. coli)	2010	L	11.22

Gills Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		197.42	20.46

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

Roanoke and Yadkin River Basins

Cause Group Code: L11R-02-BAC North Fork Gills Creek

Cause Location: North Fork Gills Creek and tributaries from its mouth on Gills Creek upstream to its headwaters (RU25).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Gills Creek Bacteria Total Maximum Daily Load (TMDL) Study received U.S. EPA approval on 5/31/2002 [Fed ID: 9472 / 18765] and SWCB approval on 6/17/2004 (formerly VAW-L11R-01). The TMDL Study incorporates tributary streams that lie within the boundaries of watershed VAW-L11R. The Lower Blackwater River Bacteria Implementation Plan (IP) is approved by the SWCB on 9/27/2006. The Lower Blackwater River Bacteria IP encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L10L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study with allocations can be viewed at http://www.deq.virginia.gov.

4AGNF002.84 (Bellwood Ln. Bridge) - New E.coli WQS confirms impairment with 2 or more Statistical Threshold Value (STV) hits in the same 90-day period with < 10 samples during the 2022 data window. Fifteen of 18 E.coli samples exceed during the 2020 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L11R_GNF01A02 / North Fork Gills Creek & Tributaries / North Fork Gills Creek and tributaries from its mouth on Gills Creek upstream to its headwaters (RU25).	4A	Escherichia coli (E. coli)	2018	L	16.5

North Fork Gills Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			16.5

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

Roanoke and Yadkin River Basins

Cause Group Code: L11R-03-PH Jack-O-Lantern Branch, UT (XON)

Cause Location: Unnamed tributary XON from it's headwaters downstream to it's confluence with Jack-O-Lantern Branch (RU25).

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: This initial Aquatic Life Use impairment is based on Level III pH data collected by the U.S. Park Service during the 2020 data window.

4AXON-1-USPS - The 2020 data window finds six of 43 pH observations below pH 6.0 SU. The U.S. Park Service provides Level III Non-Agency data for use in Water Quality Assessments.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L11R_XON01A12 / Jack-O-Lantern Branch, UT (XON) / Unnamed tributary XON from it's headwaters downstream to it's confluence with Jack-O-Lantern Branch (RU25).	5C	pH	2020	L	0.6

Jack-O-Lantern Branch, UT (XON)

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			0.6

Sources: Natural Sources

Roanoke and Yadkin River Basins

Cause Group Code: L12L-01-PCB Roanoke River, Tinker Creek, and Peters Creek

Cause Location: Roanoke River from the confluence of the North and South Forks downstream to Niagara Dam. The impairment includes Peters Creek from the Rt. 460 Bridge downstream to its confluence on the Roanoke River; and Tinker Creek from the mouth of Deer Branch downstream to the Tinker Creek confluence on the Roanoke River.

Cause City/County: Montgomery County; Roanoke; Roanoke County; Salem

Use(s): Fish Consumption; Public Water Supply; Wildlife

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

Cause Description: The waters of the Roanoke River (28.61 miles), Peters Creek (2.52 miles) and Tinker Creek (5.37 miles) are under a Virginia Department of Health (VDH) Fish Consumption Advisory for Polychlorinated biphenyls (PCB) issued 7/27/05. An additional 3.16 miles on the Roanoke from Niagara Dam to Smith Mtn. Lake are under advisory and described in Fact Sheet L12L-02-PCB. The VDH Advisory is based on fish tissue found to originally contain greater than 50 parts per billion (ppb) of PCBs. The DEQ Water Quality Standard (WQS) based tissue value (TV) criterion is 20 ppb in fish tissue. The previous advisory (issued 10/20/03) recommended that no more than two eight-ounce meals per month of flathead catfish (less than 32 inches in size), striped bass, gizzard shad, redhorse sucker, largemouth bass and carp should be consumed. Per the previous advisory, flathead catfish (greater than 32 inches in size) should not be eaten. The advisory has been updated to also recommend that no more than two eight-ounce meals per month of channel catfish should be consumed. 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.
The Roanoke (Staunton) River PCB TMDL Study is U.S. Environmental Protection Agency (EPA) approved on 4/9/10 and State Water Control Board (SWCB) approved 12/9/10. A 3.16 mile portion of the Roanoke River is not included in the PCB TMDL Study. The following Federal Identification Numbers by watershed are approved:

L03R Roanoke River: 38624, 38625, 38627, 38629, 38543, 38630 L04R Roanoke River: 24537, 38552, 38632, 38633, 38634, 38635, 38636 Peters Creek: 38468 L05R Tinker Creek: 38467

Thirty day deployment of Semi-Permeable Membrane Devices (SPMD) or virtual fish in 2008 find exceedances of the WQS PCB water column criterion of 640 picograms per liter (pg/L). Exceedances are recorded for the Fish Consumption Use via WQS 'Other Waters' (12.09 miles) as well as the Wildlife Use (12.09 miles) and the 'Public Water Supply Use' (PWS 1.64 miles) for the human health criterion at the stations listed below. The 640 pg/L criterion applies to these Uses. The 'PCB in Water Column' impairment on the mainstem of the Roanoke River extends from the confluence of Mason Creek downstream to the mouth of Back Creek (15.23 miles). Fact Sheet L12L-02-PCB describes and the additional 3.14 miles for each of these uses. The 'PCB in Water Column' impairment overlays a total 15.23 mile portion of the overall VDH Fish Consumption Advisory area above Smith Mountain Lake.

4AROA207.08 (Near Memorial Bridge downstream of Peters Creek) 2008 SPMD 'OE'. Exceeds PCB WQS 'Other Waters' 640 pg/L criterion from one of two deployments at 642. 4AROA204.76 (Downstream of Ore Br., near VA Scrap Iron Co. above American Viscose) Two 2008 SPMD deployments find exceedance of the WQS 'Other Waters' 640 pg/L criterion at 987 and 3,014 pg/L. 4AROA202.20 (13th Street Bridge - above STP) Two 2008 SPMD deployments find exceedance of the WQS 'Other Waters' 640 pg/L criterion at 1,376 and 3,044 pg/L. 4AROA199.20 (Blue Ridge Parkway Bridge - Niagara) Two 2008 SPMD deployments find exceedance of the WQS 'Other Waters'.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L03R_ROA01A00 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth upstream to the Rt. 419 Bridge (RU09).	4A	PCBs in Fish Tissue	2002	L	1.21
VAW-L03R_ROA02A00 / Roanoke River / Roanoke River mainstem from the Rt. 419 Bridge upstream to the City of Salem downtown intake on the Roanoke River (RU09).	4A	PCBs in Fish Tissue	2002	L	2.68
VAW-L03R_ROA03A00 / Roanoke River / Roanoke River mainstem from the Salem City WTP downtown intake upstream to the Big Bear Branch mouth on the Roanoke River (RU09).	4A	PCBs in Fish Tissue	2002	L	3.42
VAW-L03R_ROA04A00 / Roanoke River / Roanoke River mainstem from the Big Bear Rock Branch mouth upstream to end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns (RU09).	4A	PCBs in Fish Tissue	2002	L	5.58
VAW-L03R_ROA05A00 / Roanoke River / Roanoke River mainstem from the end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns upstream to the Roanoke County Spring Hollow Reservoir intake (RU09).	4A	PCBs in Fish Tissue	2002	L	1.44
VAW-L03R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Roanoke County Spring Hollow Reservoir intake upstream to the Montgomery/Roanoke County Line (RU09).	4A	PCBs in Fish Tissue	2002	L	0.95
VAW-L03R_ROA07A12 / Roanoke River / Roanoke River mainstem from the Montgomery/Roanoke County Line upstream to the confluence of the North & South Forks of the Roanoke River (RU09).	4A	PCBs in Fish Tissue	2002	L	1.27
VAW-L04R_PEE01A02 / Peters Creek / Peters Creek mainstem from its confluence with the Roanoke River upstream to the Melrose Avenue Bridge (Rt. 11/460) (RU14).	4A	PCBs in Fish Tissue	2004	L	2.59
VAW-L04R_ROA02A00 / Roanoke River Niagara / These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i) (RU14).	4A	PCBs in Fish Tissue	2002	L	0.77
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	PCBs in Fish Tissue	2002	L	0.87

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	PCBs in Fish Tissue	2002	L	0.20
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	PCBs in Fish Tissue	2002	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	PCBs in Fish Tissue	2002	L	4.35
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	4A	PCBs in Fish Tissue	2002	L	3.33
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	4A	PCBs in Fish Tissue	2002	L	2.23
VAW-L05R_TKR01A00 / Tinker Creek / Tinker Creek mainstem from the its confluence with the Roanoke River upstream to the mouth of Carvin Creek (RU13).	4A	PCBs in Fish Tissue	2006	L	5.37

Roanoke River, Tinker Creek, and Peters Creek

Fish Consumption

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCBs in Fish Tissue - Total Impaired Size by Water Type:			36.66

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA02A00 / Roanoke River Niagara / These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i) (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	0.77

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA03A00 / Roanoke River Niagara / Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	0.87
VAW-L04R_ROA04A00 / Roanoke River / Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Cr. confluence on the Roanoke R. (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	0.20
VAW-L04R_ROA05A00 / Roanoke River / Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6) (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	0.40
VAW-L04R_ROA06A00 / Roanoke River / Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	4.35
VAW-L04R_ROA07A00 / Roanoke River / Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	3.33
VAW-L04R_ROA08A02 / Roanoke River / Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	2.23

Roanoke River, Tinker Creek, and Peters Creek

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			12.15

Roanoke River, Tinker Creek, and Peters Creek

Public Water Supply	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			1.64

Roanoke River, Tinker Creek, and Peters Creek

Wildlife	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			12.15

Sources: Landfills; Source Unknown; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L12L-02-PCB Roanoke River, Blackwater River and Smith Mountain Lake.

Cause Location: Roanoke River from Niagara Dam downstream to Smith Mtn. Dam and the Blackwater River from the Rt. 122 crossing downstream to its confluence with the Roanoke River in Smith Mtn. Lake.

Cause City/County: Bedford County; Franklin County; Pittsylvania County; Roanoke County

Use(s): Fish Consumption; Public Water Supply; Wildlife

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

Cause Description: The waters of the Roanoke River (3.16 miles), Blackwater River (11.29 miles) and Smith Mountain Lake (19,820.09 acres) are under a Virginia Department of Health (VDH) Fish Consumption Advisory for Polychlorinated Bisphenols (PCB) issued 7/27/05. The VDH Advisory is based on fish tissue found to originally contain greater than 50 parts per billion (ppb) of PCBs. The DEQ Water Quality Standard (WQS) based tissue value (TV) criterion is 18 ppb in fish tissue.

The Roanoke (Staunton) River PCB TMDL Study is U.S. Environmental Protection Agency (EPA) approved on 4/9/10 and State Water Control Board (SWCB) approved 12/9/10. The Roanoke River (3.14 miles), Blackwater River (11.29 miles) and the waters of Smith Mountain Lake (19,820.09 acres) are nested within the Roanoke (Staunton) River TMDL. EPA approved the nesting on 7/9/12 for PCB in Fish Tissue and PCB in Water Column. The Roanoke River portion (VAW-L04R_ROA01A00) is assigned Federal ID 24537 and the remaining waters are assigned Federal ID 38618.

Fish tissue collections are reviewed by the VDH to inform fish consumption advisory determination. 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.

Thirty day deployment of Semi-Permeable Membrane Devices (SPMD) or virtual fish in 2008 find exceedances of the WQS PCB water column criterion of 640 picograms per liter (pg/L). Exceedances are recorded for both the Fish Consumption Use via WQS 'Other Waters' (3.16 miles in the Roanoke) as well as the Wildlife Use (3.16 miles) and for the 'Public Water Supply Use' (PWS 3.16 miles) human health criterion at the station listed below. The 640 pg/L criterion applies to both Uses. The 'PCB in Water Column' impairment on the mainstem of the Roanoke River extends from the confluence of Mason Creek downstream to the mouth of Back Creek (15.23 miles). The 'PCB in Water Column' impairment overlays a total of 15.23 miles of the overall VDH Fish Consumption Advisory area above Smith Mountain Lake on the Roanoke River.

4AROA199.20 (Blue Ridge Parkway Bridge, Niagara) There are no additional data beyond two 2008 SPMD deployments which find exceedance of the WQS 'Other Waters' and 'PWS' 640 pg/L criterion at 1,213 and 1,588 pg/L.

4AROA196.05 (McVeigh Ford, Smith Mountain Lake) Three fish species exceed the PCB WQS in the 2019 collections: Flathead Catfish (1 fish) at 860 ppb, Golden Redhorse Sucker (5 fish) at 56 ppb, and Carp (5 fish) at 61 ppb.

4AROA175.63 (Hales Ford - SML) Two fish species exceed the PCB WQS in the 2021 collections: Striped Bass (1 fish) at 66 ppb and Flathead Catfish (2 fish) at 30 ppb. Two fish species exceed the PCB WQS in the 2019 collections: Largemouth Bass (3 fish) at 24 ppb and Flathead Catfish (3 fish) at 59 ppb.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	4A	PCBs in Fish Tissue	2002	L	3.17

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Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07L_BDA01A10 / Smith Mtn. Lake (Beaverdam Creek) / Beaverdam Creek from its mouth on the Roanoke River upstream to its backwaters (RU17).	4A	PCBs in Fish Tissue	2006	L	151.70
VAW-L07L_BKY01A10 / Smith Mtn. Lake (Beckys Creek) / Beckys Creek from its confluence with the Roanoke River upstream to its backwaters (RU19).	4A	PCBs in Fish Tissue	2006	L	246.95
VAW-L07L_BTT01A10 / Smith Mtn. Lake (Bettys Creek) / Bettys Creek from its confluence with the Roanoke River upstream to its backwaters (RU19).	4A	PCBs in Fish Tissue	2006	L	213.20
VAW-L07L_FIN02A10 / Smith Mtn. Lake (Falling Creek) / Falling Creek from its confluence with the Roanoke River upstream to its backwaters (795 Ft. pool elevation) (RU16).	4A	PCBs in Fish Tissue	2006	L	18.37
VAW-L07L_HFW01A10 / Smith Mtn. Lake (Hales Creek) / Hales Creek from its mouth on the Roanoke River upstream to its backwaters.	4A	PCBs in Fish Tissue	2002	L	117.91
VAW-L07L_IND01A10 / Smith Mtn. Lake (Indian Creek) / Indian Creek from its mouth on the Roanoke River upstream to the 795 Ft. pool elevation of Smith Mountain Lake.	4A	PCBs in Fish Tissue	2002	L	161.67
VAW-L07L_JUM01A10 / Smith Mtn. Lake (Jumping Run) / Jumping Run from its confluence with the Roanoke River upstream to its backwaters.	4A	PCBs in Fish Tissue	2002	L	29.11
VAW-L07L_LVL01A10 / Smith Mtn. Lake (Lynville Creek) / Lynville Creek from its confluence on the Roanoke River upstream to its backwaters.	4A	PCBs in Fish Tissue	2002	L	76.75
VAW-L07L_ROA01A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from the Blackwater River confluence upstream to (37.0775, -79.620833) below State Park.	4A	PCBs in Fish Tissue	2006	L	1770.54
VAW-L07L_ROA02A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from (37.0775, -79.620833) below the State Park upstream to approximately 1 mile downstream of the Hales Ford Bridge.	4A	PCBs in Fish Tissue	2006	L	2434.88
VAW-L07L_ROA03A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from approximately 1 mile downstream of the Hales Ford Bridge upstream to above Hales Creek confluence.	4A	PCBs in Fish Tissue	2002	L	431.99
VAW-L07L_ROA03B22 / Smith Mtn. Lake (Roanoke River) / Roanoke River from above Hales Creek Confluence upstream to above the confluence of Indian Creek Confluence	4A	PCBs in Fish Tissue	2002	L	583.52
VAW-L07L_ROA03C22 / Smith Mtn. Lake (Roanoke River) / Roanoke River above the Indian Creek Confluence upstream to above Beaverdam Creek Confluence	4A	PCBs in Fish Tissue	2002	L	578.10

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L07L_ROA03D22 / Smith Mtn. Lake (Roanoke River) / Roanoke River from above Beaverdam Creek confluence upstream to the mouth of Falling Creek.	4A	PCBs in Fish Tissue	2002	L	602.39
VAW-L07L_ROA04A10 / Smith Mtn. Lake (Roanoke River) / Roanoke River from ~ 3/4 miles upstream of the Hardy Road Bridge downstream to the confluence of Falling Creek.	4A	PCBs in Fish Tissue	2006	L	184.71
VAW-L07L_ROA05A14 / Smith Mtn. Lake (Roanoke River) / Roanoke River from the Back Creek confluence downstream to ~ 3/4 miles upstream of the Hardy Road Bridge.	4A	PCBs in Fish Tissue	2006	L	165.30
VAW-L07L_SWC01A10 / Smith Mtn. Lake (Stony Creek) / Stony Creek from its mouth on the Roanoke River upstream to its backwaters.	4A	PCBs in Fish Tissue	2002	L	48.62
VAW-L07L_XNK01A10 / Smith Mtn. Lake (Roanoke R., UT XNK) / An unnamed tributary to the Roanoke River from its mouth upstream to its backwaters.	4A	PCBs in Fish Tissue	2002	L	79.99
VAW-L07L_XNL01A10 / Smith Mtn. Lake (Roanoke R., UT XNL) / An unnamed tributary to the Roanoke River from its mouth upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	109.33
VAW-L07L_XNM01A10 / Smith Mtn. Lake (Roanoke R., UT XNM) / An unnamed tributary (XNM) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	38.40
VAW-L07L_XNN01A10 / Smith Mtn. Lake (Roanoke R., UT XNN) / An Unnamed tributary (XNN) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	87.78
VAW-L07L_XNT01A10 / Smith Mtn. Lake (Roanoke R., UT XNT) / An unnamed tributary (XNT) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	68.39
VAW-L07L_XNU01A10 / Smith Mtn. Lake (Roanoke R., UT XNU) / An unnamed tributary (XNU) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	125.42
VAW-L07L_XOC01A10 / Smith Mtn. Lake (Roanoke R., UT XOC) / An unnamed tributary (XOC) to the Roanoke River from its mouth upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	119.56
VAW-L08R_BWR01A00 / Blackwater River / Blackwater River mainstem from the Rt. 122 Bridge downstream to the mouth of Maggodee Creek (RU22).	4A	PCBs in Fish Tissue	2006	L	3.03

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10L_BSA01A10 / Smith Mtn. Lake (Bull Run) / Bull Run from its mouth on the Blackwater River upstream to its backwaters (RU26).	4A	PCBs in Fish Tissue	2006	L	1156.52
VAW-L10L_BWR01A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its mouth on the Roanoke River upstream to the mouth of Gills Creek.	4A	PCBs in Fish Tissue	2006	L	2460.64
VAW-L10L_BWR02A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from the mouth of Gills Creek upstream to near the 4H Camp.	4A	PCBs in Fish Tissue	2006	L	1849.56
VAW-L10L_BWR03A10 / Smith Mtn. Lake (Blackwater River) / Blackwater River from ~1.6 miles downstream of the Brooks Mill Bridge on downstream to the 4H Camp (RU24).	4A	PCBs in Fish Tissue	2006	L	351.98
VAW-L10L_BWR03B14 / Smith Mtn. Lake (Blackwater River) / Blackwater River from its back waters downstream to ~1.6 miles downstream of the Brooks Mill Bridge (RU24).	4A	PCBs in Fish Tissue	2006	L	114.22
VAW-L10L_COA01A10 / Smith Mtn. Lake (Cool Branch) / Cool Branch from its mouth on the Blackwater River upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	362.12
VAW-L10L_PCP01A10 / Smith Mtn. Lake (Poplar Camp Creek) / Poplar Camp Creek from its confluence with the Blackwater River upstream to its backwaters.	4A	PCBs in Fish Tissue	2006	L	58.60
VAW-L10L_XNZ01A10 / Smith Mtn. Lake (Little Bull Run, UT XNZ) / Unnamed tributary (XNZ) from its backwaters downstream to its mouth on Little Bull Run.	4A	PCBs in Fish Tissue	2006	L	15.22
VAW-L10L_XUV01A10 / Smith Mtn. Lake - Crazy Horse Camp Ground and Marina / Off Route 601, Franklin County, on backwaters of an unnamed tributary (XUV) to Blackwater River in Smith Mountain Lake (37.067778, -79.648333).	4A	PCBs in Fish Tissue	2006	L	30.27
VAW-L10R_BWR01A00 / Blackwater River / Blackwater mainstem from the Dillions Mill Branch mouth downstream into Smith Mountain Lake. The waters are within the WQS designated public water supply (PWS) section 6i, 5 miles upstream of the 795 ft. pool elevation of Smith Mtn. Lake (RU24).	4A	PCBs in Fish Tissue	2006	L	0.40
VAW-L10R_BWR02A00 / Blackwater River / Blackwater River mainstem waters from the upper end of the WQS designated public water supply (PWS) section 6i downstream to Dillions Mill Branch (RU24).	4A	PCBs in Fish Tissue	2006	L	5.21

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L10R_BWR03A00 / Blackwater River / Blackwater River mainstem from the Maggodee Creek mouth on downstream to the upper end of the WQS designated public water supply (PWS) section 6i (RU24).	4A	PCBs in Fish Tissue	2006	L	2.62
VAW-L11L_GIL01A10 / Smith Mtn. Lake (Gills Creek) / Gills Creek from its mouth on the Blackwater River upstream to near the end of Route 665 (RU25).	4A	PCBs in Fish Tissue	2006	L	527.22
VAW-L11L_GIL02A10 / Smith Mtn. Lake (Gills Creek) / Gills Creek from the end of Route 665 upstream to its backwaters (RU25).	4A	PCBs in Fish Tissue	2006	L	197.42
VAW-L12L_CCK01A02 / Smith Mtn. Lake (Craddock Creek) / Craddock Creek from its mouth on the Roanoke River upstream to its backwaters (RU27).	4A	PCBs in Fish Tissue	2006	L	1547.12
VAW-L12L_LOS01A10 / Smith Mtn. Lake (Louse Creek) / Louse Creek from its mouth on the Roanoke River upstream to its backwaters (RU27).	4A	PCBs in Fish Tissue	2006	L	152.10
VAW-L12L_ROA01A02 / Smith Mtn. Lake (Roanoke River) / Roanoke River from Smith Mountain Dam upstream to the confluence of the Blackwater River (RU27).	4A	PCBs in Fish Tissue	2006	L	2088.34
VAW-L12L_WTH01A10 / Smith Mtn. Lake (Witcher Creek) / Witcher Creek from its mouth on the Roanoke River upstream to its backwaters (RU27).	4A	PCBs in Fish Tissue	2006	L	322.35
VAW-L12L_XNW01A10 / Smith Mtn. Lake (Witcher Creek, UT(XNW) / An unnamed tributary (XNW) to Witcher Creek (Roanoke River) from its mouth upstream to its headwaters (RU27).	4A	PCBs in Fish Tissue	2006	L	136.23

Roanoke River, Blackwater River and Smith Mountain Lake.

Fish Consumption

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCBs in Fish Tissue - Total Impaired Size by Water Type:		19814.49	14.43

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L04R_ROA01A00 / Roanoke River / Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i) (RU14).	4A	Polychlorinated biphenyls (PCBs)	2010	L	3.17

Roanoke River, Blackwater River and Smith Mountain Lake.

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			3.17

Roanoke River, Blackwater River and Smith Mountain Lake.

Public Water Supply	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			3.17

Roanoke River, Blackwater River and Smith Mountain Lake.

Wildlife	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			3.17

Sources: Atmospheric Deposition; Contaminated Sediments; Industrial Point Source Discharge; Landfills; Source Unknown; Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L12R-01-BAC Craddock Creek (XME)

Cause Location: An unnamed tributary (XME) to Craddock Creek from it's headwaters downstream to it's inundation on Smith Mountain Lake.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: Craddock Creek is newly 303(d) listed during the 2020 data window for the Recreational Use.

4ACCK004.26 (Surry Drive Bridge) The new E.coli WQS confirms impairment due to 2 or more Statistical Threshold Value (STV) hits in the same 90-day period with < 10 samples. The 2020 data window finds nine of 23 samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L12R_XME01A02 / Craddock Creek, UT (XME) / An unnamed tributary to Craddock Creek and Smith Mountain Lake. These waters are within the WQS public water supply (PWS) designated section 6i eg. 5 miles of the 795 ft. pool elevation of Smith Mtn. Lake (RU27).	5A	Escherichia coli (E. coli)	2012	L	1.23

Craddock Creek (XME)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			1.23

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

Roanoke and Yadkin River Basins

Cause Group Code: L13L-02-BAC Leesville Lake (Pigg River)

Cause Location: Pigg River from its confluence with the Roanoke River in Leesville Lake upstream to its backwaters.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Pigg River TMDL received U.S. EPA approval on 9/11/2006. Fed ID 30413 and SWCB approval on 6/27/2007.

4APGG003.29- (Rt. 605 Graves Bridge) 2022: E.coli- Impaired- 2 or more STV hits in the same 90-day period with < 10 samples. 2020: Eleven of 29 escherichia coli (E.coli) observations exceed the WQS instantaneous criterion of 235 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L13L_PGG01A02 / Leesville Lake (Pigg R.) / Pigg River from its confluence with the Roanoke River in Leesville Lake upstream to its backwaters (RU37).	4A	Escherichia coli (E. coli)	2006	L	158.37

Leesville Lake (Pigg River)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		158.37	

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

Roanoke and Yadkin River Basins

Cause Group Code: L13L-03-DO Leesville Lake

Cause Location: From the Leesville Dam upstream to the Smith Mountain Lake Dam.

Cause City/County: Bedford County; Campbell County; Pittsylvania County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Station ID: 4AROA140.66 - DO exceeds the Dissolved Oxygen WQS 69 out of 279 samples. Station ID: 4AROA145.34 - DO exceeds the Dissolved Oxygen WQS 38 out of 299 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L13L_ROA01A18 / Leesville Lake / Roanoke River from the mouth of Old Womans Creek downstream to Leesville Dam.	5A	Dissolved Oxygen	2022	L	403.54
VAW-L13L_ROA02A18 / Leesville Lake Middle (Roanoke R.) / Roanoke River from the Pigg River mouth downstream to the Old Womans Creek mouth.	5A	Dissolved Oxygen	2022	L	1586.64
VAW-L13L_ROA03A18 / Leesville Lake / Roanoke River from the Smith Mountain Dam downstream to the Pigg River confluence.	5A	Dissolved Oxygen	2022	L	336.90

Leesville Lake

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		2327.08	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L13R-01-BAC Old Womans Creek

Cause Location: Old Womans Creek mainstem perennial headwaters downstream to its inundation at Leesville Lake.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: Old Womans Creek was originally 303(d) listed for the Recreational Use during the 2006 assessment cycle. These waters are included in the Bacteria TMDL for Pigg River, Snow Creek, Story Creek and Old Womans Creek which was EPA approved 9/11/06 and SWCB approved 6/27/07 [Fed ID 30411].

4AOWC002.35 (TMDL Monitoring)(Paisley Rd. (Rt. 756)) - 2022: E.coli - 3/10 Exceedance Rate.

4AOWC005.36 (Ambient)(Station 17 Route 760 Bridge) - E. coli - 5/12 Exceedance Rate.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L13R_OWC01A18 / Old Womans Creek / Old Womans Creek mainstem perennial headwaters downstream to its inundation at Leesville Lake (RU38).	4A	Escherichia coli (E. coli)	2006	L	4.9

Old Womans Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.9

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

Roanoke and Yadkin River Basins

Cause Group Code: L14R-01-BAC Pigg River and Doe Run

Cause Location: Pigg River from near the Five Mile Mountain Road (~ 1 mile upstream of the South Prong Pigg River confluence with the Pigg River) on downstream of the Rocky Mount STP to an unnamed tributary to the Pigg River upstream of the community of Gladehill. Doe Run mainstem from its mouth on the Pigg River upstream to its headwaters. (Rocky Mount & Gladehill Quads).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 9/11/2006 and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. The Doe Run bacteria impairment is not specifically addressed by the TMDL due to the listing occurring after initial study contractual design. The allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment.

The 2004 Integrated Report (IR) extended the 1996 Pigg R bacteria 303(d) Listing upstream from the confluence of Storey Cr on the Pigg R continuing upstream to the mouth of the South Prong Pigg R due to sample collections in support of the Bacteria TMDL Study. Additional upstream samples from station 4APGG077.15 within the 2016 data window extend the impairment further upstream adding 2.95 miles to the total impairment. Below describes the upper 37.76 mile impaired portion including the 2004 addition of 13.40 miles to the original 1996 impaired miles (21.41) and the 2016 addition of 2.95 miles on the Pigg R. Doe Run is a nested 2006 addition (5.68 miles). The Lower Pigg R portion is described in a separate fact sheet (L18R-01-BAC) and comprises 28.95 miles.

4ADOE002.47- (Rt. 720 Br) 2006 IR where 3/12 fecal coliform (FC) exceedances of the 400 cfu/100 ml inst. criterion. Escherichia coli (E.coli) has replaced FC as the indicator organism. 4APGG077.15 2020: 22/29 samples exceed the 235 cfu/100 ml inst. 4APGG074.87- (Rt. 908 Ford) 2010: 12/24 E.coli exceedances. 4APGG068.49- (Rt. 756 Br) 2020: 27/42 exceedances. 4APGG0057.85 (Bus. 220 Br - above Old STP) 2010: 5/12 samples exceed. 4APGG055.72 (Rt. 220 Br - below Old STP) 2010 IR 4/12. 4APGG052.73- (Rt. 713 Br) 2020: 20/36.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_DOE01A06 / Doe Run / Doe Run mainstem from its mouth on the Pigg River upstream to its headwaters (RU30).	4A	Fecal Coliform	2006	L	5.68

Pigg River and Doe Run

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			5.68

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_PGG02A00 / Pigg River / Pigg River mainstem from the town of Rocky Mount STP downstream to an unnamed tributary confluence on the Pigg River (RU30).	4A	Escherichia coli (E. coli)	2008	L	10.92
VAW-L14R_PGG03A00 / Pigg River / Pigg River mainstem from just downstream of the Rt. 220 Business Bridge on downstream to the Town of Rocky Mount STP (RU30).	4A	Escherichia coli (E. coli)	2006	L	4.73
VAW-L14R_PGG04A00 / Pigg River / Pigg River mainstem from the Storey Creek mouth on down to just downstream of the Rt. 220 Business Bridge (RU30).	4A	Escherichia coli (E. coli)	2006	L	5.77
VAW-L14R_PGG05A02 / Pigg River / Pigg River mainstem from the confluence of the South Prong Pigg River downstream to the mouth of Storey Creek (RU29).	4A	Escherichia coli (E. coli)	2006	L	11.93
VAW-L14R_PGG05B12 / Pigg River / Pigg River mainstem from the confluence of the South Prong Pigg River downstream to the confluence of Turners Creek (RU29).	4A	Escherichia coli (E. coli)	2006	L	1.49
VAW-L14R_PGG06A02 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong of the Pigg River downstream to the South Prong Pigg River confluence on the Pigg River (RU29).	4A	Escherichia coli (E. coli)	2016	L	1.02
VAW-L14R_PGG06B12 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong Pigg upstream to near Five Mile Mountain Rd. (Rt. 748) (RU29).	4A	Escherichia coli (E. coli)	2016	L	1.95

Pigg River and Doe Run

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			37.81

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

Roanoke and Yadkin River Basins

Cause Group Code: L14R-01-BEN Pigg River

Cause Location: Pigg River mainstem from near Five Mile Mountain Road (Rt. 748) on downstream to the confluence of Turners Creek.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The initial 4.43 mile Aquatic Life Use (General Standard- Benthic) 303(d) Impaired Waters Listing on Pigg River was documented during the 2012 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) data window and remains impaired.

4APGG077.15 (Ferrum Mtn. Rd. (Rt. 602) Bridge) Five Virginia Stream Condition Index (VSCI) scores (2017-19) averaged 52 (spring) and 60 (fall) within the 2024 data window. Biologist notes: Most metrics demonstrated variability seasonally and annually. Total Habitat scores averaged 111.5, yielding a medium risk to aquatic life based upon the TMDL stressor analysis tool. The threshold for high risk is <100. Stream bank and riparian zone scores were poor and sediment deposition scores were mostly marginal. Increased sediment deposition and substrate embeddedness was observed during 2019 surveys. The immediate land use at this station is pasture or grain fields. Within the sampling reach there is a minimal riparian zone unless steep hill slopes exist.

4APGG076.93 (~1 mile upstream of the South Prong Pigg River confluence) This station was sampled as a 2009 Probabilistic site. Two 2009 VSCI surveys with an average score of 50.5. Biologist notes that biomonitoring data shows a stressed benthic community. A high number of mayflies were in this sample; however, the mayfly family Ephemerellidae is tolerant of moderate sediment impacts. The stream substrate was impacted by sediment deposition and some benthic macroinvertebrates were covered with bacteria which may indicate nutrient enrichment.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_PGG05B12 / Pigg River / Pigg River mainstem from the confluence of the South Prong Pigg River downstream to the confluence of Turners Creek (RU29).	5A	Benthic Macroinvertebrates Bioassessments	2012	H	1.49
VAW-L14R_PGG06A02 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong of the Pigg River downstream to the South Prong Pigg River confluence on the Pigg River (RU29).	5A	Benthic Macroinvertebrates Bioassessments	2012	H	1.02
VAW-L14R_PGG06B12 / Pigg River / Pigg River mainstem from one mile above the mouth of the South Prong Pigg upstream to near Five Mile Mountain Rd. (Rt. 748) (RU29).	5A	Benthic Macroinvertebrates Bioassessments	2012	H	1.95

Pigg River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.46

Sources: Crop Production (Crop Land or Dry Land); Dairies; Livestock (Grazing or Feeding Operations); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L14R-02-BAC Storey Creek

Cause Location: The Storey Creek upper limit is west of Ferrum near the intersection of Rt. 40 and Rt. 748, perennial headwaters (Ferrum Quad). The downstream limit is the mouth of Storey Creek on the Pigg River (RU29).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30412] and incorporates the Storey Creek drainage. The Pigg River bacteria study received approval from the State Water Control Board (SWCB) on 6/27/2007 incorporating the Storey Creek 11.86 mile impairment. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. Additional stations were added along Storey Creek in support of the Bacteria TMDL Study. Stations on Storey Creek find the recreational use impaired due to exceedance of the former fecal coliform (FC) bacteria 400 cfu/100 ml instantaneous criterion and the current escherichia coli (E.coli) instantaneous criterion of 235 cfu/100 ml.

4ASDA009.79- (Rt. 623 above Ferrum STP) 2010 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 10 of 23 collections.

4ASDA009.77- (off Rt. 864 below Ferrum STP) 2010 Integrated Report (IR) where E.coli exceed the 235 cfu/100 ml instantaneous criterion in three of 12 samples.

4ASDA007.24- (Rt. 40 Bridge) 2010 IR where 10 of 18 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. This station added in support of the Bacteria TMDL Study.

4ASDA004.19- (Pleasant Hill Rd. (Rt. 619) Bridge) 2016 data window where E.coli exceeding values in five of 12 samples.

4ASDA000.67- (Davis Mill Bridge - Rt. 754) Fourteen of 31 excursions of the 235 cfu/100 ml instantaneous criterion are reported during the 2020 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_SDA01A00 / Story Creek / Story Creek mainstem from the Ferrum Water and Sewerage Authority POTW downstream to the Storey Creek mouth on the Pigg River (RU29).	4A	Escherichia coli (E. coli)	2006	L	9.83
VAW-L14R_SDA02A00 / Story Creek / Story Creek mainstem perennial headwaters downstream to the Ferrum Water and Sewerage Authority POTW (RU29).	4A	Escherichia coli (E. coli)	2006	L	2.04

Storey Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.87

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L14R-02-BEN Storey Creek

Cause Location: Storey Creek mainstem from the Ferrum Water and Sewerage Authority POTW downstream to the Storey Creek mouth on the Pigg River (RU29).

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: These waters (9.82 miles) are initially 2016 listed for impairment of the Aquatic Life Use. Impairment is based on Virginia Stream Condition Index (VSCI) surveys conducted at station 4ASDA004.94.

4ASDA004.94 (Between Bridges on Waidsboro Rd. (607) & Pleasant Hill Rd. (619)) This station was sampled as part of the 2013 Probabilistic Monitoring program. Two 2013 VSCI surveys with an average score of 51.7 indicating a benthic community lacking in diversity and pollution-sensitive organisms. Biologist notes: Some instream habitat scores are good; however, those related to sediment deposition were low. Bank erosion and bank vegetative cover were impacted by highly eroded stream banks in this reach.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L14R_SDA01A00 / Story Creek / Story Creek mainstem from the Ferrum Water and Sewerage Authority POTW downstream to the Storey Creek mouth on the Pigg River (RU29).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	9.83

Storey Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			9.83

Sources: Crop Production (Crop Land or Dry Land); Dairies; Livestock (Grazing or Feeding Operations); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L15R-01-BAC Big Chestnut Creek

Cause Location: Big Chestnut Creek from the confluence of Muddy Fork downstream to its confluence with the Pigg River.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. Big Chestnut Creek is a 2004 bacteria 303(d) Listing and is nested within the TMDL Watershed.

The Big Chestnut Creek 12.87 mile bacteria impairment is not specifically addressed by the TMDL due to the 303(d) Listing occurring after initial study contractual design. However allocation scenario development is for the entire Pigg River drainage and provides pollutant reductions for all watersheds contributing to the bacteria impairment including Big Chestnut Creek. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The original 12.43 waters were de-listed with the 2014 Integrated Report (IR) where bacteria (escherichia coli (E.coli)) excursions of the 235 cfu/100 ml instantaneous criterion are one of 12 observations with an exceedance rate of 8.3% at station 4ACNT001.32 (Route 715 Bridge, Franklin County). These waters return and an additional 6.77 miles added as impaired with the 2016 IR (station 4ACNT017.37).

4ACNT001.32- (Chestnut Mtn. Road (Rt. 715) Bridge) 2016 IR where three of 24 E.coli observations in excess of the WQS instantaneous criterion. The original 2004 Listing is a result of fecal coliform samples exceeding the former WQS 400 cfu/100 ml instantaneous criterion in two of 17 observations. The exceedances are 600 and 2300 cfu/100 ml.

4ACNT017.37- (McNeil Mill Road (Rt. 718) Bridge) The 2016 data window finds four of 11 E.coli samples exceed the WQS instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L15R_CNT01A00 / Big Chestnut Creek / Big Chestnut Creek mainstem from its mouth on the Pigg River upstream to the confluence of Little Chestnut Creek (RU31).	4A	Escherichia coli (E. coli)	2006	L	12.43
VAW-L15R_CNT02A14 / Big Chestnut Creek / Big Chestnut mainstem waters from the Muddy Fork mouth downstream to the confluence of Little Chestnut Creek. (RU31).	4A	Escherichia coli (E. coli)	2016	L	6.78

Big Chestnut Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			19.21

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

Roanoke and Yadkin River Basins

Cause Group Code: L15R-02-BAC Root Mill Creek

Cause Location: Root Mill Creek mainstem from its confluence with Canton Creek upstream to its headwaters (RU31).

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The initial 2020 303(d) listing for the Root Mill Creek Recreational Use occurs based on Escherichia coli (E.coli) data collections and lists the entire 3.45 miles. These waters are nested in the Pigg R. Bacteria TMDL (U.S. EPA approved 9/11/2006 Fed ID: 30414; SWCB approved 6/27/2007).

4AROT000.08 - The 2020 data window finds five of twelve E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L15R_ROT01A10 / Root Mill Creek / Root Mill Creek mainstem from its confluence with Canton Creek upstream to its headwaters (RU31).	4A	Escherichia coli (E. coli)	2020	L	3.46

Root Mill Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3.46

Sources: Livestock (Grazing or Feeding Operations); Unspecified Urban Stormwater; Wastes from Pets; Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L15R-03-BEN Upper North Fork Little Chestnut Creek

Cause Location: North Fork Little Chestnut Creek mainstem from a private pond at Rt. 434 Peaceful Valley Ln. upstream to its headwaters (RU31).

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The 2022 data window finds the initial 303(d) listing of the Aquatic Life Use on Upper North Fork Little Chestnut Creek based on benthic macroinvertebrate community collections in 2019.

4ALNF006.42 (Upstream of Fishburn Mt Road, Rt. 756) - Benthic macroinvertebrate impairment is based on two 2019 Virginia Stream Condition Index (VSCI) scores of 54 (Spring) and 47 (Fall). Biologist notes: This station was sampled as part of the randomly chosen stations network for the Probabilistic Monitoring program. The average VSCI score was 50.6 indicating a benthic community with low diversity and high abundance of pollution-tolerant taxa. The watershed has a lot of forested land cover as well as agricultural land. Habitat surveys indicate impacts from eroded stream banks, reduced bank vegetation and fine sediment deposition on the stream substrate.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L15R_LNF02A22 / North Fork Little Chestnut Creek, Upper / North Fork Little Chestnut Creek mainstem from a private pond at Rt. 434 Peaceful Valley Ln. upstream to its headwaters (RU31).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	4.85

Upper North Fork Little Chestnut Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.85

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L17R-01-BAC Snow Creek and Turkeycock Creek

Cause Location: Snow Creek from the Crab Creek confluence downstream to its mouth on the Pigg River (Penhook & Sandy Level Quads). Turkeycock Creek from its mouth on Snow Creek upstream to the confluence of Sailor Creek.

Cause City/County: Franklin County; Henry County; Pittsylvania County

Use(s): Recreation

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

Cause Description: The Snow Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30410] and SWCB approved 6/27/2007. The Pigg River Implementation Plan received SWCB approval on 12/13/2010. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment.

The 1999 Federal Consent Decree includes 4ASNW000.60 as an Attachment B station (10.95 miles). The initial 303(d) fecal coliform (FC) bacteria Listing in 2002 of Snow Creek is in response to the 1999 Consent Decree resulting in a 2010 TMDL Schedule. The 2002 assessment reports five of 22 samples in excess of the former (2002) 1000 cfu/100 ml instantaneous criterion. An exceedance rate of 22 percent. The 10.95 mile bacteria impairment remains- Category 4A. The 2012 Integrated Report (IR) extends the impairment 6.49 miles upstream from Ditto Branch to the confluence of Crab Creek from data collected at 4ASNW016.24. Turkeycock Creek adds an additional 6.46 miles and is Category 4A as the data collected for TMDL development includes Turkeycock Creek data and is nested within the TMDL Watershed and allocations.

4ASNW016.24 (Snow Cr. Rd Bridge at Parkers Store) The 2020 data window reports 6 of 12 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

4ASNW000.60- (Kirby Ford Bridge) The new Ecoli WQS confirms impairment based on 2 or more STV hits in the same 90-day period with < 10 samples during the 2022 data window. The 2020 data window reports 13 of 36 excursions.

4ATCC003.71-(Danville Turnpike near Sago, Rt. 969) Six of 12 E.coli samples exceed during the 2018 IR. Turkeycock Creek is a 6.35 mile 2008 addition to the original 2002 Snow Creek 303(d) Listing.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L17R_SNW01A00 / Snow Creek / Snow Creek mainstem from the mouth of Ditto Branch downstream to the mouth of Snow Creek on the Pigg River (RU35).	4A	Escherichia coli (E. coli)	2006	L	10.95
VAW-L17R_SNW02A12 / Snow Creek / Snow Creek from the Grassy Fork confluence with Snow Creek downstream to the mouth of Ditto Branch (RU35).	4A	Escherichia coli (E. coli)	2012	L	2.55
VAW-L17R_SNW03A14 / Snow Creek / Snow Creek from the Crab Creek confluence with Snow Creek downstream to the mouth of Grassy Fork (RU33).	4A	Escherichia coli (E. coli)	2012	L	3.95
VAW-L17R_TCC01A06 / Turkeycock Creek / Turkeycock Creek from its mouth on Snow Creek upstream to the confluence of Sailor Creek (RU34).	4A	Escherichia coli (E. coli)	2008	L	6.50

Snow Creek and Turkeycock Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			23.95

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

Roanoke and Yadkin River Basins

Cause Group Code: L17R-01-BEN Poplar Branch

Cause Location: Poplar Branch headwaters downstream to its confluence with Snow Creek.

Cause City/County: Franklin County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is impaired for 2.53 miles with the 2008 303(d) Listing of these waters from biomonitoring data collected at Poplar Branch station 4APAA000.24. Additional data collected at an upstream station (4APAA000.71) confirms the impairment as described below.

4APAA000.71 (Rt. 629 Crossing) Benthic macroinvertebrate community is determined from four Virginia Stream Condition Index (VSCI) scores (2017-18) with spring average of 42 and fall average 55. Biologist notes: The habitat available for sampling at this bridge crossing is dominated by bedrock and may be better than the available habitat upstream yielding a VSCI score that is not indicative of all segments. Total habitat scores indicated a low probability of the quality of habitat causing stress to aquatic life. Previous cycle impaired condition stems from eight VSCI scores (2013-14, 2017-18) averaging 53.5. Fall samples had higher percentages of pollution sensitive taxa and less chironomidae. The habitat available for sampling at this bridge crossing is dominated by bedrock and may be better than the available habitat upstream yielding a VSCI score that is not indicative of all segments. Habitat survey scores for sediment were low in this reach due to landuse impacts to the watershed.

4APAA000.24 (Below Rt. 629) The initial 2008 data window lists Aquatic Life Use as impaired due to two VSCI surveys with a spring score of 54.0 and fall 55.5. Biologist notes: The immediate land use at this station is forested with a closed canopy and excellent riparian vegetation. However, the watershed upstream from this station has pasture land with many small ponds that appear to reduce stream flow and subsequently allows fine sediment to accumulate in the stream.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L17R_PAA01A04 / Poplar Branch / Poplar Branch headwaters downstream to its confluence with Snow Creek (RU35).	5A	Benthic Macroinvertebrates Bioassessments	2008	H	2.57

Poplar Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.57

Sources: Sediment Resuspension (Clean Sediment); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L17R-02-BAC Poplar Branch

Cause Location: Poplar Branch headwaters downstream to its confluence with Snow Creek.

Cause City/County: Franklin County

Use(s): Recreation

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

Cause Description: The 2.53 mile Recreational Use impairment is based on data collection within the 2016 data window.

4APAA000.71 (Hatchett Rd. (Rt. 629) Crossing) Three of 22 and two of 12 escherichia coli (E.coli) samples exceed the WQS 235 cfu/10 ml instantaneous criterion during the 2020 and 2018 data windows, respectively.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L17R_PAA01A04 / Poplar Branch / Poplar Branch headwaters downstream to its confluence with Snow Creek (RU35).	4A	Escherichia coli (E. coli)	2016	L	2.57

Poplar Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.57

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

Roanoke and Yadkin River Basins

Cause Group Code: L18R-01-BAC Pigg River

Cause Location: Pigg River from the mouth of Big Chestnut Creek (RM 32.99) downstream to the backwaters of Leesville Lake (RM 3.29) (Penhook & Sandy Level Quads). Note: These impaired waters now incorporate the former State TMDL ID of VAW-L16R-01 (15.54 miles) initially listed in 2002. The former VAW-L13L-02 (Bacteria 157.24 acres) impairment is described in the Cause Group Code L13L-02-BAC Leesville Lake Fact Sheet.

Cause City/County: Franklin County; Pittsylvania County

Use(s): Recreation

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

Cause Description: The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/07. The Bacteria Implementation Plan received SWCB approval on 12/13/10. This Fact Sheet addresses the lower riverine portion of the Pigg River 28.95 mile bacteria impairment. The Pigg River bacteria 2002 15.53 mile impairment extension from the original 1998 13.36 mile 303(d) Listing is the result of additional ambient and TMDL support sampling. A separate fact sheet (L14R-01-BAC) describes the Upper Pigg River 34.81 mile bacteria impairment.

4APGG030.62- (Rt. 646, Fralin Bridge) Nine of 34 and five of 23 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2020 and 2018 data windows, respectively.

4APGG016.06- (Rt. 626 Bridge) 2008 reports nine of 21 samples

4APGG008.87- (Off Rt. 40 at USGS Gage) (2024) ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples.

4APGG003.29- (Rt. 605 Bridge) 2024 data window finds impairment with 2 or more Statistical Threshold Value (STV) hits in the same 90-day period with < 10 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L16R_PGG01A00 / Pigg River / Pigg River mainstem from the mouth of Dinner Creek downstream to the mouth of Snow Creek on the Pigg River (RU32).	4A	Escherichia coli (E. coli)	2006	L	6.67
VAW-L16R_PGG02A00 / Pigg River / Pigg River mainstem from the Big Chestnut Creek mouth downstream to the mouth of Dinner Creek on the Pigg River (RU32).	4A	Escherichia coli (E. coli)	2006	L	8.93
VAW-L18R_PGG01A00 / Pigg River / Pigg River mainstem from the Harpen Creek mouth downstream to backwaters of Leesville Lake (RU36).	4A	Escherichia coli (E. coli)	2006	L	5.58
VAW-L18R_PGG02A00 / Pigg River / Pigg River mainstem from the mouth of Snow Creek downstream to the mouth of Harpen Creek on the Pigg River (RU36).	4A	Escherichia coli (E. coli)	2006	L	7.79

Pigg River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			28.97

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

Roanoke and Yadkin River Basins

Cause Group Code: L18R-01-BEN Fryingpan Creek

Cause Location: Headwaters of Fryingpan Creek downstream to a point ~0.85 miles from the Rt. 40 crossing (36.958333, -79.448333).

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The waters of Fryingpan Creek are impaired for the Aquatic Life Use due to contravention of Virginia's Water Quality Standards General Standard (Benthic). The 2006 2.56 mile 303(d) Listing is a result of benthic impairments found at Fryingpan Creek station 4AFRY006.08 (Rt. 40 Bridge) as described below.

4AFRY006.08 - Two 2003 Virginia Stream Condition Index (VSCI) scores are spring 42.4 and fall 32.8. Subsequent data windows confirm the continued impaired waters listing. The 2024 data window finds four samples collected (2017-18) with spring VSCI average of 55 and fall average 59. Biologist notes: This station was surveyed as part of a follow up to an initial 303(d) listing. Habitat survey scores were low in this reach due to landuse impacts to the watershed. Stream banks and sediment in the stream were scored low due to the landuse impacts. The benthic community is dominated by pollution tolerant organisms. Pollution tolerant organisms were dominant in some samples.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_FRY01A06 / Fryingpan Creek / Headwaters of Fryingpan Creek on downstream ~0.85 miles of the Rt. 40 crossing (36.959, -79.44833) (RU37).	5A	Benthic Macroinvertebrates Bioassessments	2006	H	2.56

Fryingpan Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.56

Sources: Livestock (Grazing or Feeding Operations); Sediment Resuspension (Clean Sediment)

Roanoke and Yadkin River Basins

Cause Group Code: L18R-02-BAC Harpen Creek

Cause Location: Harpen Creek from its mouth on the Pigg River upstream to near Climax (36°53'28" / 79°30'30").

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. Harpen Creek is a 2006 bacteria 303(d) Listing and nested within the Pigg River TMDL in 2008.

The Harpen Creek 5.35 mile bacteria impairment is not specifically addressed by the TMDL due to the 303(d) Listing occurring after initial study contractual design. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Harpen Creek. Harpen Creek is nested within the Pigg River TMDL Watershed. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AHPN001.62- (Rt. 785 Bridge) (2024) ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_HPN01A06 / Harpen Creek / Harpen Creek from its mouth on the Pigg River upstream to near Climax (36.89111, -79.5083) (RU36).	4A	Escherichia coli (E. coli)	2006	L	5.36

Harpen Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.36

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

Roanoke and Yadkin River Basins

Cause Group Code: L18R-03-BAC Tomahawk Creek

Cause Location: Tomahawk Creek from its mouth on the Pigg River upstream to above Andersons Mill (36°52'28" / 79°32'15").

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. The Study encompasses the Pigg River drainage, Old Womans Creek, Snow Creek, Storey Creek and Leesville Lake. Tomahawk Creek is a 2006 bacteria 303(d) Listing.

The Tomahawk Creek bacteria impairment is not specifically addressed by the TMDL due to the listing occurring after initial TMDL Study contractual design. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Tomahawk Creek. Tomahawk Creek is nested within the Pigg River Bacteria TMDL Watershed. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ATMA001.46 (Rt. 644 Bridge)- (2024) ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples. Four out of 12.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_TMA01A06 / Tomahawk Creek / Tomahawk Creek from its mouth on the Pigg River upstream to include Lake Burton above Andersons Mill (RU36).	4A	Escherichia coli (E. coli)	2006	L	5.82

Tomahawk Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.82

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

Roanoke and Yadkin River Basins

Cause Group Code: L18R-04-BAC Fryingpan Creek

Cause Location: Headwaters of Fryingpan Creek downstream ~0.85 miles of the Rt. 40 crossing (36°57'30" / 79°26'54").

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Pigg River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 9/11/2006 [Fed ID 30414] and SWCB approved 6/27/2007. The Bacteria Implementation Plan received SWCB approval on 12/13/2010. The Study encompasses the Pigg River drainage, Old Womans Creek, Snow Creek, Storey Creek and Leesville Lake. Fryingpan Creek is a 2016 bacteria 303(d) Listing.

The Fryingpan Creek bacteria impairment is not specifically addressed by the TMDL due to the listing occurring after initial TMDL Study contractual design. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Fryingpan Creek. Fryingpan Creek is nested within the Pigg River Bacteria TMDL Watershed. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AFRY006.08- (Rt. 40 Bridge) Six of 14 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2020 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_FRY01A06 / Fryingpan Creek / Headwaters of Fryingpan Creek on downstream ~0.85 miles of the Rt. 40 crossing (36.959, -79.44833) (RU37).	4A	Escherichia coli (E. coli)	2016	L	2.56

Fryingpan Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.56

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

Roanoke and Yadkin River Basins

Cause Group Code: L18R-05-BEN Jonnikin Creek

Cause Location: Jonnikin Creek mainstem from its mouth on Pigg R. to its headwaters (RU36).

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: Jonnikin Creek is impaired for the Aquatic Life Use due to contravention of Virginia Code 9VAC25-260-20. General criteria (Benthic). The 2020 303(d) 4.52 mile Impaired Waters Listing is a result of benthic impairments found at station Jonnikin Creek station 4AJKN003.18 as described below.

4AJKN003.18 (Upstream of Rt. 40) Two 2018 Virginia Stream Condition Index (VSCI) scores determine impairment: 50.2 (spring) and 57.6 (fall). Biologist notes: This station was a randomly chosen site surveyed as part of the Probabilistic monitoring program in 2018. Both samples indicated a community dominated by midges (Chironomidae) and other pollution-tolerant taxa. This station was on agricultural land that does not appear to be intensively farmed. There are several ponds upstream that may restrict stream flow during dry years and habitat surveys indicate impacts from excessive sediment deposition and eroded stream banks.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L18R_JKN01A20 / Jonnikin Creek / Jonnikin Creek mainstem from its mouth on Pigg R. to its headwaters (RU36).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	4.53

Jonnikin Creek

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

Sources: Agriculture; Clean Sediments; Loss of Riparian Habitat

Roanoke and Yadkin River Basins

Cause Group Code: L19R-01-HG Roanoke (Staunton) River, Cub Creek, Kerr Reservoir

Cause Location: Roanoke (Staunton) River from Leesville Dam to the John H. Kerr Dam including Kerr Reservoir, its tributaries Eastland Creek and Nutbush Creek (within the state of Virginia) and Cub Creek from its mouth to the crossing of Rough Creek Road near Rough Creek.

Cause City/County: Campbell County; Charlotte County; Halifax County; Mecklenburg County; Pittsylvania County

Use(s): Fish Consumption

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

Cause Description: VDH Fish Advisory - PCBs: Issued 7/24/98 , revised 8/31/07 & Mercury: Issued 8/31/07 Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Creek up to Rough Creek Road (State Route 695) near Rough Creek.

Mercury Fish Tissue Sampling Results

4AROA129.55(Near Route 29 - Altavista) (2021) found three specie in excess of the Mercury (Hg) WQS based tissue value (TV) of 0.3ppm: Golden Redhorse Sucker (5 fish) @ 0.31 ppm, Blue Catfish (2 fish) @ 0.34 ppm, Flathead Catfish (1 fish) @ 0.81 ppm. (2019) One species exceeds; Smallmouth bass (4 fish) at .48 ppm. (2006 FT/Sediment) - 2 species exceed Mercury VDH level of concern

4AROA097.07 (Near Brookneal) (2021) Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.30 ppm is found in one species. Walleye (2018) - 2 species exceed WQS TV 0.3 ppm; Walleye and Blue Catfish. (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern

4AROA067.91 (Near Route 746 - Randolph) (2021) Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.30 ppm is found in two species. Walleye and Flathead Catfish. (2018) - 1 species exceeds WQS TV 0.3ppm; Walleye. (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern

4AROA059.12 (Near Route 360 - Clover) (2021) Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.30 ppm is found in three species. Striped Bass, Blue Catfish, and Walleye. (2018) one species exceeds WQS TV 0.3 ppm; Blue Catfish; (2017): three species exceed WQS TV of 0.3 ppm; Striped Bass, Walleye, and Golden Redhorse Sucker ; (2016) three species exceed WQS TV of 0.3ppm; largemouth bass, Walleye, and flathead catfish.

4AROA036.59 (Sta 18 Buoy Kerr Reservoir) Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.30 ppm is found in (2021) one species; (2020) one species; (2019) Three species; (2018) One species; (2017) three species.

4AROA028.04 (Kerr Reservoir near Ivy Hill) (2006 FT/Sediment) - 2 species exceed Mercury VDH level of concern

4AIND001.39 (Sta 14 Island Creek 1 mile above the mouth) - 2021 FT - Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.30 ppm is found in one species. Striped Bass (4 fish composite) @ 0.55 ppm, Striped Bass (4 fish composite) @ 0.47 ppm, Striped Bass (4 fish composite) @ 0.41 ppm.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Town of Altavista POTW downstream to the Big Otter River confluence with the Roanoke (Staunton) River (RU48).	5A	Mercury in Fish Tissue	2008	L	3.76

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Goose Creek mouth on downstream to the Town of Altavista POTW (RU48).	5A	Mercury in Fish Tissue	2008	L	6.78
VAW-L19R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Leesville Dam downstream to the mouth of Goose Creek.	5A	Mercury in Fish Tissue	2008	L	3.46
VAW-L30R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Falling River mouth at the Campbell/Charlotte/Halifax County line downstream to the confluence of Catawba Creek.	5A	Mercury in Fish Tissue	2008	L	3.89
VAW-L30R_ROA02A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Brookneal Staunton River POTW downstream to the confluence of Falling River at the Campbell/Charlotte/Halifax County Line.	5A	Mercury in Fish Tissue	2008	L	2.24
VAW-L30R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Dan River, Inc. downstream to the Brookneal Staunton River POTW.	5A	Mercury in Fish Tissue	2008	L	0.92
VAW-L30R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Buffalo Creek confluence downstream to Dan River, Inc. (RU63, RU64).	5A	Mercury in Fish Tissue	2008	L	5.06
VAW-L30R_ROA06A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the mouth of Hills Creek (37 7 9.187 N, -79 12 57.062) downstream to the confluence of Buffalo Creek.	5A	Mercury in Fish Tissue	2008	L	17.65
VAW-L30R_ROA07A18 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Big Otter River mouth downstream to the confluence of Hills Creek (37 7 9.187 N, -79 12 57.062 W) (RU60).	5A	Mercury in Fish Tissue	2018	L	4.71
VAW-L36R_ROA01A98 / Roanoke (Staunton) River / Roanoke River mainstem from the confluence of Childrey Creek to the confluence of Cub Creek (RU75).	5A	Mercury in Fish Tissue	2008	L	12.79
VAW-L37R_CUB01B08 / Cub Creek / The Rough Creek Road Crossing near Rough Creek to the confluence with Terrys Creek (RU78).	5A	Mercury in Fish Tissue	2008	L	5.59
VAW-L37R_CUB02A06 / Cub Creek / From Terrys Creek to the mouth at the Roanoke (Staunton) River (RU79).	5A	Mercury in Fish Tissue	2008	L	8.80
VAW-L38R_ROA02A98 / Roanoke (Staunton) River / Cub Creek to Roanoke Creek.	5A	Mercury in Fish Tissue	2008	L	12.50

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_ROA03A98 / Roanoke (Staunton) River / Roanoke Creek to the pipeline crossing approximately 5.4 miles downstream of the Route 360 bridge.	5A	Mercury in Fish Tissue	2008	L	10.20
VAW-L40R_ROA04A98 / Roanoke (Staunton) River / The pipeline crossing about 5.4 miles downstream of the Route 360 bridge to Kerr Reservoir.	5A	Mercury in Fish Tissue	2008	L	3.82
VAW-L57R_DAN02A00 / Dan River / Dan River mainstem from the Schoolfield Dam upstream to the backwaters of the impoundment (RD33).	5A	Mercury in Fish Tissue	2018	L	2.52
VAW-L57R_DAN04A00 / Dan River / Dan River mainstem from the downstream most Virginia/North Carolina State Line (exiting Virginia) in Watershed L57R upstream to the Rt. 880 crossing (Virginia/North Carolina State Line entering Virginia) (RD32)	5A	Mercury in Fish Tissue	2018	L	7.37
VAW-L75L_BHB01A22 / Butcher Creek / Butcher Creek and Tribs included in the boundaries of Kerr Reservoir.	5A	Mercury in Fish Tissue	2008	L	2196.07
VAW-L75L_ROA05L98 / Kerr Reservoir / Kerr Reservoir from the John H. Kerr dam to ~ Long Grass Branch confluence.	5A	Mercury in Fish Tissue	2008	L	7018.24
VAW-L75L_ROA05M22 / Kerr Reservoir / Kerr Reservoir from ~Long Grass Branch confluence to about 2 miles upstream of the confluence with Grassy Creek.	5A	Mercury in Fish Tissue	2008	L	14828.41
VAW-L75L_ROA05N22 / Kerr Reservoir / Kerr Reservoir from about 2 miles upstream of the confluence of Grassy Creek tot about 1 mile upstream of the confluence with Bluestone Creek.	5A	Mercury in Fish Tissue	2008	L	4182.41
VAW-L75L_ROA05O22 / Kerr Reservoir / Kerr Reservoir from about 1 mile upstream of the confluence of Bluestone Creek to the backwaters, excluding the Dan River, Bluestone Creek, Buffalo Creek, and Butcher Creek.	5A	Mercury in Fish Tissue	2008	L	2440.31
VAW-L76L_BMA01A06 / Buffalo Creek / Buffalo Creek and Tribs included in the boundaries of Kerr Reservoir	5A	Mercury in Fish Tissue	2008	L	358.96
VAW-L77L_BST01A06 / Bluestone Creek / Bluestone Creek and Tribs included in the boundaries of Kerr Reservoir	5A	Mercury in Fish Tissue	2008	L	860.22

Roanoke (Staunton) River, Cub Creek, Kerr Reservoir

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		31884.62	112.06

Sources: Contaminated Sediments; Municipal Point Source Discharges; Non-Point Source; Source Unknown; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L19R-01-PCB Roanoke (Staunton) River, Cub Creek

Cause Location: Roanoke (Staunton) River from Leesville Dam to the backwaters of Kerr Reservoir, and Cub Creek from its mouth to the crossing of Rough Creek Road near Rough Creek.

Cause City/County: Campbell County; Charlotte County; Halifax County; Pittsylvania County

Use(s): Fish Consumption; Public Water Supply

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

Cause Description: The initial Virginia Department of Health (VDH) Fish Consumption Advisory for PCBs was issued 7/24/98 and revised 8/31/07. The Advisory encompasses the Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Cr. up to Rough Cr. Road (Rt. 695) near Rough Cr. The Roanoke (Staunton) River Public Water Supply impairment extends from the confluence of the Big Otter River to the backwaters of Kerr Reservoir. 4AROA137.00 (upstream of Goose Cr.) Flathead catfish exceeded the VDH 500 ppb level from 2013 collections. Four species exceeded VDH 50 ppb level: Carp, Flathead catfish, Channel catfish, and Shorthead Redhorse sucker. 4AROA129.95 (near Bus Rt. 29 Bridge, Altavista Gage) 2021 Four fish species exceed the PCB WQS Threshold Value (TV) of 18 ppb: Carp, Golden Redhorse Sucker, Blue Catfish, and Flathead Catfish. Smallmouth Bass, Golden Redhorse Sucker, Carp, Blue Catfish and Channel Catfish exceed PCB WQS TV from 2019 collections. In 2013, Flathead catfish, channel catfish, and Carp exceeded the VDH 50 ppb level. 4AROA108.09 (near Long Island) Exceedance of the PCB WQS TV is found in Spotted Bass, Golden Redhorse Sucker, Carp, and Channel Catfish from 2021 collections. The 2018 collections find that Flathead Catfish and carp exceed the VDH 500 ppb. Golden redhorse exceeds the VDH lower level of concern (5 fish) at 178 ppb; 3 species exceed the WQS TV of 20 ppb: Smallmouth Bass (1 fish) at 38 ppb, Channel Catfish (4 fish) at 85 ppb, and Spotted Bass (2 fish) at 22 ppb. In 2013, Flathead Catfish exceeded the 500 ppb VDH concern level. Four species exceeded VDH 50 ppb concern level: Channel catfish, Carp, Shorthead redhorse sucker, and gizzard shad.
4AROA097.07 (Rt. 501, Brookneal) Exceedance of the PCB WQS TV of 18 ppb is found in Carp and Channel Catfish from 2021 fish tissue collections. Four species exceed PCB 18 ppb: Walleye, Carp, Channel Catfish, and Blue Catfish (2018) and one species (Smallmouth Bass) exceeds the WQS TV of 20 ppb. In 2013, Blue catfish and Flathead catfish exceeded VDH 500 ppb level. Four species exceeded VDH 50 ppb level: Striped bass, Blue catfish, carp, and Channel catfish. 4AROA067.91(Rt. 746 Bridge) Exceedance of the PCB WQS TV of 18 ppb is found in five species: Freshwater Drum, Walleye, Carp, Blue Catfish, and Flathead Catfish (2021 collections). Walleye and Carp exceeded the 500 ppb VDH level from 2006 collections. Five species exceeded VDH 50 ppb threshold: Blue catfish, Channel catfish, carp, Golden redhorse sucker, and Gizzard shad. 4AROA059.12 (Rt. 360 Bridge, east of Clover) Exceedance of the PCB WQS TV of 18 ppb is found in Striped Bass, Carp, and Blue Catfish (2021). Striped Bass and Carp exceed the VDH 500 ppb level in 2006. 4AROA036.59 (Station B Buoy 18 Kerr Reservoir) Carp and Golden Redhorse sucker exceed VDH 50 ppb threshold (2006).
4AROA028.04 (Station B Buoy 9 Kerr Reservoir) Largemouth bass and Longnose gar exceeded the VDH 50 ppb level (2006).

4AROA004.54 (Lake Gaston near state line) One species (Carp) exceeds the VDH 50 ppb level from 2006 collections. 4ACUB010.96 (Cub Cr. near Rt. 40 Gaging Station) Carp exceeded the VDH 500 ppb threshold (2006). Three species exceeded the VDH 50 ppb threshold: channel catfish, carp, and Redhorse sucker.
2007-08 Water Column PCB Exceedances: 4AROA124.59 (Rt. 640 Bridge): 2909 pg/L, 4466 pg/L 4AROA097.76 (Upstream of Brookneal): 1115 pg/L, 4304 pg/L 4AROA090.50 (Rt. 620 S. of Brookneal): 1192 pg/L, 1625 pg/L 4AROA067.91: 1336 pg/L, 1307 pg/L 4AROA059.12: 1627 pg/L, 1359 pg/L Historical information can be found in previous IR Factsheets. Fish consumption advisory details are available at https://www.vdh.virginia.gov/.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Town of Altavista POTW downstream to the Big Otter River confluence with the Roanoke (Staunton) River (RU48).	4A	PCBs in Fish Tissue	1998	L	3.76
VAW-L19R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Goose Creek mouth on downstream to the Town of Altavista POTW (RU48).	4A	PCBs in Fish Tissue	1998	L	6.78
VAW-L19R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Leesville Dam downstream to the mouth of Goose Creek.	4A	PCBs in Fish Tissue	2002	L	3.46
VAW-L30R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Falling River mouth at the Campbell/Charlotte/Halifax County line downstream to the confluence of Catawba Creek.	4A	PCBs in Fish Tissue	2002	L	3.89
VAW-L30R_ROA02A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Brookneal Staunton River POTW downstream to the confluence of Falling River at the Campbell/Charlotte/Halifax County Line.	4A	PCBs in Fish Tissue	2002	L	2.24
VAW-L30R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Dan River, Inc. downstream to the Brookneal Staunton River POTW.	4A	PCBs in Fish Tissue	2002	L	0.92
VAW-L30R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Buffalo Creek confluence downstream to Dan River, Inc. (RU63, RU64).	4A	PCBs in Fish Tissue	2002	L	5.06
VAW-L30R_ROA06A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the mouth of Hills Creek (37 7 9.187 N, -79 12 57.062) downstream to the confluence of Buffalo Creek.	4A	PCBs in Fish Tissue	2002	L	17.65
VAW-L30R_ROA07A18 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Big Otter River mouth downstream to the confluence of Hills Creek (37 7 9.187 N, -79 12 57.062 W) (RU60).	4A	PCBs in Fish Tissue	2002	L	4.71
VAW-L36R_ROA01A98 / Roanoke (Staunton) River / Roanoke River mainstem from the confluence of Childrey Creek to the confluence of Cub Creek (RU75).	4A	PCBs in Fish Tissue	2002	L	12.79
VAW-L37R_CUB01B08 / Cub Creek / The Rough Creek Road Crossing near Rough Creek to the confluence with Terrys Creek (RU78).	4A	PCBs in Fish Tissue	2008	L	5.59
VAW-L37R_CUB02A06 / Cub Creek / From Terrys Creek to the mouth at the Roanoke (Staunton) River (RU79).	4A	PCBs in Fish Tissue	2008	L	8.80

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38R_ROA02A98 / Roanoke (Staunton) River / Cub Creek to Roanoke Creek.	4A	PCBs in Fish Tissue	2002	L	12.50
VAW-L40R_ROA03A98 / Roanoke (Staunton) River / Roanoke Creek to the pipeline crossing approximately 5.4 miles downstream of the Route 360 bridge.	4A	PCBs in Fish Tissue	1998	L	10.20
VAW-L40R_ROA04A98 / Roanoke (Staunton) River / The pipeline crossing about 5.4 miles downstream of the Route 360 bridge to Kerr Reservoir.	4A	PCBs in Fish Tissue	1998	L	3.82

Roanoke (Staunton) River, Cub Creek

Fish Consumption

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCBs in Fish Tissue - Total Impaired Size by Water Type:			102.17

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Falling River mouth at the Campbell/Charlotte/Halifax County line downstream to the confluence of Catawba Creek.	4A	Polychlorinated biphenyls (PCBs)	2010	L	3.89
VAW-L30R_ROA02A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Brookneal Staunton River POTW downstream to the confluence of Falling River at the Campbell/Charlotte/Halifax County Line.	4A	Polychlorinated biphenyls (PCBs)	2010	L	2.24
VAW-L30R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Dan River, Inc. downstream to the Brookneal Staunton River POTW.	4A	Polychlorinated biphenyls (PCBs)	2010	L	0.92
VAW-L30R_ROA04A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from Buffalo Creek confluence downstream to Dan River, Inc. (RU63, RU64).	4A	Polychlorinated biphenyls (PCBs)	2010	L	5.06
VAW-L30R_ROA06A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the mouth of Hills Creek (37 7 9.187 N, -79 12 57.062) downstream to the confluence of Buffalo Creek.	4A	Polychlorinated biphenyls (PCBs)	2010	L	17.65
VAW-L30R_ROA07A18 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Big Otter River mouth downstream to the confluence of Hills Creek (37 7 9.187 N, -79 12 57.062 W) (RU60).	4A	Polychlorinated biphenyls (PCBs)	2010	L	4.71

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_ROA01A98 / Roanoke (Staunton) River / Roanoke River mainstem from the confluence of Childrey Creek to the confluence of Cub Creek (RU75).	4A	Polychlorinated biphenyls (PCBs)	2010	L	12.79
VAW-L38R_ROA02A98 / Roanoke (Staunton) River / Cub Creek to Roanoke Creek.	4A	Polychlorinated biphenyls (PCBs)	2010	L	12.50
VAW-L40R_ROA03A98 / Roanoke (Staunton) River / Roanoke Creek to the pipeline crossing approximately 5.4 miles downstream of the Route 360 bridge.	4A	Polychlorinated biphenyls (PCBs)	2010	L	10.20
VAW-L40R_ROA04A98 / Roanoke (Staunton) River / The pipeline crossing about 5.4 miles downstream of the Route 360 bridge to Kerr Reservoir.	4A	Polychlorinated biphenyls (PCBs)	2010	L	3.82

Roanoke (Staunton) River, Cub Creek

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			73.78

Roanoke (Staunton) River, Cub Creek

Public Water Supply	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Polychlorinated biphenyls (PCBs) - Total Impaired Size by Water Type:			73.78

Sources: Contaminated Sediments; Municipal Point Source Discharges; Non-Point Source; Source Unknown; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L19R-02-BAC Lynch Creek

Cause Location: Lynch Creek from its headwaters to the mouth on the Roanoke (Staunton) River.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24386, 06/20/2006(2018)

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study received U.S. EPA approval on 6/20/2006 [Fed. ID.24386] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24386, 6/20/2006

One station is located within the 3.90 miles of impaired waters. 4ALYH000.50 (Ambient)(Lynch Cr @ Foot Bridge - City Park)

4ALYH000.50 (Ambient) (Lynch Cr @ Foot Bridge - City Park) 2022: Nine of 12 samples in excess of the Statistical Threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_LYH01A02 / Lynch Creek / Lynch Creek from its mouth on the Roanoke (Staunton) River upstream to Bus. 29 (RU48).	4A	Escherichia coli (E. coli)	2010	L	0.37
VAW-L19R_LYH02A02 / Lynch Creek / Lynch Creek from Bus. Rte. 29 upstream to its headwaters (RU48).	4A	Escherichia coli (E. coli)	2008	L	3.53

Lynch Creek

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

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

Roanoke and Yadkin River Basins

Cause Group Code: L19R-02-BEN Lynch Creek

Cause Location: Lynch Creek from its headwaters to the mouth on the Roanoke (Staunton) River.

Cause City/County: Campbell County

Use(s): Aquatic Life

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

Cause Description: These waters were initially listed on the 2010 303(d) Impaired Waters List for contravention of 9VAC25-260-20 (General criteria-Benthic) and not supporting the Aquatic Life Use in Lynch Creek. The Lynch Creek and Reed Creek Benthic Total Maximum Daily Load (TMDL) [11663] was EPA approved 2/4/22, SWCB approved 12/4/21. The TMDL concluded that sediment is the most probable stressor.

4ALYH000.50 (Foot Bridge - City Park) 2008 Virginia Stream Condition Index (VSCI) scores defined the initial benthic macroinvertebrate community impairment. Subsequent assessment cycles confirm impairment. Most recently four impaired VSCI surveys (2017, 2015) found seasonal average scores of 33 (spring) and 57 (fall). Biologist notes: This is a very small stream with moderately embedded riffles and no vegetative cover in the riparian zone. 4ALYH000.50 is located in a city park with significant impervious surface coverage in the riparian zone.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_LYH01A02 / Lynch Creek / Lynch Creek from its mouth on the Roanoke (Staunton) River upstream to Bus. 29 (RU48).	4A	Benthic Macroinvertebrates Bioassessments	2010	L	0.37
VAW-L19R_LYH02A02 / Lynch Creek / Lynch Creek from Bus. Rte. 29 upstream to its headwaters (RU48).	4A	Benthic Macroinvertebrates Bioassessments	2010	L	3.53

Lynch Creek

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

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations)

Roanoke and Yadkin River Basins

Cause Group Code: L19R-03-BAC Reed Creek

Cause Location: Reed Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its perennial headwaters.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The 2020 data window 303(d) lists 8.9 miles of Reed Creek for the Recreational Use.

4ARAB003.64 - 2022: Five of 12 samples exceed the Statistical Threshold Value of 410 cfu/100ml.

4ARAB000.52 - 2022: Six of 12 E.coli samples exceed the Statistical Threshold Value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_RAB01A00 / Reed Creek / Reed Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its perennial headwaters (RU48).	4A	Escherichia coli (E. coli)	2020	L	8.91

Reed Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.91

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

Roanoke and Yadkin River Basins

Cause Group Code: L19R-03-BEN Reed Creek

Cause Location: Reed Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its perennial headwaters.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: These waters were initially listed on the 2010 303(d) Impaired Waters List for contravention of 9VAC25-260-20 (General criteria-Benthic) and not supporting the Aquatic Life Use in Reed Creek. The Lynch Creek and Reed Creek Benthic Total Maximum Daily Load (TMDL) [11663] was EPA approved 2/4/22 and SWCB approved 12/4/21. The TMDL concluded that sediment is the most probable stressor.

4ARAB000.52 (Grit Road, Rt. 668) Most recent impairment is based on two 2017 Virginia Stream Condition (VSCI) scores of 59 (spring) and 65 (fall). Biologist notes: Sedimentation and elevated nutrients may be negatively affecting the stream community. There are large areas of clear-cutting upstream of the biological monitoring station. The initial impairment was documented from impaired benthic macroinvertebrate community VSCI scores in 2008.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_RAB01A00 / Reed Creek / Reed Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its perennial headwaters (RU48).	4A	Benthic Macroinvertebrates Bioassessments	2010	L	8.91

Reed Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.91

Sources: Agriculture; Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations)

Roanoke and Yadkin River Basins

Cause Group Code: L19R-04-BAC Roanoke (Staunton) River, Unnamed tributary

Cause Location: An unnamed tributary to the Roanoke (Staunton) River downstream of Frazier Creek from its mouth on the Roanoke River upstream to its headwaters.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: The 2020 data window is the initial Recreational Use 303(d) listing of 4.1 miles of Unnamed Tributary (XCN) to the Roanoke (Staunton) River.

4AXCN000.61 (UT to Staunton River @ Rt. 711) - 2022: Three of 11 E.coli samples exceed the Statistical Threshold Value of 410 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_XCN01A02 / Roanoke (Staunton) River, Unnamed Tributary / An unnamed tributary to the Roanoke (Staunton) River downstream of Frazier Creek from its mouth on the Roanoke River upstream to its headwaters.	4A	Escherichia coli (E. coli)	2020	L	4.1

Roanoke (Staunton) River, Unnamed tributary

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.1

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

Roanoke and Yadkin River Basins

Cause Group Code: L19R-04-BEN Roanoke (Staunton) River, Unnamed tributary

Cause Location: An unnamed tributary to the Roanoke (Staunton) River downstream of Frazier Creek from its mouth on the Roanoke River upstream to its headwaters.

Cause City/County: Campbell County

Use(s): Aquatic Life

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

Cause Description: The Unnamed Tributary to the Roanoke (Staunton) River was initially listed on the 2010 303(d) Impaired Waters List for contravention of 9VAC25-260-20 (General criteria-Benthic) and not supporting the Aquatic Life Use.

4AXCN000.31 (Business 29 & Rt. 714) 2008 biological monitoring data found impaired conditions based on Virginia Stream Condition Index scores. The 2024 data window finds six VSCI scores with seasonal averages of 48 (spring) and 60 (fall). Biologist notes: This stream appears to be appears to be negatively affected by high nutrient levels and suburban storm flows.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_XCN01A02 / Roanoke (Staunton) River, Unnamed Tributary / An unnamed tributary to the Roanoke (Staunton) River downstream of Frazier Creek from its mouth on the Roanoke River upstream to its headwaters.	5A	Benthic Macroinvertebrates Bioassessments	2010	L	4.1

Roanoke (Staunton) River, Unnamed tributary

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.1

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L19R-05-BAC Roanoke (Staunton) River and Sycamore Creek

Cause Location: Roanoke (Staunton) River mainstem from the confluence with Goose Creek downstream to the confluence of Buffalo Creek. Sycamore Creek from its mouth on Roanoke (Staunton) River upstream to the confluence with Little Sycamore Creek.

Cause City/County: Campbell County; Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2018: 24386, 06/20/2006 (2018)

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study received U.S. EPA approval on 6/20/2006 [Fed. ID.24386] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24386, 6/20/2006. The 2022 data window extends the impairment upstream by 6.77 miles to the Goose Creek confluence.

4AROA129.55 (Business Rt. 29 Bridge, at gage) The 2022 data window finds 2 or more STV hits in the same 90-day period with < 10 samples.

4AROA124.59 (Rt. 640 Bridge, Pitts. Line Old Mansion) - Three of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion.

4AROA107.97 (Long Island Boat Ramp) - the 2024 data window finds E.coli samples exceeding the Statistical Threshold Value (STV) of 410 CFU / 100 mL in 2 of 10 samples which is exceeds the >10% exceedance rate in the same 90-day window. An exceedance of the 126 cfu/100 ml water geometric mean in a 90-day period was also recorded.

4ASYC000.26 (Rt. 929 Bridge) The 2018 data window finds three of 11 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L19R_ROA01A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Town of Altavista POTW downstream to the Big Otter River confluence with the Roanoke (Staunton) River (RU48).	4A	Escherichia coli (E. coli)	2018	L	3.76
VAW-L19R_ROA03A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Goose Creek mouth on downstream to the Town of Altavista POTW (RU48).	4A	Escherichia coli (E. coli)	2022	L	6.78
VAW-L19R_SCE01A00 / Sycamore Creek / Lower Sycamore Creek mainstem from its mouth to the confluence with Little Sycamore Creek (RU47).	4A	Escherichia coli (E. coli)	2018	L	8.29
VAW-L30R_ROA06A00 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the mouth of Hills Creek (37 7 9.187 N, -79 12 57.062) downstream to the confluence of Buffalo Creek.	4A	Escherichia coli (E. coli)	2022	L	17.65

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_ROA07A18 / Roanoke (Staunton) River / Roanoke (Staunton) River mainstem from the Big Otter River mouth downstream to the confluence of Hills Creek (37 7 9.187 N, -79 12 57.062 W) (RU60).	4A	Escherichia coli (E. coli)	2018	L	4.71

Roanoke (Staunton) River and Sycamore Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			41.19

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

Roanoke and Yadkin River Basins

Cause Group Code: L20R-01-BAC Goose Creek

Cause Location: The impairment begins at the confluence of the North and South Forks of Goose Creek extending downstream to the mouth of Bore Auger Creek.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: Escherichia coli (E.coli) replaces the 2004 6.78 mile fecal coliform (FC) bacteria 2006 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AGSE037.78- (Rt. 755 Bridge) Two of 11 E.coli samples exceed the instantaneous criterion during the 2020 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L20R_GSE01A00 / Goose Creek / Goose Creek mainstem from the North and South Fork confluence downstream to the Bore Auger Creek mouth (RU39).	4A	Escherichia coli (E. coli)	2006	L	6.94

Goose Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.94

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

Roanoke and Yadkin River Basins

Cause Group Code: L21R-01-BAC Goose Creek

Cause Location: Goose Creek from the mouth of Rocky Branch downstream to the confluence of Stony Fork Creek.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. The 2012 Bore Auger Creek nested Listing extends the Recreational Use impairment for 7.24 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The 1999 Federal Consent Decree includes station 4AGSE022.55 as an Attachment B station for fecal coliform bacteria. The station was not 2002 303(d) listed as the 2002 exceedance rate is 8 percent where two of 23 analyses exceed the former 1000 cfu/100 ml instantaneous criterion (2002). The 2004 fecal coliform (FC) bacteria assessment results in 303(d) Listing finding nonsupport based on the former 400 cfu/100 ml instantaneous criterion in 2004.

4AGSE025.64- 2008 assessment found Escherichia coli (E.coli) exceed the 235 cfu/100 ml criterion in three of nine samples.

4AGSE022.55- Seven of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion during the 2018 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_GSE01A00 / Goose Creek / Goose Creek mainstem from the Rocky Branch mouth on downstream to the confluence of Stony Fork Creek (RU41).	4A	Escherichia coli (E. coli)	2008	L	7.24

Goose Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.24

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

Roanoke and Yadkin River Basins

Cause Group Code: L21R-01-BEN Wolf Creek

Cause Location: Wolf Creek from its headwaters downstream to the Wolf Creek confluence on Goose Creek.

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The Wolf Creek Aquatic Life Use is impaired with this 2012 303(d) Listing for contravention of the General Standard (Benthic).

4AWLF001.20 (Upstream of Joppa Mill) Two 2010 Virginia Stream Condition Index (VSCI) surveys show impairment with an average score of 51.5. Biologist notes: The benthic macroinvertebrate community is dominated by filter-feeding taxa indicating an environment high in organic matter. The station had relatively good habitat scores except for moderate sedimentation. Land cover upstream of this site is approximately 43% agriculture which could be a source of sediment and nutrients. Impairment remains due to additional data collection and further evaluation by Regional Biologists.

4AWLF000.09 (Rt. 691 Bridge at Joppa Mill) The 2024 Cycle results in a Reserve Judgement 'J' conclusion based on four 2020 and 2021 VSCI scores averaging 58.2. Biologist notes: Overall, the average VSCI scores declined during this assessment cycle. The average VSCI was 58.2 which is below the impairment threshold. The decline was mainly attributed to an increase in pollution tolerant filterer taxa abundances such as blackfly larvae (Simulium) during spring collections. Additionally the decrease in stonefly (Plecoptera) taxa richness such as the winter stoneflies (Taeniopteryx) and (Allocapnia) also contributed to the decline in the fall 2021 score.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_WLF01A08 / Wolf Creek / Wolf Creek from the Fiddler Creek mouth downstream to the Wolf Creek confluence with Goose Creek (RU41).	5A	Benthic Macroinvertebrates Bioassessments	2012	L	4.16
VAW-L21R_WLF02A08 / Wolf Creek / Wolf Creek headwaters downstream to the Fiddler Creek confluence on Wolf Creek (RU41).	5A	Benthic Macroinvertebrates Bioassessments	2012	L	2.97

Wolf Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.13

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L21R-02-BAC Wolf Creek

Cause Location: Wolf Creek from its headwaters downstream to the Wolf Creek confluence on Goose Creek

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Recreation Use is impaired for 7.13 miles in this 2008 initial 303(d) Listing due to exceedances for Escherichia coli (E.coli) bacteria. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387]. SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries including Wolf Creek are nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AWLF000.09- (Rt. 691 Bridge at Joppa Mill) The 2020 and 2018 data windows find five of 18 and four of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion, respectively.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_WLF01A08 / Wolf Creek / Wolf Creek from the Fiddler Creek mouth downstream to the Wolf Creek confluence with Goose Creek (RU41).	4A	Escherichia coli (E. coli)	2008	L	4.16
VAW-L21R_WLF02A08 / Wolf Creek / Wolf Creek headwaters downstream to the Fiddler Creek confluence on Wolf Creek (RU41).	4A	Escherichia coli (E. coli)	2008	L	2.97

Wolf Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.13

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

Roanoke and Yadkin River Basins

Cause Group Code: L21R-02-BEN Bore Auger Creek

Cause Location: Bore Auger Creek from just upstream of the Rt. 619 crossing at an unnamed tributary downstream to its mouth on Goose Creek (RU40).

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: These waters are initially listed with the 2014 Integrated Report (IR). A partial delist (3.83 miles) occurs with the 2018 IR based on data from 4ABOE004.86. Additional data is needed to evaluate delist of the lower Aquatic Life Use impairment.

4ABOE005.27 (Rt. 806 Bridge) Bio 'IM' Two 2012 Virginia Stream Condition (VSCI) surveys scoring spring 48.7 and fall 59.6. Biologist notes: These surveys indicate a community dominated by pollution-tolerant taxa in the spring including midges and blackflies. There are a higher percentage of mayflies in the fall but both seasons had relatively low taxa richness, low numbers of stoneflies and low numbers of organisms in the scraper feeding category which require clean rock surfaces to feed upon. The instream habitat is affected by sediment deposition (low Sed score) with more than 50% of the stream bottom covered by fine particles. The sediment load in the stream also results in the low Embeddedness score meaning that the interstitial spaces between rocks is clogged by fine material thus limiting available habitat for sensitive macroinvertebrates. The watershed has a mix of forested and agricultural land cover.

The waters are partially delisted for Aquatic Life Use based on VSCI surveys collected at station 4ABOE004.86 (Saunders Rd./Rt. 616 Bridge, Bedford Co.) which represents Probabilistic Monitoring station 4ABOE005.27 for present and future monitoring. 4ABOE004.86 VSCI scores collected in 2015 and 2016 average 67.8. Spring 2015 and 2016 VSCI scores are 66.3 and 76.2, respectively; Fall 2015 and 2016 scores are 60.6 and 68.1, respectively. The VSCI surveys collected during the 2018 data window show full support of the Aquatic Life Use.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_BOE01A08 / Bore Auger Creek / Bore Auger Creek from just upstream of the Rt. 619 crossing at an unnamed tributary downstream to its mouth on Goose Creek (RU40).	5A	Benthic Macroinvertebrates Bioassessments	2014	L	5.73

Bore Auger Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.73

Sources: Loss of Riparian Habitat; Non-Point Source; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L21R-03-BAC Bore Auger Creek

Cause Location: Bore Auger Creek from near it's headwaters downstream to it's confluence with Goose Creek.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. The 2012 Bore Auger Creek nested Listing is due to excessive escherichia coli (E.coli) bacteria. The Recreational Use impairment extends 9.56 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ABOE004.86 (Saunders Road Bridge (Rt. 616)) - Six of 18 E.coli samples exceed during the 2020 data window.

4ABOE001.34 (Rt. 754 Bridge N. of Chamblissburg) The 2012 assessment initially 303(d) Lists this portion of Bore Auger Creek based on Escherichia coli (E.coli) exceedances of the 235 cfu/100 ml WQS instantaneous criterion in four of 12 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_BOE01A08 / Bore Auger Creek / Bore Auger Creek from just upstream of the Rt. 619 crossing at an unnamed tributary downstream to its mouth on Goose Creek (RU40).	4A	Escherichia coli (E. coli)	2012	L	5.73
VAW-L21R_BOE02A08 / Bore Auger Creek / Bore Auger Creek from near it's headwaters downstream to an unnamed tributary just upstream of the Rt. 619 crossing (RU40).	4A	Escherichia coli (E. coli)	2012	L	3.84

Bore Auger Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.57

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

Roanoke and Yadkin River Basins

Cause Group Code: L21R-04-BAC Stony Fork

Cause Location: Stony Fork from it's headwaters downstream to it's confluence with Goose Creek.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. The 2012 Stony Fork nested Listing is due to excessive Escherichia coli (E.coli) bacteria. The Recreational Use impairment extends 13.17 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ASBA004.54 (Rucker Road, Rt. 806 Bridge) Nine of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml WQS instantaneous criterion within the 2018 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_SBA01A08 / Stony Fork / Stony Fork from the Shoulder Run confluence downstream to the Stony Fork mouth on Goose Creek (RU42).	4A	Escherichia coli (E. coli)	2012	L	4.75
VAW-L21R_SBA02A08 / Stony Fork / Stony Fork from its headwaters downstream to the Shoulder Run confluence on Stony Fork (RU42).	4A	Escherichia coli (E. coli)	2012	L	8.43

Stony Fork

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			13.18

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

Roanoke and Yadkin River Basins

Cause Group Code: L21R-05-BEN Stony Fork

Cause Location: Stony Fork from its headwaters downstream to the Shoulder Run confluence on Stony Fork (RU42).

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The 2022 Stony Fork 303(d) listing is due to impaired benthic macroinvertebrate community collections from samples taken during the 2022 data window.

4ASBA008.39 (Rt. 749, Meadors Spur Rd.) Benthic macroinvertebrate community samples are assessed as impaired from two 2019 Virginia Stream Condition Index (VSCI) Scores: Spring 29.3 and Fall 38.8. Biologist notes: This station was surveyed as a regional biological monitoring site. The average VSCI was 34.1 indicating a benthic community that is impaired and dominated by Chironomid midges in the spring and net-spinning caddisflies in the fall. This station was surveyed as a regional biological monitoring site. The average VSCI was 34.1 indicating a benthic community that is impaired and dominated by Chironomid midges in the spring and net-spinning caddisflies in the fall. A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L21R_SBA02A08 / Stony Fork / Stony Fork from its headwaters downstream to the Shoulder Run confluence on Stony Fork (RU42).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	8.43

Stony Fork

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.43

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L22R-01-BAC Goose Creek

Cause Location: The upstream limit is at the Stony Fork mouth on Goose Creek extending downstream to the Carter Mill Creek confluence with Goose Creek.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The waters remain impaired for failure to support the Recreational Use. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Escherichia coli data from station 4AGSE013.78 extends the bacteria impairment upstream 8.93 miles from the original 10.03 miles. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Note: 4AGSE013.45 replaces 4AGSE013.78 and represents the actual sampling location for the data previously assigned to 4AGSE013.78.

Goose Creek from the Carter Mill Creek confluence downstream to the Goose Creek mouth on the Roanoke (Staunton) River (RU45) is de-listed for 7.89 miles from the 2002 original 10.03 miles. The waters remain impaired for 11.11 miles. There are no additional data beyond the 2014 Integrated Report where no exceeding values are observed from 23 samples at 4AGSE000.20 (Rt. 630 Bridge).

4AGSE013.78 / 4AGSE013.45 replaces 4AGSE013.78 and represents the actual sampling location for the data previously assigned to 4AGSE013.78. The 2022 data window applies the new Ecoli and confirms the impairment based on 2 or more STV hits in the same 90-day period with < 10 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_GSE01A14 / Goose Creek / Goose Creek from the Crab Orchard Creek confluence downstream to the Carter Mill Creek mouth on Goose Creek (RU43).	4A	Escherichia coli (E. coli)	2012	L	2.19
VAW-L22R_GSE02A02 / Goose Creek / Goose Creek mainstem from the Stony Fork mouth on Goose Creek (watershed boundary) on downstream to the Crab Orchard Creek mouth on Goose Creek (RU43).	4A	Escherichia coli (E. coli)	2012	L	8.94

Goose Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.13

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

Roanoke and Yadkin River Basins

Cause Group Code: L22R-02-BAC Mill Creek

Cause Location: Mill Creek upstream to the mouth of Hunting Creek

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The 2010 assessment finds the Recreational Use impaired for this initial 303(d) Listing. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Therefore Mill Creek is nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMWW004.53 (Rt. 654 Bridge - Felspar Rd.) The 2020 data window reports four of 12 excursions.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_MWW01A10 / Mill Creek / Mill Creek from its confluence with Goose Creek upstream to the mouth of Hunting Creek (RU43).	4A	Escherichia coli (E. coli)	2010	L	5.26

Mill Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.26

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

Roanoke and Yadkin River Basins

Cause Group Code: L22R-03-BAC Hunting Creek

Cause Location: Hunting Creek from its confluence with Mill Creek upstream to its headwaters.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: This initial 2010 303(d) Listing is based on escherichia coli (E.coli) exceedances of the WQS 235 cfu/100 ml instantaneous criterion. Hunting Creek is tributary to Mill Creek and thence to Goose Creek. The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Therefore Hunting Creek is nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AHNT001.29 (Rt.608 Bridge - White House Rd.) - 2012 and 2010 escherichia coli (E.coli) data exceed the 235 cfu/100 ml instantaneous criterion in eleven of 12 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_HNT01A10 / Hunting Creek / Hunting Creek from its confluence with Mill Creek upstream to its headwaters (RU43).	4A	Escherichia coli (E. coli)	2010	L	2.64

Hunting Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.64

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

Roanoke and Yadkin River Basins

Cause Group Code: L22R-04-BAC Carter Mill Creek

Cause Location: Carter Mill Creek from the mouth of Fitzpatrick Branch downstream to the confluence of Carter Mill Creek with Goose Creek

Cause City/County: Bedford County; Campbell County

Use(s): Recreation

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

Cause Description: The Staunton River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 6/22/2006 [Fed IDs 24386 / 23315 / 23316 / 24387] and SWCB approved 6/17/2007. Goose Creek [Fed ID 24552] and its tributaries are nested within the Staunton River TMDL Watershed. Therefore Carter Mill Creek is nested within the Staunton River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

This initial 2012 bacteria Listing is due to escherichia coli (E.coli) exceedances causing non-support of the Recreational Use.

4ACMC001.58- Escherichia coli (E.coli) exceed the 235 cfu/100 ml WQS instantaneous criterion in four of 12 samples within the 2018 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L22R_CMC01A12 / Carter Mill Creek / Carter Mill Creek from the mouth of Fitzpatrick Branch downstream to the confluence of Carter Mill Creek with Goose Creek (RU44).	4A	Escherichia coli (E. coli)	2012	L	7.27

Carter Mill Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.27

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

Roanoke and Yadkin River Basins

Cause Group Code: L23R-01-BAC Big Otter River and Sheeps Creek

Cause Location: The impairment begins on Sheeps Creek form just north of Reba, Va on Campbells Mountain off Rt. 614 (Montvale Quad) downstream to the confluence of Stony Creek forming the Big Otter River (Peaks of Otter Quad 37°23'25" /79°33'21"). The impairment continues downstream on the Big Otter River from the mouth of Sheeps Creek to the confluence of North Otter Creek. Note: The original downstream end was ~0.25 miles west of the Rt. 43 Bridge where Sheeps Creek and Stoney Creek join to form the Big Otter River, 1996 (Peaks of Otter Quad 37°23'25" /79°33'21"). The 2004 ending of the impairment is at the mouth of North Otter Creek on the Big Otter River.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Big Otter River / Sheeps Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 2/02/2001 [Fed ID 1650 / 7798 / 23400]. The SWCB approved the TMDL 6/17/2004 (formerly VAW-L23R-01) and the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are therefore Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26) including Machine Creek (L26), Big Otter drainage (L23, L24, L27, L28- delisted 2008 13.98 mi.) including Sheeps (L23), North Otter (L24) and Elk (L25) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

The original Sheeps Creek 303(d) Listing for fecal coliform (FC) bacteria in 1996 and again in 1998 (8.13 miles) is based on ambient data collections showing contravention of the former 1000 cfu/100 ml fecal coliform bacteria standard in greater than 25 percent of the samples collected. The waters remain impaired for the recreational use and is expanded to include the Big Otter River. The 2004 expansion adds an additional 9.62 miles to the impaired waters listing to include the Big Otter River from river mile 41.48 downstream to 32.01. Escherichia coli (E.coli) replaces fecal coliform bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Sheeps Creek (8.13 miles) 4ASEE003.16- (Rt. 680 Bridge) During the 2024 data window, three of six samples exceed the 410 cfu/100 ml STV criterion.

Big Otter River (9.62 miles) 4ABOR034.32- (Rt. 644 Bridge) 2010 Integrated Report (IR) found four of 23 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L23R_BOR01A02 / Big Otter River / Big Otter River mainstem from the mouth of North Otter Creek (Watershed Boundary) upstream to an unnamed with confluence at the Rt. 122 (Big Island Hwy) bridge (RU49).	4A	Escherichia coli (E. coli)	2006	L	6.00
VAW-L23R_BOR02A02 / Big Otter River / Big Otter River mainstem from an unnamed tributary with confluence at the Rt. 122 (Big Island Hwy) bridge upstream to the Bedford City raw water intake on the Big Otter River (RU49).	4A	Escherichia coli (E. coli)	2006	L	3.58

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L23R_BOR03A02 / Big Otter River / Big Otter River mainstem from the Bedford City raw water intake upstream to the confluence of Sheeps Creek and Stony Creek forming the Big Otter River (RU49).	4A	Escherichia coli (E. coli)	2006	L	0.05
VAW-L23R_SEE01A00 / Sheeps Creek / Sheeps Creek mainstem from the upstream end of WQS public water supply (PWS) section just downstream of Reba Creek on downstream to Sheeps Creek's confluence with Stony Creek (RU49).	4A	Escherichia coli (E. coli)	2010	L	4.90
VAW-L23R_SEE02A00 / Sheeps Creek / Headwaters north of Reba, VA on Campbells Mountain downstream to an unnamed tributary just downstream of Reba Creek (RU49).	4A	Escherichia coli (E. coli)	2010	L	3.24

Big Otter River and Sheeps Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			17.77

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

Roanoke and Yadkin River Basins

Cause Group Code: L23R-02-BAC Stony Creek

Cause Location: Stony Creek from its confluence with Sheeps Creek upstream to the mouth of Little Stony Creek

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: This 2010 303(d) Listing is based on data within the 2010 data window showing a Recreational Use impairment. The Big Otter River / Sheeps Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 2/02/2001 [Fed ID 1650 / 7798 / 23400]. The SWCB approved the TMDL 6/17/2004 (formerly VAW-L23R-01) and the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are therefore Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26) including Machine Creek (L26), Big Otter drainage (L23, L24, L27, L28- delisted 2008 13.98 mi.) including Sheeps (L23), North Otter (L24) and Elk (L25) Creeks. Stony Creek is nested within the TMDL Watershed and not specifically addressed by the Bacteria TMDL. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ASCB000.16 (Rt. 43 Bridge at intersection of 43 & 682)- 2014, 2012 and 2010 assessments results find two of eleven escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L23R_SCB01A00 / Stony Creek / Stony Creek mainstem within the WQS designated public water supply (PWS) section from the Bedford Reservoir downstream to its confluence with Sheep Creek (RU49).	4A	Escherichia coli (E. coli)	2010	L	4.37

Stony Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.37

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

Roanoke and Yadkin River Basins

Cause Group Code: L24R-01-BAC Oslin Creek, U.T. (XOJ)

Cause Location: Unnamed tributary (XOJ) from its confluence with Oslin Creek upstream to its headwaters.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The initial 303(d) listing of U.T. Oslin Creek (XOJ) extends the entire 7.13 mile length and occurs in the 2018 data window. The Big Otter River / Elk Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 2/02/2001 [Fed. ID 1498/9595/18708/23401/36497] and SWCB approved on 6/17/2004 (formerly VAW-L25R-01). The Bacteria Implementation Plan (IP) received SWCB approval on 3/27/2007. The waters are NESTED and therefore Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Ultimately escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AXOJ000.60 (Oslin Cr. Rd. [Rt. 637] Bridge) - The 2018 data window finds all twelve E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

4AXOJ001.34 (Off Charlemont Rd. [Rt. 638] Bridge) - This 2015 Probabilistic station reports one E.coli sample in exceedance of the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L24R_XOJ01A18 / Oslin Creek, UT, Lower (XOJ) / Unnamed tributary (XOJ) from its confluence with Oslin Creek upstream to its confluence with unnamed tributary (37.4608, -79.4022) (RU50).	4A	Escherichia coli (E. coli)	2018	L	1.37
VAW-L24R_XOJ02A18 / Oslin Creek, U.T. (XOJ) / Unnamed tributary (XOJ) to Oslin Creek from its confluence with unnamed tributary (37.4608, -79.4022) to its headwaters (RU50).	4A	Escherichia coli (E. coli)	2018	L	5.75

Oslin Creek, U.T. (XOJ)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.12

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

Roanoke and Yadkin River Basins

Cause Group Code: L24R-02-BEN Oslin Creek, U.T. (XOJ)

Cause Location: Unnamed tributary (XOJ) to Oslin Creek from its confluence with unnamed tributary (37.460833, -79.402222) to its headwaters (RU50).

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The 2018 303(d) list represents the initial impairment of this 5.77 mile segment for the Aquatic Life Use (benthic macroinvertebrate community).

4AXOJ001.34 - The 2018 data window finds impairment from two 2015 Virginia Stream Condition Index (VSCI) scores: Spring 46.4 and Fall 33.4. Biologist notes: This station was surveyed as part of the Probabilistic monitoring program in 2015. The average VSCI score was 39.91indicating a benthic community which has low diversity and is dominated by pollution-tolerant taxa. This site was impacted by sediment deposition throughout the reach. Land cover in the watershed is agriculture with pastures immediately upstream of the site. Dirt roads adjacent to the stream may increase sediment deposition during heavy rain events. Riparian vegetation appears to be lacking in many sections of the watershed upstream of the sample site.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L24R_XOJ02A18 / Oslin Creek, U.T. (XOJ) / Unnamed tributary (XOJ) to Oslin Creek from its confluence with unnamed tributary (37.4608, -79.4022) to its headwaters (RU50).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	5.75

Oslin Creek, U.T. (XOJ)

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.75

Sources: Agriculture; Loss of Riparian Habitat; Non-Point Source

Roanoke and Yadkin River Basins

Cause Group Code: L24R-03-BEN North Otter Creek

Cause Location: North Otter Creek from the Bedford Lake Dam downstream to just above the Hurricane Drive (Rt. 639) bridge (RU50).

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use 303(d) Impaired Waters Listing for North Otter Creek is based on benthic macroinvertebrate community data collected during the 2024 data window.

4ANOT007.64 (0.3 miles upstr of Rt. 122 Bridge) - The 2024 data window finds Aquatic Life Use impairment from two 2022 Virginia Stream Condition Index (VSCI) scores of 53 (Spring) and 45 (Fall). Biologist notes that this station was sampled in 2022 as part of the Probabilistic program. The average VSCI score was 49.1 indicating a benthic community with low numbers of pollution-sensitive organisms. The watershed is dominated by forested land cover with some agricultural land; however, an impoundment (Bedford Lake) is immediately upstream of this station.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L24R_NOT02A24 / North Otter Creek / North Otter Creek from the Bedford Lake Dam downstream to the Hurricane Drive bridge (RU50).	5A	Benthic Macroinvertebrates Bioassessments	2024	L	1.05

North Otter Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			1.05

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L25R-01-BAC Big Otter River, Elk Creek and North Otter Creek

Cause Location: Big Otter River from the mouth of North Otter Creek downstream to the confluence of the Little Otter River. Elk Creek from the Rt. 644 crossing at Perrowville downstream to the Elk Creek confluence on the Big Otter River. North Otter Creek from near the Rt. 122 crossing downstream to the its mouth on the Big Otter River. Note: The original 1998 bacteria 7.28 mile impairment on Elk Creek is extended with the 2004 IR to include the lower portion of North Otter Creek and the Big Otter River.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Big Otter River/Elk Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 2/2/2001 [Fed. ID 1498/9595/18708/23401/36497] and SWCB approved 6/17/04 (formerly VAW-L25R-01). The Bacteria Implementation Plan (IP) received SWCB approval 3/27/07. The waters are therefore Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator per WQS [9 VAC 25-260-170. Bacteria; other waters].

The 2004 extension is the result of additional data collections made conducting the TMDL Study. The bacteria impairment encompasses the original Elk Creek 7.52 mi and the total 2004 extension of 32.17 mi. The original 1998 and 2004 extensions totaling 38.97 mi are described below: The 1998 Elk Creek (L25R) original 7.52 mi bacteria upper limit is at Rt. 622 west of Forest ending at its mouth on the Big Otter River. The 2004 extension runs from near Perrowville downstream to the Rt. 622 crossing adding 12.83 mi. The original 1998 and 2002 303(d) Listing basis is for FC bacteria exceedances at 4AECR003.02. These data show contravention of the former 1000 cfu/100 ml FC criterion in greater than 25% of samples collected.

Elk Creek (20.35 miles): 4AECR016.66- (Below Rt. 664 near Norwood) 2008 IR found 6/9 E.coli samples exceed in the 2008 and 2010 IRs. 4AECR007.42- (intersection of Rts 643 & 705) 2008 IR found E.coli exceeded 6/9 samples.
4AECR003.02- (Rt. 668 Br) 2024: ECOLI: Impaired - 2 or more STV hits in the same 90-day period with < 10 samples.

The 2004 North Otter Creek (L24R) extension is 6.80 mi. The extension includes the lower portion of North Otter Creek from near the Rt. 122 crossing extending downstream to its mouth on the Big Otter River. 4ANOT001.06- (Rt. 644 Br - Langford Mill Rd.) 2022: 2 or more STV hits in the same 90-day period with < 10 sample.

Big Otter River (L25R; 2004 extension of 11.82 mi): The Big Otter River (L25R) from the confluence of North Otter Creek rm 32.01 downstream to the confluence of Little Otter River on the Big Otter River rm 20.27. 4ABOR029.74- (Rt.221 Br intersection Rts 221 & 670) 2004 assessment found 2/2 FC samples exceed the former 400 cfu/100 ml criterion. 4ABOR024.46- (Rt. 460 Br near intersection Rts 460 & 706) 2020: 6/12 excursions.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L25R_BOR02A02 / Big Otter River / Big Otter River mainstem from the confluence of Elk Creek upstream to the mouth of Roaring Run (RU52).	4A	Fecal Coliform	2004	L	5.98

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L25R_BOR03A04 / Big Otter River / Confluence of North Otter Creek downstream to the mouth of Roaring Run (RU52).	4A	Fecal Coliform	2004	L	1.36

Big Otter River, Elk Creek and North Otter Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			7.34

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L24R_NOT01A02 / North Otter Creek / North Otter Creek from the Rt. 122 crossing at Coltons Mill downstream to the North Otter Creek mouth on the Big Otter River (RU50).	4A	Escherichia coli (E. coli)	2010	L	6.81
VAW-L25R_BOR01A02 / Big Otter River / Big Otter River mainstem from the mouth of the Little Otter River upstream to the Elk Creek confluence on the Big Otter River (RU52).	4A	Escherichia coli (E. coli)	2008	L	4.50
VAW-L25R_ECR01A00 / Elk Creek / Elk Creek mainstem from its mouth on the Big Otter River upstream to the Rt. 622 crossing west of Forest, VA (RU51).	4A	Escherichia coli (E. coli)	2008	L	7.52
VAW-L25R_ECR02A02 / Elk Creek / Elk Creek mainstem from and unnamed tributary near Norwood (37.34057, -79.35881) Rt. 622 crossing, upstream to near Perrowville (37.41639, -79.35194) at another unnamed tributary (RU51).	4A	Escherichia coli (E. coli)	2008	L	12.84

Big Otter River, Elk Creek and North Otter Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			31.67

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

Roanoke and Yadkin River Basins

Cause Group Code: L26R-01-BAC Little Otter River and Machine Creek

Cause Location: Little Otter River from its perennial headwaters west of Rt. 680 at Cobbs Mountain on the Peaks of Otter Quad on downstream to the mouth of the Little Otter River on the Big Otter River. Machine Creek from its perennial headwaters downstream to its confluence with the Little Otter River.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Little Otter River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 2/2/01 [Fed ID 1547/9486/19639/24557] (VAW-L26R-01) and Machine Cr [Fed ID 1547/9467/20210] (VAW-L26R-02). SWCB approval on 6/17/04. The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26R) including Machine Cr (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator per WQS [9 VAC 25-260-170. Bacteria; other waters]. The 1996/1998/2002 303(d) Listing basis for FC bacteria are ambient collections showing contravention of the former 1000 cfu/100 ml criterion in > 10 and 25% of samples as well as the former 400 cfu/100 ml instantaneous (inst) criterion.

The Little Otter River waters remain impaired for recreational use for 27.63 mi. Little Otter River [Fed ID 1547/9486/19639/24557] 27.63 miles:
4ALOR021.92- (Rt. 838 Bridge) 2010 Integrated Report (IR) where E.coli exceed the inst criterion in 10/12 samples.
4ALOR018.96- (Rt. 122 Bridge north of the intersection of Rts 122 & 211) 2002 IR where 2/2 FC exceed the former inst criterion. 4ALOR014.75- (Rt. 718 Bridge above Bedford STP) 2022: 2 or more Statistical Threshold Value (STV) hits in the same 90-day period with < 10 samples. 4ALOR014.33- 2014: 2/3. No additional data 2018 data windows.
4ALOR010.78- (Rt. 460 Br) 2002 IR found 2/2 FC samples exceed the former inst criterion. 4ALOR008.64- (Rt. 784 Br) 2016 and 2018 IR: 4/18.

Machine Creek [Fed ID 1547/9467/20210/24780] 11.59 miles:
4AMCR004.60- (Rt. 804 Bridge) 2022: 2 or more STV hits in the same 90-day period with < 10 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little Otter River confluence with the Big Otter River (RU54).	4A	Escherichia coli (E. coli)	2010	L	4.48
VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	4A	Escherichia coli (E. coli)	2010	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	4A	Escherichia coli (E. coli)	2010	L	5.90

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR04A00 / Little Otter River / Little Otter River mainstem from the Bedford City boundary at the Rt. 43 crossing downstream to Bedford City POTW (RU54).	4A	Escherichia coli (E. coli)	2008	L	7.44
VAW-L26R_LOR05A00 / Little Otter River / Little Otter River mainstem from its perennial headwaters downstream to the Bedford City boundary at the Rt. 43 crossing (RU54).	4A	Escherichia coli (E. coli)	2010	L	5.58
VAW-L26R_MCR01A00 / Machine Creek / Machine Creek mainstem from it perennial headwaters downstream to its mouth on the Little Otter River (RU53).	4A	Escherichia coli (E. coli)	2010	L	11.60

Little Otter River and Machine Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			39.24

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

Roanoke and Yadkin River Basins

Cause Group Code: L26R-01-BEN Little Otter River

Cause Location: Little Otter River mainstem from the Bedford City POTW downstream to mouth to its confluence with the Big Otter River.

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: Total Maximum Daily Loads (TMDLs) for Benthic Impairments in Little Otter R. (Sediment and Total Phosphorus), Johns Cr, Wells Cr, and Buffalo Cr (Sediment) were EPA approved on 2/3/15 [Fed IDs 65480 / 63924]. The original 2002 303(d) Listed 5.90 mile General Standard (Benthic) impairment was extended upstream in 2008 with an additional 7.44 miles due to impairment at station 4ALOR014.75 for a total impaired length of 13.34 miles. The 2010 the impairment was extended downstream 8.71 mi based on impaired benthic conditions at stations 4ALOR012.20, 4ALOR008.64 and 4ALOR007.20. Total impaired miles are 22.05.

4ALOR014.75 (Rt. 718 Bridge above Bedford STP) Four impaired Virginia Stream Condition Index (VSCI) surveys (2011-2012) report an average score of 57.9 within the 2016 and 2018 data windows. Application of the VSCI to previous RBP II surveys (1994-2006 outside the 2008 data window) reveals an average VSCI score of 54.0 resulting in an extension of the impairment in 2008.

4ALOR014.33 (Below Bedford STP) The 2014, 2016 and 2018 Integrated Reports (IR) find 4 (2011-12) VSCI surveys with an average score of 49.2. Biologist notes: This station is located below the City of Bedford's STP discharge at 4ALOR014.36 (excluding the mixing zone). Best Professional Judgment was used in spring 1999 because the sample had a high number of pollution tolerant organisms. The aquatic life use General Standard (Benthic) impairment was a 2002 original 303(d) Listing.

4ALOR012.20 (Pass the end of Dowdy Rock Rd.) Two impaired 2008 VSCI surveys are reported with an average score of 58.2. Biologist notes: Habitat impacts include stream substrates that are embedded by fine sediment and eroded stream banks. This site replaces the historical downstream impact station (4ALOR014.33) that has become inaccessible.

4ALOR008.93 (Off Nicopolis Dr., Rt. 784) The 2014, 2016, and 2018 IRs report two 2012 impaired VSCI surveys scoring spring 48.9 and fall 27.2. Biologist notes: Habitat surveys indicated a stream section with marginal bank stability, sediment impacts and lack of instream habitat.

4ALOR008.64 (Nicopolis Dr., Rt. 784 Bridge) No new data since the 2010 data window where one 2008 VSCI survey scored 56.5. Biologist notes: This station was sampled as part of the Nutrient Criteria Special Study in 2008. Stations were selected based on historical nutrient levels and data on benthic macroinvertebrates, algae, periphyton and habitat were collected to be compared with nutrients. The VSCI score indicates a stressed community with low taxonomic diversity and low abundance of pollution-sensitive organisms. Habitat surveys indicated a stream section with substrates that were impacted by excessive fine sediments. Chemical analyses indicate high phosphorus levels.

4ALOR007.20 (Downstream of Nicopolis Dr., Rt. 784) A 2007 probabilistic site reports impaired VSCI surveys with an average score of 52.7. Biologist notes: Both spring and fall samples had relatively low taxonomic diversity and low abundance of pollution-sensitive organisms. Habitat surveys indicated a stream section with substrates that were impaired.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little Otter River confluence with the Big Otter River (RU54).	4A	Benthic Macroinvertebrates Bioassessments	2010	L	4.48
VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	4A	Benthic Macroinvertebrates Bioassessments	2010	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	5.90
VAW-L26R_LOR04A00 / Little Otter River / Little Otter River mainstem from the Bedford City boundary at the Rt. 43 crossing downstream to Bedford City POTW (RU54).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	7.44

Little Otter River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			22.06

Sources: Crop Production (Crop Land or Dry Land); Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Municipal Point Source Discharges; Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L26R-01-HG Little Otter River

Cause Location: Little Otter River mainstem from the Bedford City POTW downstream to the Little Otter River confluence with the Big Otter River.

Cause City/County: Bedford County

Use(s): Fish Consumption

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

Cause Description: This initial 2010 303(d) Listing is based on 2006 fish tissue collections and Water Quality Standards (WQS) effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov for more information about mercury contamination and http://www.vdh.virginia.gov/ for VDH Advisories or Bans.

4ALOR007.94 (Below Bedford)- 2008 data window. Mercury (Hg) is found in 2006 fish tissue results for one smallmouth bass (0.489 ppm) and one rock bass (0.450 ppm) each greater than the water quality based mercury tissue value (TV) of 0.3 ppm.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little Otter River confluence with the Big Otter River (RU54).	5A	Mercury in Fish Tissue	2010	L	4.48
VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	5A	Mercury in Fish Tissue	2010	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	5A	Mercury in Fish Tissue	2010	L	5.90

Little Otter River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			14.62

Sources: Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L26R-01-PCB Little Otter River

Cause Location: Little Otter River mainstem from the Bedford City POTW downstream to the Little Otter River confluence with the Big Otter River.

Cause City/County: Bedford County

Use(s): Fish Consumption

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

Cause Description: The Roanoke R. PCB TMDL Study is US EPA approved 4/9/2010. Fed ID: 38522 and received SWCB approval on 12/9/2010. The Little Otter River is incorporated within the Roanoke River PCB TMDL with Fed IDs: 38461 / 38638 / 38639.

1999 Fish tissue collections at 4ALOR007.94 (below Bedford) find polychlorinated biphenyls (PCBs) in excess of the current 20 parts per billion (ppb) tissue value (TV) and former human health-risk carcinogenic WQS TV of 54 ppb from three species; Carp at 68.30; Smallmouth Bass at 54.8; and 1999 addition Redhorse Sucker at 28.50 ppb. Application of the new PCB WQS TV of 20 ppb to 2002 collections adds an additional species, Bluehead Chub at 21.28 ppb. The 14.33 mile fish consumption impairment is a 2002 addition to the initial Listing and the impairment remains in the 2014, 2016, and 2018 assessments with no additional data. A Virginia Department of Health fish consumption advisory has not been issued for these waters. The 2008 assessment found 2006 and 2002 fish tissue collections had no exceedances of the former WQS PCB TV of 54 ppb from species collected. However neither of these collections contained tissue results for carp or smallmouth bass, the original Listing basis.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_LOR01A00 / Little Otter River / Little Otter River mainstem from the mouth of Machine Creek downstream to the Little Otter River confluence with the Big Otter River (RU54).	4A	PCBs in Fish Tissue	2002	L	4.48
VAW-L26R_LOR02A00 / Little Otter River / Little Otter River mainstem from the mouth of Poorhouse Creek downstream to the mouth of Machine Creek (RU54).	4A	PCBs in Fish Tissue	2002	L	4.24
VAW-L26R_LOR03A00 / Little Otter River / Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek (RU54).	4A	PCBs in Fish Tissue	2002	L	5.90

Little Otter River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCBs in Fish Tissue - Total Impaired Size by Water Type:			14.62

Sources: Urban Runoff/Storm Sewers; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L26R-02-BAC Johns Creek

Cause Location: Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (Bedford & Goode Quads).

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Little Otter River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 02/02/2001 [Fed ID 1547 / 9486 / 19639 / 24557] (VAW-L26R-01) and Machine Creek [Fed ID 1547 / 9467 / 20210] (VAW-L26R-02). SWCB approval achieved on 6/17/2004. The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26R) including Johns Creek (L26R Nested 2014 IR), Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved study and allocations can be viewed at http://www.deq.virginia.gov. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator organism as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AJHN000.01- (near the Johns Creek confluence with the Little Otter River) The 2014 assessment finds the Recreational Use impaired from two of three escherichia coli samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_JHN01A00 / Johns Creek / Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (RU54).	4A	Escherichia coli (E. coli)	2014	L	2.24

Johns Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.24

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

Roanoke and Yadkin River Basins

Cause Group Code: L26R-02-BEN Johns Creek

Cause Location: Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (Bedford & Goode Quads).

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The Total Maximum Daily Load (TMDL) Studies for Benthic Impairments in Little Otter River, Johns Creek, Wells Creek, and Buffalo Creek were EPA approved [Fed IDs 65480 / 63924] on 2/3/15. Historical surveys of Johns Creek from the 1990s and 2000 also indicate an impaired benthic community. The original 2002 Benthic results show moderate impact to the benthic community from a total of three Rapid Bioassessment Protocol II (RBP II) surveys. Biologist Best Professional Judgement was used in spring 1999 because the number of total taxa and total individuals were low, and pollution tolerant taxa were dominant.

4AJHN000.01- (near the Johns Creek confluence with the Little Otter River) Four Virginia Stream Condition Index (VSCI) surveys (2011-12) reported with an average score of 49.4 show an impaired condition within the 2016 data window. The original 2002 2.13 mile General Standard (Benthic) 303(d) Listing remains. The 2008 assessment reports one 2006 fall VSCI survey scoring 40.7.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_JHN01A00 / Johns Creek / Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (RU54).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	2.24

Johns Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.24

Sources: Municipal (Urbanized High Density Area); Sediment Resuspension (Clean Sediment)

Roanoke and Yadkin River Basins

Cause Group Code: L26R-03-BAC Wells Creek

Cause Location: Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters.

Cause City/County: Bedford County

Use(s): Recreation

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

Cause Description: The Little Otter River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 02/02/2001 [Fed ID 1547 / 9486 / 19639 / 24557] (VAW-L26R-01) and Machine Creek [Fed ID 1547 / 9467 / 20210] (VAW-L26R-02). SWCB approval achieved on 6/17/2004. The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved study and allocations can be viewed at http://www.deq.virginia.gov.

The 2014 initial 303(d) Listing finds the Recreational Use impaired for 3.93 miles based on escherichia coli (E.coli) results at station 4AWEL001.14. The bacteria impairment is nested within the Little Otter River Bacteria TMDL.

4AWEL001.14- (Rt. 722 Bridge, Old Country Rd.)- 2018 assessments find eleven of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_WEL01A02 / Wells Creek / Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters (RU53).	4A	Escherichia coli (E. coli)	2014	L	3.94

Wells Creek

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

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

Roanoke and Yadkin River Basins

Cause Group Code: L26R-03-BEN Wells Creek

Cause Location: Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters.

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The 2008 initial 303(d) Listing finds the Aquatic Life Use impaired for 3.93 miles based on results from benthic surveys at station Wells Creek station 4AWEL000.59. These waters are included in the Little Otter River (Sediment and Total Phosphorus), Johns Creek, Wells Creek, and Buffalo Creek Benthic TMDL (Sediment) approved on 2/3/15 (EPA) and 12/11/14 (SWCB) [Fed IDs 65480 / 63924].

4AWEL001.14- (Rt. 722 Bridge, Old Country Rd.) Four Virginia Stream Condition Index (VSCI) surveys (2011-12) report impairment from an average score of 50.2. Biologist notes: The habitat at this station is moderately impacted by hay fields and pastures. The riparian zone buffers are narrow and there is obvious stream bank erosion. The instream habitat is affected by deposition of fine sediment. The benthic community is dominated by organisms tolerant of nutrient and organic matter impacts.

4AWEL000.59- (Downstream of Rt. 747 Crossing) Both the 2010 and 2008 assessments find two impaired 2005 VSCI surveys scoring spring 45.6 and fall 59.6. Biologist notes: The habitat is moderately impacted by hay fields and pastures. The riparian zone buffers are narrow and there is substantial stream bank erosion. The in stream habitat is affected by deposition of fine sediment. The benthic community is dominated by organisms tolerant of nutrient and organic matter impacts.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L26R_WEL01A02 / Wells Creek / Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters (RU53).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	3.94

Wells Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.94

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

Roanoke and Yadkin River Basins

Cause Group Code: L27R-01-BAC Big Otter River and Falling Creek

Cause Location: Big Otter River from the mouth of the Little Otter River on the Big Otter River extending downstream to the confluence of Buffalo Creek with the Big Otter River (Goode, Forest & Lynch Station Quads). Falling Creek from its headwaters downstream to the Falling Creek mouth on the Big Otter River.

Cause City/County: Bedford County; Campbell County

Use(s): Recreation

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

Cause Description: The Big Otter River Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 02/02/01 [FED ID 1547 / 9486 / 36497] and SWCB approval on 6/17/04 (former VAW-L27R-01). The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/07. The waters are Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Falling Creek is nested within the TMDL Watershed and not specifically addressed by the Bacteria TMDL. However allocation scenario development is for the entire TMDL Watershed to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

No recreational use impairments are noted in the 1998 303(d) List for the Big Otter River in watershed L27R. The 2002 5.37 mile fecal coliform portion is added to the original former downstream (L28R- 2008 delisted 13.98 miles) 1998 303(d) Listing. Big Otter bacteria impaired waters span from the mouth of Little Otter River on the Big Otter on downstream to the Buffalo Creek confluence. A 2004 IR Falling Creek addition with 5.92 miles brings the total bacteria impaired length to 11.29 miles. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Big Otter River (5.37 miles): 4ABOR016.26- (Rt. 24 Bridge) - The 2022 data window finds six of 11 E.coli samples in exceedance of the 410 cfu/100ml Statistical Threshold Value.

Falling Creek (5.92 miles): 4AFNG001.06- There are no additional data beyond the 2004 IR where two of two FC samples exceed the 400 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IRs.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_FNG01A02 / Falling Creek / Falling Creek mainstem from its mouth on the Big Otter River upstream to it headwaters (RU55).	4A	Fecal Coliform	2004	L	2.83
VAW-L27R_FNG02A18 / Falling Creek / Falling Creek mainstem from its confluence with Bold Branch upstream to its headwaters (RU55).	4A	Fecal Coliform	2004	L	3.09

Big Otter River and Falling Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			5.92

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_BOR01A00 / Big Otter River / Big Otter River mainstem from the upstream WQS designated public water supply (PWS) Sec. 5j end downstream to the Buffalo Creek mouth on the Big Otter River (RU55).	4A	Escherichia coli (E. coli)	2010	L	2.67
VAW-L27R_BOR02A00 / Big Otter River / Big Otter River mainstem from the mouth of Little Otter R. on Big Otter R. downstream to the upstream end of the WQS designated public water supply (PWS) section 5j (RU55).	4A	Escherichia coli (E. coli)	2010	L	2.72

Big Otter River and Falling Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.39

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

Roanoke and Yadkin River Basins

Cause Group Code: L27R-01-BEN Buffalo Creek

Cause Location: Buffalo Creek from an unnamed tributary at the Route 811 crossing in Campbell County to its mouth on the Big Otter River.

Cause City/County: Bedford County; Campbell County

Use(s): Aquatic Life

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

Cause Description: The Little Otter River (Sediment and Total Phosphorus), Johns Creek, Wells Creek, and Buffalo Creek (Sediment) Total Maximum Daily Load (TMDL) Study received U.S. EPA approval on 2/3/15 [Fed ID: 65480 / 63924] and SWCB approval on 12/11/14.

4ABWA008.53 (Along Rt. 623 near New London) - Benthic macroinvertebrate community impairment is reported from five Virginia Stream Condition Index (VSCI) collected in 2009 and 2012. Biologist notes that the flow regime and nutrients seem to negatively affect the stream community. Abundant periphyton and the presence of filamentous algae indicate elevated nutrients are negatively affecting the benthic community.

Anecdotal information from 4ABWA002.00 (Below Rt. 24 Bridge) finds benthic macroinvertebrate community impairment from five VSCI scores averaging 57.3 (2012, 2014, 2016). Biologist notes: 4ABWA002.00 exhibits significant seasonal variation. Follow-up monitoring continues the trend of good VSCI scores in the fall. The high number of taxa within the scraper functional feeding group may be an indication of nutrient enrichment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_BWA01A18 / Buffalo Creek / Buffalo Creek mainstem from its mouth on the Big Otter River upstream to the end of the WQS designated public water supply (PWS) Sec. 5j end (RU56).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	2.11
VAW-L27R_BWA02A18 / Buffalo Creek / Buffalo Creek from the end of the WQS designated public water supply (PWS) section 5j upstream to an unnamed tributary at the Rt. 811 crossing in Campbell County (37.2902, -79.2748) (RU56).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	6.43

Buffalo Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.54

Sources: Clean Sediments

Roanoke and Yadkin River Basins

Cause Group Code: L27R-02-BAC Buffalo Creek

Cause Location: Buffalo Creek from an unnamed tributary at the Route 811 crossing in Campbell County to its mouth on the Big Otter River.

Cause City/County: Bedford County; Campbell County

Use(s): Recreation

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

Cause Description: These Recreational Use impaired waters on Buffalo Creek are Nested (2014 assessment) in The Big Otter River Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 02/02/01 [Fed. IDs: 1547 / 9486 / 36497] and SWCB approval on 6/17/04 (former VAW-L27R-01). The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/07.

4ABWA002.00 (Below Rt. 24 Bridge) No new data since 2014 where E. coli showed 8/24

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_BWA01A18 / Buffalo Creek / Buffalo Creek mainstem from its mouth on the Big Otter River upstream to the end of the WQS designated public water supply (PWS) Sec. 5j end (RU56).	4A	Escherichia coli (E. coli)	2006	L	2.11
VAW-L27R_BWA02A18 / Buffalo Creek / Buffalo Creek from the end of the WQS designated public water supply (PWS) section 5j upstream to an unnamed tributary at the Rt. 811 crossing in Campbell County (37.2902, -79.2748) (RU56).	4A	Escherichia coli (E. coli)	2006	L	6.43

Buffalo Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.54

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

Roanoke and Yadkin River Basins

Cause Group Code: L27R-03-BEN Falling Creek

Cause Location: Falling Creek mainstem from its mouth on the Big Otter River upstream to it headwaters (RU55).

Cause City/County: Bedford County

Use(s): Aquatic Life

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

Cause Description: The 2018 data window finds the initial Aquatic Life Use impairment for Falling Creek.

4AFNG003.54 (Rt. 707 Bridge) - The 2018 data window finds impairment from one 2016 Virginia Stream Condition Index (VSCI) score of 37.1 (Spring; stream was inaccessible in the fall). Biologist notes: This station was surveyed as part of the Probabilistic Monitoring Program. Midges (Chironomidae) dominated the benthic community; however, the diversity and specific mayfly (Ephemeroptera) taxa collected at this station indicate potential for improvement.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L27R_FNG02A18 / Falling Creek / Falling Creek mainstem from its confluence with Bold Branch upstream to its headwaters (RU55).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	3.09

Falling Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.09

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L28R-01-BAC Big Otter River

Cause Location: Big Otter River mainstem from the mouth of Flat Creek downstream to Big Otter River confluence with the Roanoke (Staunton) River.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: These Recreational Use impairments on Big Otter River are Nested in the Big Otter River Watershed TMDL (EPA Approved - 2/2/01, SWCB Approved - 6/17/04). Exceedance rates presented below are compared to the 235 cfu/100 ml Escherichia coli (E.coli) instantaneous Water Quality Standard.

4ABOR000.62 (Bernards Creek 30 m above mouth) 2022: E. coli - 10/35 Exceedance Rate. 4ABOR012.18 (Station 8, Route 644 Bridge) - 2020: E. coli - 2/12 Exceedance Rate.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L28R_BOR01A00 / Big Otter River / Big Otter River mainstem from the mouth of Flat Creek downstream to Big Otter River confluence with the Roanoke (Staunton) River.	4A	Escherichia coli (E. coli)	2010	L	9.45
VAW-L28R_BOR02A00 / Big Otter River / Big Otter River mainstem from the Campbell County USA Otter River WTP downstream to mouth of Flat Creek.	4A	Escherichia coli (E. coli)	2016	L	2.22
VAW-L28R_BOR03A00 / Big Otter River / Big Otter River mainstem from the Buffalo Creek mouth on Big Otter River downstream to the Campbell County USA Otter River WTP (RU57).	4A	Escherichia coli (E. coli)	2016	L	2.35

Big Otter River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			14.02

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

Roanoke and Yadkin River Basins

Cause Group Code: L29R-01-BEN Flat Creek

Cause Location: Flat Creek from the confluence of Yellow Branch to its headwaters.

Cause City/County: Campbell County

Use(s): Aquatic Life

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

Cause Description: Flat Creek was listed for Aquatic Life Use impairment during the 2010 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) period due to benthic macroinvertebrate collections as described below.

4AFCA010.95 (Rt. 622 bridge) Benthic macroinvertebrate community data shows impairment based on collections taken during 2007, 2012, and 2014. Biologist notes: Sediment and scour are listed as probable stressors. Flat Creek exhibits slight seasonal variability and moderate variability near the assessment threshold of 60. Recent sampling has indicated an improvement in Virginia Stream Condition Index (VSCI) scores, although sediment and scour are still affecting the community. Additional monitoring is required to accurately assess the waterbody.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L29R_FCA02A10 / Flat Creek / Flat Creek from the confluence of Yellow Branch to its headwaters (RU58).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	8.21

Flat Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.21

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L29R-02-BAC Flat Creek

Cause Location: Flat Creek mainstem from Yellow Branch's mouth downstream to the Flat Creek mouth on the Big Otter River.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: This 2018 initial bacteria listing for Flat Creek is nested within the Big Otter River Bacteria Total Maximum Daily Load (TMDL) which received U.S. EPA approval on 02/02/2001 [FED ID 1547 / 9486 / 36497] and SWCB approval on 6/17/2004 (former VAW-L27R-01). The SWCB approved the Bacteria Implementation Plan (IP) on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria TMDL encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Flat Creek is included within this area.

4AFCA001.40 (Rt. 696 Bridge) - Two of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L29R_FCA01A00 / Flat Creek / Flat Creek mainstem from Yellow Branch's mouth downstream to the Flat Creek mouth on the Big Otter River (RU58).	4A	Escherichia coli (E. coli)	2018	L	7.67

Flat Creek

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

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

Roanoke and Yadkin River Basins

Cause Group Code: L30R-01-BAC Buffalo Creek

Cause Location: Buffalo Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its headwaters.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 10.23 miles of impaired waters. 4ABHA002.47 (Ambient)(Buffalo Cr @RTE 639 (Rockbarn Road))

4ABHA002.47 (Ambient)(Buffalo Cr @RTE 639 (Rockbarn Road)) Four of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_BHA01A02 / Buffalo Creek / Buffalo Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its headwaters.	4A	Escherichia coli (E. coli)	2008	L	10.23

Buffalo Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			10.23

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

Roanoke and Yadkin River Basins

Cause Group Code: L30R-02-BAC Childrey Creek

Cause Location: Childrey Creek mainstem from its headwaters downstream to the Childrey Creek mouth on the Roanoke (Staunton) River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

Two stations are located within the 14.54 miles of impaired waters. 4ACRE002.52 (Ambient)(2018)(Childrey Creek at Route 632 Bridge) and 4ACRE008.75 (Ambient)(Childrey Cr @ State Shed Rd (rt 645)

4ACRE002.52 (Ambient)(2018)(Childrey Creek at Route 632 Bridge) 0/0 samples in excess of the instantaneous criterion.

4ACRE008.75 (Ambient)(Childrey Cr @ State Shed Rd (rt 645)) 2022:Two of 12 samples in excess of the statistical Threshold Value of 410 cfu/100ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_CRE01A00 / Childrey Creek / Childrey Creek mainstem from its headwaters downstream to the Childrey Creek mouth on the Roanoke (Staunton) River.	4A	Escherichia coli (E. coli)	2006	L	14.54

Childrey Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			14.54

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

Roanoke and Yadkin River Basins

Cause Group Code: L30R-03-BAC Straightstone Creek

Cause Location: Straightstone Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to Little Straightstone Creek

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 8.75 miles of impaired waters. 4ASSC002.98 (TMDL Monitoring)(2018)(Route 761 (Straightstone Rd))

4ASSC002.98 (TMDL Monitoring)(Route 761 (Straightstone Rd) 2022: Five of 12 samples in excess of the Statistical Threshold Value of 410 cfu/100ml. instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_SSC01A02 / Straightstone Creek / Straightstone Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to Little Straightstone Creek (RU62).	4A	Escherichia coli (E. coli)	2006	L	8.75

Straightstone Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.75

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

Roanoke and Yadkin River Basins

Cause Group Code: L30R-04-BAC Whipping Creek

Cause Location: Whipping Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its headwaters.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 13.9 miles of impaired waters. 4AWPP002.53 (TMDL, Ambient)(Whipping Creek at Route 633)

4AWPP002.53 (TMDL, Ambient) (Whipping Creek at Route 633) Three of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_WPP01A02 / Whipping Creek / Whipping Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its headwaters.	4A	Escherichia coli (E. coli)	2006	L	13.91

Whipping Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			13.91

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

Roanoke and Yadkin River Basins

Cause Group Code: L30R-05-BAC Little Straightstone Creek

Cause Location: Little Straightstone Creek from its headwaters to the mouth

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 7.55 miles of impaired waters. 4ALHT000.70 (TMDL Monitoring) (Route 668 (Level Run Road))

4ALHT000.70 (TMDL Monitoring) (Route 668 (Level Run Road)) Five of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L30R_LHT01A06 / Little Straightstone Creek / Little Straightstone Creek from its headwaters to the mouth	4A	Escherichia coli (E. coli)	2006	L	7.57

Little Straightstone Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.57

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

Roanoke and Yadkin River Basins

Cause Group Code: L31R-01-BEN East Little Seneca Creek, Unnamed Tributary

Cause Location: East Little Seneca Creek, Unnamed Tributary from the headwaters to the mouth

Cause City/County: Campbell County

Use(s): Aquatic Life

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

Cause Description: The Unnamed Tributary to East Little Seneca Creek is 303(d) Listed during the 2008 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) window due to benthic macroinvertebrate community data collected as described below.

4AXUP000.06 (Upstream of route 698) This station was sampled as part of the 2004 Probabilistic Monitoring network. There is no additional data beyond the 2016 IR window where the benthic macroinvertebrate community is found to be impaired. Biologist notes that the stream seems to be negatively affected by flow regime and sedimentation. Sediment and nutrients are primary stressors to this reach. Virginia Stream Condition Index (VSCI) scores exhibit seasonal variability over several years.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L31R_XUP01A06 / East Little Seneca Creek, Unnamed Tributary / From the headwaters to the mouth	5A	Benthic Macroinvertebrates Bioassessments	2008	H	1.5

East Little Seneca Creek, Unnamed Tributary

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			1.5

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L32R-01-BAC Falling River

Cause Location: Falling River from its headwaters to its confluence with South Fork Falling River

Cause City/County: Appomattox County; Campbell County

Use(s): Recreation

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

Cause Description: The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Two stations are located within the 18.16 miles of impaired waters. 4AFRV025.34 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 650 bridge) and 4AFRV029.24 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 647 bridge)

4AFRV025.34 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 650 bridge) Four of 12 samples in excess of the instantaneous criterion.

4AFRV029.24 (2004 Falling River Bacteria TMDL)(2018)(Falling River at Rt. 647 bridge) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L32R_FRV01A06 / Falling River / Falling River from its headwaters to its confluence with South Fork Falling River	4A	Escherichia coli (E. coli)	2006	L	18.17

Falling River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			18.17

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

Roanoke and Yadkin River Basins

Cause Group Code: L33R-01-BAC Button Creek

Cause Location: Button Creek from the headwaters to the mouth.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 7.86 miles of impaired waters. 4ABTF002.16 (TMDL Monitoring)(Button Creek at Rt. 651)

4ABTF002.16 (TMDL Monitoring)(Button Creek at Rt. 651) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L33R_BTF01A06 / Button Creek / From the headwaters to its mouth	4A	Escherichia coli (E. coli)	2006	L	7.86

Button Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.86

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

Roanoke and Yadkin River Basins

Cause Group Code: L33R-02-BAC South Fork Falling River

Cause Location: South Fork Falling River from its headwaters to the mouth.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Three stations are located within the 16.79 miles of impaired waters. 4AFSF000.66 (TMDL Monitoring)(2018)(South Fork Falling River, Rt. 648 bridge), 4AFSF004.56 (Ambient)(Route 604), and 4AFSF011.11 (TMDL Monitoring)(South Fork Falling River, Rt. 663 bridge)

4AFSF000.66 (TMDL Monitoring)((South Fork Falling River, Rt. 648 bridge) 2022: Seven of 18 samples in excess of the Statistical Threshold Value of 410 cfu/100ml.

4AFSF004.56 (Ambient)(Route 604) Four of 12 samples in excess of the instantaneous criterion.

4AFSF011.11 (TMDL Monitoring)(South Fork Falling River, Rt. 663 bridge) Five of 11 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L33R_FSF01A06 / South Fork Falling River / From its headwaters to the mouth (RU67).	4A	Escherichia coli (E. coli)	2006	L	16.79

South Fork Falling River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			16.79

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

Roanoke and Yadkin River Basins

Cause Group Code: L34R-01-BAC Falling River

Cause Location: Falling River mainstem from the Falling River North and South Fork confluence to its mouth on the Roanoke (Staunton) River.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Four stations are located within the 17.88 miles of impaired waters. 4AFRV002.78 (Ambient, TMDL)(Off Rt. 600 Below Brookneal STP) , 4AFRV003.07 (TMDL IP Monitoring)(2018) (Falling River @ Rt 40) , 4AFRV010.99 (Ambient, TMDL Monitoring)(2018) (Naruna Gage Route 643)
, and 4AFRV017.71 (Ambient & 2004 Falling River TMDL)(2018)(Route 615 Bridge)

4AFRV002.78 (Ambient, TMDL) (Off Rt. 600 Below Brookneal STP) 2022: Seven of 12 samples in excess of the Statistical Threshold Value of 410 cfu/100ml.

4AFRV003.07 (TMDL IP Monitoring)(2018)(Falling River @ Rt 40) Two of 12 samples in excess of the instantaneous criterion.

4AFRV010.99 (Ambient, TMDL Monitoring)(2018) (Naruna Gage Route 643) 2022: 14 of 35 samples in excess of the Statistical Threshold Value of 410 cfu/100ml.

4AFRV017.71 (Ambient & 2004 Falling River TMDL)(2018)(Route 615 Bridge) 2020: Three of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_FRV01A00 / Falling River / Falling River mainstem from the Brookneal Lagoon outfall downstream to the Falling River mouth on the Roanoke (Staunton) River.	4A	Escherichia coli (E. coli)	2006	L	2.96
VAW-L34R_FRV02A00 / Falling River / Dan River Inc. water intake on Falling River downstream to the Brookneal Lagoon outfall.	4A	Escherichia coli (E. coli)	2006	L	0.32
VAW-L34R_FRV03A00 / Falling River / Little Falling River mouth downstream to Dan River, Inc. intake on Falling River.	4A	Escherichia coli (E. coli)	2006	L	4.38
VAW-L34R_FRV04A00 / Falling River / WQS public water supply (PWS) section 5c end downstream to mouth of Little Falling River.	4A	Escherichia coli (E. coli)	2006	L	0.86
VAW-L34R_FRV05A02 / Falling River / Falling River from the Mollys Creek mouth downstream to the WQS section 5c public water supply (PWS) end.	4A	Escherichia coli (E. coli)	2006	L	6.51
VAW-L34R_FRV06A02 / Falling River / Falling River mainstem from the Falling River North and South Fork confluence downstream to the mouth of Mollys Creek.	4A	Escherichia coli (E. coli)	2006	L	2.85

Falling River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			17.88

Sources: Livestock (Grazing or Feeding Operations); Wastes from Pets; Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L34R-02-BAC Little Falling River

Cause Location: Little Falling River from its headwaters at the confluence of to its mouth on Falling River.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014:24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Four stations are located within the 15.94 miles of impaired waters. 4ALRV005.17 (TMDL Monitoring),4ALRV007.84 (Ambient), 4ALRV009.74 (Ambient)(2018), and 4ALRV013.53 (Ambient)(2018)

4ALRV005.17 (TMDL Monitoring)(Little Falling River at Rt. 618 bridge) 2022: Three of 12 samples in excess of the Statistical Threshold Value of 410 cfu/100ml. instantaneous criterion.

4ALRV007.84 (Ambient) (L. Falling River @ Rt. 646) Three of 12 samples in excess of the instantaneous criterion.

4ALRV009.74 (Ambient)(2018) (Little Falling River at Route 615) Three of 12 samples in excess of the instantaneous criterion.

4ALRV013.53 (Ambient)(2018)(L. Falling River @ Rt 649) Four of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_LRV01A00 / Little Falling River / Little Falling River mainstem from the WQS designated public water supply (PWS) upstream end downstream to its mouth on Falling River.	4A	Escherichia coli (E. coli)	2006	L	0.81
VAW-L34R_LRV02A06 / Little Falling River / From the PWS WQS Section 5c to its confluence with Jacobs Creek	4A	Escherichia coli (E. coli)	2006	L	8.90
VAW-L34R_LRV03A06 / Little Falling River / From its confluence with Jacobs Creek to the Campbell/Appomattox Co line	4A	Escherichia coli (E. coli)	2012	L	4.41
VAW-L34R_LRV04A12 / Little Falling River / From the Campbell/Appomattox Co line to its headwaters at the confluence of Jonnican Branch, Steele Fork, and Marrowbone Creek	4A	Escherichia coli (E. coli)	2014	L	1.82

Little Falling River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			15.94

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

Roanoke and Yadkin River Basins

Cause Group Code: L34R-03-BAC Suck Creek

Cause Location: Suck Creek from its headwaters to the mouth.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014:24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 8.49 miles of impaired waters. 4ASUC001.31 (Ambient)

4ASUC001.31 (Ambient)(Suck Creek at Route 648) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_SUC01A06 / Suck Creek / From its headwaters to the mouth	4A	Escherichia coli (E. coli)	2006	L	8.49

Suck Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.49

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

Roanoke and Yadkin River Basins

Cause Group Code: L34R-04-BAC Entry Creek

Cause Location: Entry Creek from its headwaters to its mouth on Little Falling River

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014:24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the4.74 miles of impaired waters. 4AENT001.64 (Ambient)(2018)

4AENT001.64 (Ambient)(2018)(Entry Cr @ rt 601) Four of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_ENT01A08 / Entry Creek / Entry Creek from its headwaters to its mouth on Little Falling River (RU70)	4A	Escherichia coli (E. coli)	2008	L	4.74

Entry Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.74

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

Roanoke and Yadkin River Basins

Cause Group Code: L34R-05-BAC Hickory Creek

Cause Location: Hickory Creek from its headwaters to the mouth.

Cause City/County: Appomattox County; Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 2.77 miles of impaired waters. 4AHCK000.51 (Ambient)(2018)

4AHCK000.51 (Ambient)(2018) (Hickory Creek @ Rt. 641) Zero of 2 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_HCK01A10 / Hickory Creek / Hickory Creek from its headwaters to the mouth (RU69).	4A	Escherichia coli (E. coli)	2010	L	2.77

Hickory Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.77

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

Roanoke and Yadkin River Basins

Cause Group Code: L34R-06-BAC Dog Creek

Cause Location: Dog Creek from its headwaters to its mouth

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

One station is located within the 2.55 miles of impaired waters. 4ADOG000.80 (Ambient)

4ADOG000.80 (Ambient)(Route 600) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_DOG01A10 / Dog Creek / Dog Creek from its headwaters to its mouth	4A	Escherichia coli (E. coli)	2010	L	2.66

Dog Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.66

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

Roanoke and Yadkin River Basins

Cause Group Code: L34R-07-BEN Entry Creek, Unnamed Tributary

Cause Location: From its headwaters to the mouth on Entry Creek

Cause City/County: Campbell County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment on the Unnamed Tributary to Entry Creek is reported in the 2012 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) due to benthic macroinvertebrate data collected as described below.

4AXVK001.44 (West of Route 600 South of Route 639) Benthic macroinvertebrate communities are found to be impaired based on Virginia Stream Condition Index (VSCI) scores collected as part of the Probabilistic Monitoring program (2009-2010). Biologist notes that this stream is a very small intermittent stream. Sampling in the fall of 2010 was halted due to lack of flow. The site is within an agricultural watershed and cattle do have direct access to the stream.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L34R_XVK01A12 / Entry Creek, Unnamed Tributary / From its headwaters to the mouth on Entry Creek	5A	Benthic Macroinvertebrates Bioassessments	2012	H	1.69

Entry Creek, Unnamed Tributary

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			1.69

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L35R-01-BAC Mollys Creek

Cause Location: Mollys Creek from its headwaters to its mouth on Falling River.

Cause City/County: Campbell County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24388

The Falling River Bacteria TMDL Study received U.S. EPA approval on 7/09/2004 [Fed. ID.24388] and SWCB approval on 12/2/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24388, 7/9/2004

Four stations are located within the 17.59 miles of impaired waters. 4AMEY016.00 (Ambient, TMDL Monitoring)(2018)(Private Road off Route 655, below Rustburg) , 4AMEY010.46 (Ambient, TMDL)(2018)(Mollys Creek at Rt. 654 bridge), 4AMEY007.76 (Prob Ambient)(2018)(Route 650),and 4AMEY000.40 (TMDL Monitoring)(Mollys Creek at Rt. 648)

4AMEY016.00 (Ambient, TMDL Monitoring)(Private Road off Route 655, below Rustburg) 2020: Three of 6 samples in excess of the instantaneous criterion.

4AMEY010.46 (Ambient, TMDL)(Mollys Creek at Rt. 654 bridge) 2022: six of 18 samples in excess of the statistical threshold value of 410 cfu/100ml.

4AMEY007.76 (Prob Ambient)(Route 650) 2022: Three of 12 samples in excess of the statistical threshold value of 410 cfu/100ml.

4AMEY000.40 (TMDL Monitoring)(Mollys Creek at Rt. 648) Eight of 11 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L35R_MEY01A00 / Mollys Creek / Mollys Creek mainstem from its perennial headwaters downstream to the reservoir backwaters (RU68).	4A	Escherichia coli (E. coli)	2006	L	2.0
VAW-L35R_MEY02A06 / Mollys Creek / Mollys Creek mainstem from the reservoir dam to its mouth at Falling River (RU68).	4A	Escherichia coli (E. coli)	2006	L	15.6

Mollys Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			17.6

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

Roanoke and Yadkin River Basins

Cause Group Code: L35R-01-BEN Mollys Creek

Cause Location: Mollys Creek mainstem from its perennial headwaters downstream to the reservoir backwaters.

Cause City/County: Campbell County

Use(s): Aquatic Life

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

Cause Description: The 2010 303(d) Impaired Waters Listing of Mollys Creek is the result of benthic macroinvertebrate community collections showing impairment of the Aquatic Life Use.

4AMEY016.00 (Private Road off Route 655, below Rustburg) The 2018 data window finds Aquatic Life Use impairment from three Virginia Stream Condition Index (VSCI) surveys with an average score of 41.5. Initial listing was based on benthic macroinvertebrate community data from 2007-2008. Biologist notes that benthic communities are impacted by agriculture watershed influences in addition to a small POTW several miles upstream. VSCI scores averaging 48.6 (2013: 37.9 Spring and 70.2 Fall; 2016: 32.9 Spring and 53.5 Fall).

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L35R_MEY01A00 / Mollys Creek / Mollys Creek mainstem from its perennial headwaters downstream to the reservoir backwaters (RU68).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	2

Mollys Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L35R-02-BEN Mollys Creek

Cause Location: Mollys Creek mainstem from the reservoir dam to its mouth at Falling River (RU68).

Cause City/County: Campbell County

Use(s): Aquatic Life

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

Cause Description: The 2024 303(d) Impaired Waters Listing of Mollys Creek is the result of benthic macroinvertebrate community collections showing impairment of the Aquatic Life Use.

4AMEY007.76 (Private Road off Route 655, below Rustburg) The 2024 data window finds Aquatic Life Use impairment from two Virginia Stream Condition Index (VSCI) surveys (34) Spring and (56) Fall. Initial listing was based on benthic macroinvertebrate community data from 2021. Biologist notes: Riffles were good in places but consisted of embedded gravel in others. VSCI scores were much higher in the fall.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L35R_MEY02A06 / Mollys Creek / Mollys Creek mainstem from the reservoir dam to its mouth at Falling River (RU68).	5A	Benthic Macroinvertebrates Bioassessments	2024	H	15.6

Mollys Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			15.6

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L36R-01-BAC Turnip Creek

Cause Location: Turnip Creek from its headwaters to the mouth.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: Station IDs:

4ATIP002.55 (Ambient, TMDL)(2018)(Turnip Creek, Route 619 Bridge)

E. coli - 4/12 Exceedance Rate

4ATIP008.76 (TMDL Monitoring)(Route 40)

E. coli - 6/12 Exceedance Rate

4ATIP013.21 (TMDL Monitoring)(Route 756)

E. coli - 4/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_TIP01A00 / Turnip Creek / Buck Branch mainstem to its mouth on Roanoke River (RU74).	4A	Escherichia coli (E. coli)	2006	L	2.61
VAW-L36R_TIP02A06 / Turnip Creek, Middle / From the confluence with Buck Branch upstream to its confluence with an unnamed tributary at 35.049, -78.873 (RU74).	4A	Escherichia coli (E. coli)	2006	L	3.93
VAW-L36R_TIP02B22 / Turnip Creek, Upper / From its headwaters downstream to the confluence with an unnamed tributary at 35.049, -78.873 (RU74).	4A	Escherichia coli (E. coli)	2006	L	13.21

Turnip Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			19.75

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

Roanoke and Yadkin River Basins

Cause Group Code: L36R-03-BAC Buckskin Creek

Cause Location: Buckskin Creek from its headwaters to its mouth on the Roanoke (Staunton) River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 7.64 miles of impaired waters.4ABCD001.70 (Ambient)(2018)(Buckskin Cr @ Rt. 624)

4ABCD001.70 (Ambient)(2018)(Buckskin Cr @ Rt. 624) Three of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_BCD01A08 / Buckskin Creek / Buckskin Creek from its headwaters to its mouth on the Roanoke (Staunton) River (RU75).	4A	Escherichia coli (E. coli)	2008	L	7.65

Buckskin Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.65

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

Roanoke and Yadkin River Basins

Cause Group Code: L36R-04-BAC Armistead Branch

Cause Location: Armistead Branch from its headwaters to its mouth on Catawba Creek.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24387, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.24387] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24387, 6/20/2006

One station is located within the 5.12 miles of impaired waters. 4AATD002.66 (Ambient)(2018)(Armistead Br @ Rt. 627)

4AATD002.66 (Ambient)(2018)(Armistead Br @ Rt. 627) 0/0 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_ATD01A08 / Armistead Branch / Armistead Branch from the second unnamed tributary upstream of Route 627 to its mouth on Catawba Creek	4A	Escherichia coli (E. coli)	2010	L	3.20
VAW-L36R_ATD02A14 / Armistead Branch / Armistead Branch from its headwaters to the second unnamed tributary upstream of Route 627.	4A	Escherichia coli (E. coli)	2014	L	1.92

Armistead Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.12

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

Roanoke and Yadkin River Basins

Cause Group Code: L36R-04-BEN Armistead Branch

Cause Location: Armistead Branch from the second unnamed tributary upstream of Route 627 to its mouth on Catawba Creek

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use listing on Armistead Branch is reported in the 2014 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR).

4AATD002.66 (Ambient/2012 Bio)(Rt. 627) Benthic macroinvertebrate community data finds impairment based on data collected in 2012. Biologist notes: Lack of riparian vegetation and poor bank condition may be limiting the ability of 4AATD002.66 to support a diverse community. This station was sampled in an effort to follow up on seasonal variability of the upstream Probabilistic Monitoring program station (4AATD003.36). The Probabilistic Monitoring station is not accessible. Satellite imagery shows changes in land use upstream of 4AATD002.66 and this portion of the watershed should not be excluded in any future Total Maximum Daily Load study.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_ATD01A08 / Armistead Branch / Armistead Branch from the second unnamed tributary upstream of Route 627 to its mouth on Catawba Creek	5A	Benthic Macroinvertebrates Bioassessments	2014	L	3.2

Armistead Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.2

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L36R-05-BEN Turnip Creek

Cause Location: Turnip Creek mainstem from its mouth on Roanoke River upstream to the confluence with an unnamed tributary at a point (35.049, -78.873).

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The 2022 data window finds the initial 6.53 mile Aquatic Life Use 303(d) listing on Turnip Creek based on benthic macroinvertebrate community collections.

4ATIP002.55 (RT. 619 Bridge) Two 2019 Virginia Stream Condition Index (VSCI) scores find impairment: 58 (spring) and 57 (fall). Biologist notes: Heavy sedimentation and unstable banks are likely stressors to the benthic community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L36R_TIP01A00 / Turnip Creek / Buck Branch mainstem to its mouth on Roanoke River (RU74).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	2.61
VAW-L36R_TIP02A06 / Turnip Creek, Middle / From the confluence with Buck Branch upstream to its confluence with an unnamed tributary at 35.049, -78.873 (RU74).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	3.93

Turnip Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.54

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L37R-01-BAC Cub Creek

Cause Location: From the Rough Creek Road crossing to the mouth at the Roanoke (Staunton) River

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Cub Creek) received U.S. EPA approval on 6/20/2006 [Fed. ID.24391] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24391, 6/20/2006

Three stations are located within the 14.4 miles of impaired waters. 4ACUB002.21 (2006 Roanoke Bacteria TMDL)(2018)(RTE 649 (Coles Ferry Road)), 4ACUB005.46 (2006 Roanoke Bacteria TMDL)(RTE 619 (Cub Creek Church Rd)), and 4ACUB010.96 (Trend)(2018)(Route 40 Bridge)

4ACUB002.21 (2006 Roanoke Bacteria TMDL)(2018)(RTE 649 (Coles Ferry Road)) Three of 11 samples in excess of the instantaneous criterion.

4ACUB005.46 (2006 Roanoke Bacteria TMDL)(RTE 619 (Cub Creek Church Rd)) Three of 12 samples in excess of the instantaneous criterion.

4ACUB010.96 (Trend)(2018)(Route 40 Bridge) Seven of 35 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_CUB01B08 / Cub Creek / The Rough Creek Road Crossing near Rough Creek to the confluence with Terrys Creek (RU78).	4A	Escherichia coli (E. coli)	2008	L	5.59
VAW-L37R_CUB02A06 / Cub Creek / From Terrys Creek to the mouth at the Roanoke (Staunton) River (RU79).	4A	Escherichia coli (E. coli)	2006	L	8.80

Cub Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			14.39

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

Roanoke and Yadkin River Basins

Cause Group Code: L37R-02-BAC Louse Creek

Cause Location: Louse Creek from its headwaters to the mouth.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 8.7 miles of impaired waters. 4ALOU001.16 (TMDL Monitoring)(Route 619)

4ALOU001.16 (TMDL Monitoring)(Route 619) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_LOU01A06 / Louse Creek / From its headwaters to the mouth on Cub Creek	4A	Escherichia coli (E. coli)	2006	L	8.71

Louse Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.71

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

Roanoke and Yadkin River Basins

Cause Group Code: L37R-03-BAC Big Cub Creek

Cause Location: Big Cub Creek from the confluence with Cub Creek upstream to its headwaters to include Left Hand Fork and tribs.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014: 24391, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Cub Creek) received U.S. EPA approval on 6/20/2006 [Fed. ID.24391] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24391, 6/20/2006

Two stations are located within the 33.66 miles of impaired waters. 4ABUB000.06 (Ambient, TMDL)(2018)(Route 701) and 4ABUB006.50 (TMDL Monitoring)

4ABUB000.06 (Ambient, TMDL)(2018)(Route 701) Six of 12 samples in excess of the instantaneous criterion.

4ABUB006.50 (TMDL Monitoring) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_BUB01A06 / Big Cub Creek / From the confluence with Cub Creek upstream to its headwaters to include Left Hand Fork and tribs (RU76).	4A	Escherichia coli (E. coli)	2006	L	33.69

Big Cub Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			33.69

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

Roanoke and Yadkin River Basins

Cause Group Code: L37R-05-BAC Terrys Creek

Cause Location: Terrys Creek from its headwaters to its mouth on Cub Creek.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23315,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 7.14 miles of impaired waters. 4ATYS001.25 (Ambient)(2018)(Terrys Creek at Stockdale Road)

4ATYS001.25 (Ambient)(2018)(Terry Creek at Stockdale Road) Eight of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_TYS01A08 / Terrys Creek / Terrys Creek from its headwaters to its mouth on Cub Creek (RU78).	4A	Escherichia coli (E. coli)	2008	L	7.14

Terrys Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.14

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

Roanoke and Yadkin River Basins

Cause Group Code: L37R-05-BEN Terrys Creek

Cause Location: Terrys Creek from its headwaters to its mouth on Cub Creek.

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The 2022 data window finds the initial Aquatic Life Use impairment on Terrys Creek based on benthic macroinvertebrate community collections.

4ATYS002.51 (Route 667/Hillcroft Road) The 2022 data window finds benthic macroinvertebrate community impairment from three Virginia Stream Condition Index (VSCI) scores: 38 and 41.6 (spring 2018 and 2019, respectively); 48.8 (fall 2019). Biologist notes: Heavy sediment deposition in this stream is stressing the benthic community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L37R_TYS01A08 / Terrys Creek / Terrys Creek from its headwaters to its mouth on Cub Creek (RU78).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	7.14

Terrys Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.14

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L38L-01-DO Conner Lake

Cause Location: Conner Lake

Cause City/County: Halifax County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Station ID: 4AHTA003.26 (Station 1 - Conner Lake) 2022: Dissolved Oxygen - 2/19 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38L_HTA01L00 / Conner Lake / On Hunting Creek.	5A	Dissolved Oxygen	2018	L	101.93

Conner Lake

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		101.93	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L38R-02-BAC Black Walnut Creek

Cause Location: Black Walnut Creek from its headwaters to the mouth.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014:23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 6.39 miles of impaired waters. 4ABWC001.00 (Ambient)(Route 600)

4ABWC001.00 (Ambient) (Route 600)Four of 9 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38R_BWC01A06 / Black Walnut Creek / From the headwaters to the mouth	4A	Escherichia coli (E. coli)	2014	L	6.39

Black Walnut Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.39

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

Roanoke and Yadkin River Basins

Cause Group Code: L38R-03-BAC Hunting Creek

Cause Location: Hunting Creek from the mouth of Conner Lake downstream to the Roanoke River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014:23315, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23315] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23315, 6/20/2006

One station is located within the 3.24 miles of impaired waters. 4AHTA000.77 (Ambient)(Route 617)

4AHTA000.77 (Ambient)(Route 617) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L38R_HTA01A06 / Hunting Creek / From the mouth of Conner Lake downstream to the Roanoke River	4A	Escherichia coli (E. coli)	2014	L	3.24

Hunting Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3.24

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-01-BAC Ash Camp Creek

Cause Location: Ash Camp Creek from its headwaters to the mouth.

Cause City/County: Charlotte County

Use(s): Recreation

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: NESTED 2014:23316,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

Two stations are located within the 8.17 miles of impaired waters. 4AACC002.60 (TMDL Monitoring)(Station 1 -Route 654 Bridge) and 4AACC004.87 (TMDL Monitoring)(Ash Camp Cr @Private Rd 0.6 mi from Rt40)

4AACC002.60 (TMDL Monitoring)(Station 1 - Route 654 Bridge) Four of 7 samples in excess of the instantaneous criterion.

4AACC004.87 (TMDL Monitoring)(Ash Camp Cr @Private Rd 0.6 mi from Rt40)Two of 6 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ACC01A98 / Ash Camp Creek / Headwaters to Roanoke Creek.	4A	Fecal Coliform	2004	L	8.19

Ash Camp Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			8.19

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-01-BEN Ash Camp Creek

Cause Location: Ash Camp Creek from its headwaters to the mouth on Roanoke Creek (RU82).

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The Ash Camp Creek Sediment TMDL addresses the Aquatic Life Use (Benthic) Impairment and received U.S. EPA approval on 4/26/04 [Fed. ID 24393] and SWCB approval on 8/31/04 for this 2004 303(d) Listed impairment to the benthic community. A TMDL Implementation Plan was completed and EPA approved 1/05/16.

4AACC001.75 (0.85 miles downstream of Rt. 654 bridge) Benthic macroinvertebrate community impairment is found due during 2002 Probabilistic Monitoring. Biologist notes: Heavy rains occurred within a week of the fall 2002 sampling event. The benthic TMDL completed in 2004 identified sediment as the stressor to the benthic community.

4AACC002.60 (Rt. 654 Bridge) This station was sampled as part of the Ash Camp Creek Source Assessment Special Study. Biologist notes: A slight improvement has been noted at this site during recent sampling. Sediment continues to affect the stream community negatively.

4AACC004.87 (Private road 0.6 miles from Rt 40) This station was sampled as part of the Ash Camp Creek Source Assessment Special Study. Biologist notes: A slight improvement has been noted at this site during recent sampling. Sediment and nutrients continue to affect the stream community negatively.

4AACC007.62 (50yds below Keysville STP outfall) Biologist reserved judgement following 2002 benthic macroinvertebrate community sampling. Biologist notes: station may not be appropriate for benthic assessment.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ACC01A98 / Ash Camp Creek / Headwaters to Roanoke Creek.	4A	Benthic Macroinvertebrates Bioassessments	1998	L	8.19

Ash Camp Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.19

Sources: Crop Production (Crop Land or Dry Land); Erosion from Derelict Land (Barren Land); Managed Pasture Grazing; Municipal Point Source Discharges

Roanoke and Yadkin River Basins

Cause Group Code: L39R-02-BAC Twittys Creek

Cause Location: Twittys Creek from its headwaters to the mouth on Roanoke Creek.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23316,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 14.79 miles of impaired waters.4ATWT000.32 (Ambient)(Twittys Creek @ Sylvan Hill Rd.)

4ATWT000.32 (Ambient)(Twittys Creek @ Sylvan Hill Rd.) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_TWT01A98 / Twittys Creek / Headwaters to Roanoke Creek	4A	Escherichia coli (E. coli)	2012	L	14.79

Twittys Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			14.79

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-02-BEN Twittys Creek

Cause Location: Twittys Creek from its headwaters to the mouth on Roanoke Creek.

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The Twittys Creek Sediment Total Maximum Daily Load (TMDL) for the Benthic Impairment received U.S. EPA approval on 9/30/04. [Fed. ID 24392] and SWCB approval on 3/15/05 for this 2004 303(d) Listed impairment to the benthic community. A TMDL Implementation Plan was completed and EPA approved 1/05/16.

4ATWT003.36 (Station 2 - Route 642 Bridge) - The 2018 data window finds Aquatic Life Use impairment from four Virginia Stream Condition Index (VSCI) surveys (2011, 2016) averaging 48.7. Biologist notes: A modest improvement in VSCI scores was observed over previous sampling events.

4ATWT006.40 (Station 1 - Route 47 Bridge) Benthic macroinvertebrate community impairment is found in two 2011 VSCI surveys: Spring 30.7, Fall 44.5. Biologist notes: An improvement in VSCI scores was observed over previous sampling events. A major VPDES discharger ceased operation in early 2005 and may be the cause of the improvement.

4ATWT008.59 (downstream of Town Lake @ power lines) This station was sampled as a reference station for the 2004 Twittys Creek TMDL.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_TWT01A98 / Twittys Creek / Headwaters to Roanoke Creek	4A	Benthic Macroinvertebrates Bioassessments	1998	L	14.79

Twittys Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			14.79

Sources: Clean Sediments; Non-Point Source; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L39R-03-BAC Horsepen Creek

Cause Location: Horsepen Creek from Rt. 47 to Reynolds Creek.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23316, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 2022 data window extends the Recreation Use impairment based on additional E.coli data collection at an upstream station.

4AHEN002.16 (Route 637 Bridge) Four of 12 samples in excess of the instantaneous criterion. 4AHEN004.27 (Horsepen Cr @ Rt. 612) - E.coli exceeds the two or more Statistical Threshold Value (STV) hits in the same 90-day period with fewer than 10 samples criterion during the 2022 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_HEN01A00 / Horsepen Creek / Little Horsepen Creek to Reynolds Creek.	4A	Escherichia coli (E. coli)	2012	L	1.87
VAW-L39R_HEN02A04 / Horsepen Creek / Horsepen Creek from Route 47 downstream to Little Horsepen Creek	4A	Escherichia coli (E. coli)	2022	L	5.32

Horsepen Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.19

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-03-BEN Horsepen Creek

Cause Location: Horsepen Creek from Route 47 downstream to Little Horsepen Creek

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The initial 2008 Aquatic Life Use impairment on Horsepen Creek is based on benthic macroinvertebrate community data collected within the 2008 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) period.

4AHEN004.74 (Above Rt. 612 in Charlotte County) This station was sampled in 2001 as part of the Probabilistic Monitoring program. Biologist found benthic macroinvertebrate community impairment and noted potential sediment impacts and lack of instream habitat.

4AHEN004.27 (Route 612 in Charlotte County) Most recent benthic macroinvertebrate community data is reported as impaired due to nine Virginia Stream Condition Index (VSCI) scores (2018-2022) with seasonal averages of 47.6 (spring) and 52.4 (fall). Biologist notes: Sediment and bank scour seem to be likely stressors within this reach. Historical samples were collected in 2009, 2012, and 2015.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_HEN02A04 / Horsepen Creek / Horsepen Creek from Route 47 downstream to Little Horsepen Creek	5A	Benthic Macroinvertebrates Bioassessments	2008	H	5.32

Horsepen Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.32

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L39R-04-BAC Wards Fork Creek

Cause Location: Wards Fork Creek from an unnamed tributary at Rivermile 5.73 to its mouth on Roanoke Creek.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23316,06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 5.31 miles of impaired waters.4AWFC002.12 (Ambient)(Route 645 Bridge)

4AWFC002.12 (Ambient)(Route 645 Bridge) 2022: Nine of 35 samples in excess of the Statistical Threshold Value of 410 cfu/100ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_WFC01A00 / Wards Fork Creek / Wards Fork Creek from an unnamed tributary at rivermile 5.73 downstream to its confluence with Roanoke Creek (RU83).	4A	Escherichia coli (E. coli)	2008	L	5.31

Wards Fork Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.31

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-05-BAC Roanoke Creek

Cause Location: Roanoke Creek from Wards Fork Creek to its mouth on the Roanoke (Staunton) River.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

Two stations are located within the 10.51 miles of impaired waters. 4AROC001.00 (TMDL Monitoring)(Roanoke Cr. @ Roanoke Station Rd.) and 4AROC005.35 (Ambient)(Roanoke Creek at the confluence with TWI)

4AROC001.00 (TMDL Monitoring)(Roanoke Cr. @ Roanoke Station Rd.) 2022: Two of 12 samples in excess of the Statistical Threshold Value of 410 cfu/100ml.

4AROC005.35 (Ambient) (Roanoke Creek at the confluence with TWI) Two of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ROC01A98 / Roanoke Creek / Wards Fork Creek to Horsepen Creek.	4A	Escherichia coli (E. coli)	2010	L	7.86
VAW-L39R_ROC02A06 / Roanoke Creek / From Horsepen Creek to the mouth at the Roanoke (Staunton) River	4A	Escherichia coli (E. coli)	2006	L	2.65

Roanoke Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			10.51

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-05-HG Roanoke Creek

Cause Location: Roanoke Creek from Wards Fork Creek to its mouth on the Roanoke (Staunton) River.

Cause City/County: Charlotte County

Use(s): Fish Consumption

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

Cause Description: Station ID: 4AROC005.35 (2006 FT/Sed)[Roanoke Creek at the confluence with TWI] Hg 2 Species

largemouth bass 0.313 spotted bass 0.345

This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov for VDH Advisories or Bans.

4AROC005.35 (2006 FT/Sed)[Roanoke Creek at the confluence with TWI] - The initial 2010 303(d) Listing is based on 2006 fish tissue analysis where mercury (Hg) is found in two species; largemouth bass at 0.313ppm and spotted bass at 0.345ppm; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012, 2014, 2016 or 2018 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_ROC01A98 / Roanoke Creek / Wards Fork Creek to Horsepen Creek.	5A	Mercury in Fish Tissue	2010	L	7.86
VAW-L39R_ROC02A06 / Roanoke Creek / From Horsepen Creek to the mouth at the Roanoke (Staunton) River	5A	Mercury in Fish Tissue	2010	L	2.65

Roanoke Creek

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			10.51

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L39R-06-BAC Middle Branch Wards Fork Creek

Cause Location: Middle Branch Wards Fork Creek from its headwaters to its mouth on Wards Fork Creek

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 7.4 miles of impaired waters. 4AWMB001.07 (Ambient)(2018)(Middle Br. Wards Fork @ Virginian)

4AWMB001.07 (Ambient)(2018)(Middle Br. Wards Fork @ Virginian)

Seven of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_WMB01A08 / Middle Branch Wards Fork Creek / Middle Branch Wards Fork Creek from its headwaters to its mouth on Wards Fork Creek	4A	Escherichia coli (E. coli)	2008	L	7.4

Middle Branch Wards Fork Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.4

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-07-BAC Little Roanoke Creek

Cause Location: Roanoke Creek from the confluence with Wards Fork Cr. upstream to its confluence with Ash Camp Creek (RU82).

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 4.46 miles of impaired waters.

4ALRO003.34 (Rt. 47 Bridge) The 2018 data window finds the initial Recreational listing based on data from this station. Escherichia coli (E.coli) exceeds the 235 cfu/100 ml criterion in three of 24 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_LRO01A00 / Little Roanoke Creek / Roanoke Creek from the confluence with Wards Fork Cr. upstream to its confluence with Ash Camp Creek (RU82).	4A	Escherichia coli (E. coli)	2018	L	4.47

Little Roanoke Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.47

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-07-BEN Little Roanoke Creek

Cause Location: Little Roanoke Creek from its headwaters to its confluence with Dunnavant Creek.

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is impaired with the 2010 303(d) Listing of Little Roanoke Creek due to benthic macroinvertebrate community data collection.

4ALRO010.68 (Upstream of 604 downstream of dam) Nine Virginia Stream Condition Index (VSCI) scores (2018-22) with spring avg of 45 and fall avg of 53.4 confirm continued impairment during the 2024 data window. Biologist notes: This stream had good habitat, a good riparian zone, and relatively stable banks. There was some sediment deposition occurring. There is a lake less than a mile upstream that could be impacting the benthic community. Initial impairment was found due to benthic macroinvertebrate community collection as part of the 2007 Probabilistic Monitoring effort. The stream exhibited high seasonal variation. The spring sample half the taxa of the fall sample and both samples were dominated by tolerant taxa (Hydropsychidae in the spring and Chironomidae in the fall).

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_LRO02A10 / Little Roanoke Creek / Little Roanoke Creek from its headwaters to its confluence with Dunnavant Creek.	5A	Benthic Macroinvertebrates Bioassessments	2010	H	10.16

Little Roanoke Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			10.16

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L39R-08-BEN Bush Ford Branch

Cause Location: Bush Ford Branch from its headwaters to the mouth.

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The 2010 303(d) Impaired Waters List reports the initial Aquatic Life Use impairment on 3.1 miles of Bush Ford Branch.

4ABWB000.32 (Southwest of Rt 47) Benthic macroinvertebrate community impairment is found during collections taken as part of the 2008 Probabilistic Monitoring program. No additional visits have occurred since 2008.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_BWB01A10 / Bush Ford Branch / Bush Ford Branch from its headwaters to the mouth.	5A	Benthic Macroinvertebrates Bioassessments	2010	L	3.1

Bush Ford Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.1

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L39R-09-BAC Spencer Creek, UT

Cause Location: Unnamed tributary to Spencer Creek from its headwaters to its confluence with Spencer Creek (RU81).

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED: 2022 23316, 6/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The Recreation Use impairment on Unnamed Tributary to Spencer Creek is nested in the aforementioned TMDL.

4AXVO000.60 (UT Spencer Creek at Rt.653 Maple Ln.) - E.coli exceeds the two or more Statistical Threshold Value (STV) hits in the same 90-day period with fewer than 10 samples criterion during the 2022 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_XVO01A14 / Spencer Creek, UT / Unnamed tributary to Spencer Creek from its headwaters to its confluence with Spencer Creek (RU81).	4A	Escherichia coli (E. coli)	2022	L	2.9

Spencer Creek, UT

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.9

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

Roanoke and Yadkin River Basins

Cause Group Code: L39R-09-BEN Spencer Creek, UT

Cause Location: Unnamed tributary to Spencer Creek from its headwaters to its confluence with Spencer Creek (RU81).

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The 2014 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) lists the Aquatic Life Use on Unnamed Tributary to Spencer Creek due to benthic macroinvertebrate community collections.

4AXVO000.50 (Just west of Rt. 653) Benthic macroinvertebrate community impairment is confirmed from ten Virginia Stream Condition Index (VSCI) Scores with seasonal averages of 47 (spring) and 51 (fall) in 2018-22. Biologist notes: Sedimentation overgrowth of periphyton is a likely stressor to the benthic community. The original Aquatic Life Use impairment is based on two 2012 VSCI surveys collected as part of the Probabilistic Monitoring network; the seasonal VSCI scores were 40.8 (spring) and Fall 36.1. This stream was incised and had a sedimentation problem. The habitat was marginal and the banks were unstable.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_XVO01A14 / Spencer Creek, UT / Unnamed tributary to Spencer Creek from its headwaters to its confluence with Spencer Creek (RU81).	5A	Benthic Macroinvertebrates Bioassessments	2014	H	2.9

Spencer Creek, UT

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.9

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L39R-10-BAC Little Roanoke Creek

Cause Location: Little Roanoke Creek from its headwaters to its confluence with Dunnavant Creek.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

4ALRO010.18 - E.coli exceeds the 235 cfu/100 ml instantaneous criterion in five out of 12 samples during the 2020 data window. 2 or more STV hits in the same 90-day period with < 10 samples during the 2022 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L39R_LRO02A10 / Little Roanoke Creek / Little Roanoke Creek from its headwaters to its confluence with Dunnavant Creek.	4A	Escherichia coli (E. coli)	2020	L	10.16

Little Roanoke Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			10.16

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

Roanoke and Yadkin River Basins

Cause Group Code: L40R-01-BAC Berles Creek

Cause Location: Berles Creek from its headwaters to Sandy Creek.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 2.28 miles of impaired waters. 4ABLE001.21 (2018)(Berles Cr. @ Rt. 631, DSS Vaughan Farm)

4ABLE001.21 (2018)(Berles Cr. @ Rt. 631, DSS Vaughan Farm) 0/0 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BLE01A06 / Berles Creek / Berles Creek from its headwaters to Sandy Creek (RU87).	4A	Escherichia coli (E. coli)	2006	L	2.28

Berles Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.28

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

Roanoke and Yadkin River Basins

Cause Group Code: L40R-01-BEN Berles Creek

Cause Location: Berles Creek from its headwaters to Sandy Creek.

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The 2016 Aquatic Life Use 303(d) Listing on Berles Creek is the result of benthic macroinvertebrate community collections.

4ABLE001.21 (Rt. 631, DSS Vaughan Farm) Original benthic macroinvertebrate community impairment documented in 2014. Biologist notes: Heavy to moderate embeddedness observed in 2014 samples. Sedimentation is a likely stressor. One 2018 Virginia Stream Condition Index (VSCI) score (47.7, spring) and two 2014 VSCI scores (29.5 spring and 48.5 fall) confirm continued impairment.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BLE01A06 / Berles Creek / Berles Creek from its headwaters to Sandy Creek (RU87).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	2.28

Berles Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.28

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L40R-04-BAC Sandy Creek

Cause Location: Sandy Creek from its headwaters to mouth on Roanoke (Staunton) River

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 5.4 miles of impaired waters. 4ASLA001.52 (Ambient)(Route 608)

4ASLA001.52 (Ambient)(Route 608) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_SLA01A06 / Sandy Creek / Headwaters to mouth on Roanoke (Staunton) River	4A	Escherichia coli (E. coli)	2012	L	5.41

Sandy Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.41

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

Roanoke and Yadkin River Basins

Cause Group Code: L40R-05-BAC Unnamed Tributary to Buffalo Creek

Cause Location: Unnamed Tributary to Buffalo Creek from its headwaters to the mouth.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.24394 and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24394, 6/20/2006

One station is located within the 1.5 miles of impaired waters.

4AXMC000.54(Route 605)

4AXMC000.54(Route 605) Two of 5 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_XMC01A06 / Buffalo Creek, Unnamed Tributary / From its headwaters to the mouth (RU87).	4A	Escherichia coli (E. coli)	2002	L	1.49

Unnamed Tributary to Buffalo Creek

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

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

Roanoke and Yadkin River Basins

Cause Group Code: L40R-06-BAC Buffalo Creek

Cause Location: Buffalo Creek from an unnamed tributary at river mile 2.3 to the Roanoke (Staunton) River.

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Buffalo Creek) received U.S. EPA approval on 6/20/2006 [Fed. ID.24395] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 24395, 6/20/2006

One station is located within the 2.34 miles of impaired waters. 4ABNN001.85 (Route 608)

4ABNN001.85(Route 608) -13 of 24 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BNN01A06 / Buffalo Creek / Unnamed tributary at river mile 2.3 to the Roanoke River.	4A	Escherichia coli (E. coli)	2006	L	2.36

Buffalo Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.36

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

Roanoke and Yadkin River Basins

Cause Group Code: L40R-06-BEN Buffalo Creek

Cause Location: Buffalo Creek from an unnamed tributary at river mile 2.3 to the Roanoke (Staunton) River.

Cause City/County: Charlotte County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use listing on Buffalo Creek is established on the 2014 303(d) Impaired Waters List based on benthic macroinvertebrate community data.

4ABNN002.17 (Upstream of Route 608) Benthic macroinvertebrate community impairment is documented due to seven Virginia Stream Condition Index (VSCI) scores (2018-19, 21-22). Biologist notes: Ubiquitous major sand deposition. The initial impairment listing was based on 2012 benthic macroinvertebrate community data where Biologist noted seasonal variability. Habitat scores and Taxa lists indicate bank scour and sedimentation to be likely stressors within this reach.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_BNN01A06 / Buffalo Creek / Unnamed tributary at river mile 2.3 to the Roanoke River.	5A	Benthic Macroinvertebrates Bioassessments	2014	L	2.36

Buffalo Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.36

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L40R-07-BAC Cargills Creek

Cause Location: Cargills Creek from its headwaters to its mouth on Kerr Reservoir

Cause City/County: Charlotte County

Use(s): Recreation

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

Cause Description: NESTED 2014:23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

One station is located within the 4.27 miles of impaired waters. 4ACAR001.70 (Ambient)(2018)(Cargills at Cargills Creek Road)

4ACAR001.70 (Ambient)(2018)((Cargills at Cargills Creek Road)) Three of 10 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L40R_CAR01A08 / Cargills Creek / Cargills Creek from its headwaters to its mouth on Kerr Reservoir (RU90).	4A	Escherichia coli (E. coli)	2008	L	4.27

Cargills Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.27

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

Roanoke and Yadkin River Basins

Cause Group Code: L41R-01-BAC Difficult Creek

Cause Location: Difficult Creek from East Prong to Ashcake Creek.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23316, 06/20/2006

The Cub Creek, Turnip Creek, Buffalo Creek, Buffalo Creek (UT), and Staunton River Watersheds Bacteria TMDL Study (Staunton River) received U.S. EPA approval on 6/20/2006 [Fed. ID.23316] and SWCB approval on 6/27/2007 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23316, 6/20/2006

Two stations are located within the 6.99 miles of impaired waters. 4ADFF004.90 (2018)(Difficult Cr. @ Rt. 720, DSS Brian Farm)

and 4ADFF009.01 (2018)(Difficult Cr. @ Rt. 360, USS Brian Farm)

4ADFF004.90 (2018)(Difficult Cr. @ Rt. 720, DSS Brian Farm)

Three of 12 samples in excess of the instantaneous criterion.

4ADFF009.01 (2018) (Difficult Cr. @ Rt. 360, USS Brian Farm)One of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L41R_DFF01A02 / Difficult Creek / East Prong to Ashcake Creek	4A	Escherichia coli (E. coli)	2008	L	7

Difficult Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7

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

Roanoke and Yadkin River Basins

Cause Group Code: L42L-01-DO Talbott Reservoir

Cause Location: Talbott Reservoir

Cause City/County: Patrick County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5C

Cause Description: Talbott Reservoir located in Patrick County is listed for Aquatic Life Use during the 2020 303(d)/305(b) Integrated Report data window.

4ADAN194.10 (Station 3 at Dam) 2024 data window reports 162 of 278 DO measurements in excess of the Class VI DO criterion of 6.0 mg/L. 2022 data window reports 136 of 277 DO measurements in excess of the Class VI DO criterion of 6.0 mg/L.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN01A02 / Talbott Reservoir / Talbott Reservoir from its impounding structure upstream to its backwaters (RD01).	5C	Dissolved Oxygen	2020	L	140.51

Talbott Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		140.51	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L42L-01-HG Talbott Reservoir

Cause Location: Talbott Reservoir

Cause City/County: Patrick County

Use(s): Fish Consumption

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

Cause Description: This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ADAN196.09- (Talbott Res. Arm of Reservoir) 2007 fish tissue collection finds two species in excess of the WQS TV based 0.3 ppm criterion; largemouth bass (4-fish composite at 0.394 ppm) and yellow bullhead catfish (2 fish composite at 0.429 ppm).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN01A02 / Talbott Reservoir / Talbott Reservoir from its impounding structure upstream to its backwaters (RD01).	5A	Mercury in Fish Tissue	2010	L	140.51

Talbott Reservoir

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		140.51	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L42L-01-TEMP Talbott Reservoir

Cause Location: Talbott Reservoir

Cause City/County: Patrick County

Use(s): Aquatic Life

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

Cause Description: Talbott Reservoir located in Patrick County is listed for Aquatic Life Use during the 2020 303(d)/305(b) Integrated Report data window.

4ADAN194.10 (Station 3 at Dam) The reservoir 2024 data window reports 132 out of 442 Temperature measurements in excess of the Class VI temperature criterion of 20 C. 2022 data window reports 96 out of 420 Temperature measurements in excess of the Class VI temperature criterion of 20 C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN01A02 / Talbott Reservoir / Talbott Reservoir from its impounding structure upstream to its backwaters (RD01).	5C	Temperature	2020	L	140.51

Talbott Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:		140.51	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L42L-06-BAC Townes Reservoir

Cause Location: Townes Reservoir from its impounding structure upstream to its backwaters (RD01).

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008 (Fed ID 35748) and State Water Control Board approved 4/28/2009. Townes Creek Reservoir located in Patrick County is initially listed for the Recreation Use during the 2018 303(d)/305(b) Integrated Report data window. This impairment is nested in the Dan River Bacteria TMDL Study.

4ADAN187.94 (Townes Reservoir at Dam)

2022: E.coli- One STV exceedances but insufficient data to analyze geomean. 2018 data window reports 2 of 14 Escherichia coli (E.coli) measurements exceed the 235 cfu/100 ml instantaneous criterion.

Note: The initial listing date was in 2018 based on the instantaneous 235 WQS, which reports 2 of 14 Escherichia coli (E.coli) measurements exceed the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN02A02 / Townes Reservoir / Townes Reservoir from its impounding structure upstream to its backwaters (RD01).	4A	Escherichia coli (E. coli)	2018	L	28.13

Townes Reservoir

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		28.13	

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

Roanoke and Yadkin River Basins

Cause Group Code: L42L-06-DO Townes Reservoir

Cause Location: Townes Reservoir from its impounding structure upstream to its backwaters (RD01).

Cause City/County: Patrick County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Townes Reservoir located in Patrick County is listed for Aquatic Life Use during the 2024 303(d)/305(b) Integrated Report data window.

4ADAN187.94 (Townes Reservoir at Dam) 2024 data window reports 39 of 202 DO measurements in excess of the Class VI DO criterion of 6.0 mg/L.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42L_DAN02A02 / Townes Reservoir / Townes Reservoir from its impounding structure upstream to its backwaters (RD01).	5A	Dissolved Oxygen	2024	L	28.13

Townes Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		28.13	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L42R-01-BAC Little Dan River

Cause Location: Little Dan River mainstem from the VA/NC State Line upstream to just above the mouth of Pigg Creek.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: Escherichia coli (E.coli) bacteria results render the Recreational Use impaired for 7.26 miles in 2008. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35748] and SWCB approved 4/28/2009. The Dan River Bactria TMDL did not specifically address the Little Dan River but is encompassed by the TMDL Watershed. These waters are nested within the Dan River Bacteria TMDL Watershed and allocations via the Study. These waters are Category 4A.

4ALDR004.50- (Rt. 645 Bridge) 2008 Integrated Report (IR) where two of nine E.coli samples exceed the 235 cfu/100 ml instantaneous criterion.

4ALDR002.61- (Rt. 649 Bridge (Gammons Rd.)) 2016 data window where two of 12 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_LDR01A02 / Little Dan River / Little Dan River mainstem from the VA/NC State Line upstream to just above the mouth of Pigg Creek Class V (RD03).	4A	Escherichia coli (E. coli)	2008	L	7.27

Little Dan River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.27

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

Roanoke and Yadkin River Basins

Cause Group Code: L42R-01-TEMP Dan River

Cause Location: The Dan River from the Pinnacles Power House downstream to the VA-NC State Line in Patrick County.

Cause City/County: Patrick County

Use(s): Aquatic Life

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

Cause Description: The Dan River 2002 temperature impairment of 9.66 miles is extended 5.81 miles upstream with additional data obtained at 4ADAN181.10 within the 2008 data window. The Aquatic Life Use remains impaired for temperature (Category 5C).

4ADAN181.10- (Rt. 648 Bridge near Kibler (Kibler Valley Rd.)) Temperature exceedances of the 21C Class V criterion are found in three of 12 measurements in 2014.

4ADAN169.57- (Rt. 645 Bridge, VA-NC Stateline) One of 12 temperature measurements exceeds during the 2020 data window. The 2002 assessment and the original 303(d) Listing Cycle found three of 19 excursions of the criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_DAN01A00 / Dan River / Dan River mainstem from the VA/NC State Line upstream to the Squirrel Creek mouth on the Dan River Class V (RD02).	5C	Temperature	2002	L	9.67
VAW-L42R_DAN02A02 / Dan River / Dan River mainstem from the Squirrel Creek mouth upstream to the Pinnacles Power House Class V (RD02).	5C	Temperature	2008	L	5.81

Dan River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			15.48

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L42R-02-BAC Dan River

Cause Location: The Dan River mainstem from the backwaters of Talbott Reservoir upstream to the Cockram Mill Pond Dam.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: This initial 2012 impairment is nested within the approved Dan River Bacteria TMDL. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008. Fed ID 35748 and received SWCB approval on 4/28/2009.

4ADAN205.79 (Dan River Road- Rt. 632 Bridge) 2020 & 2018 data window where six of 12 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_DAN05A02 / Dan River / Dan River mainstem from the backwaters of Talbott Reservoir upstream to the mouth of Tuggle Creek Class IV (RD01).	4A	Escherichia coli (E. coli)	2012	L	2.73
VAW-L42R_DAN06A02 / Dan River / Dan River mainstem from the mouth of Tuggle Creek upstream to the Cockram Mill Pond Dam Class IV (RD01).	4A	Escherichia coli (E. coli)	2012	L	5.73

Dan River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.46

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

Roanoke and Yadkin River Basins

Cause Group Code: L42R-03-BAC Elk Creek

Cause Location: Elk Creek from the state line upstream to it's headwaters.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: This initial 2012 Elk Creek impairment is nested within the approved Dan River Bacteria TMDL. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008. Fed ID 35748 and received SWCB approval on 4/28/2009.

4AELK005.44- The 2018 IR finds five of 12 escherichia coli (E.coli) exceed the 235 cfu/100 ml WQS instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_ELK01A12 / Elk Creek / Elk Creek from the state line upstream to it's headwaters (RD04).	4A	Escherichia coli (E. coli)	2012	L	7.78

Elk Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.78

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

Roanoke and Yadkin River Basins

Cause Group Code: L42R-04-BAC Peters Creek

Cause Location: Peters Creek mainstem from the VA/NC State Line upstream to the confluence of Ditch Creek.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: The Recreational Use impairment on Peters Creek is an initial 2012 Listing. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008 Fed ID 35748 and SWCB approval on 4/28/2009. These waters are nested within the Dan River Bacteria TMDL.

4APRS008.76 (Five Forks Rd. near State Line- Rt. 660) Within the 2018 data window, four of 12 E.coli samples exceeded the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_PRS01A02 / Peters Creek / Peters Creek mainstem from the VA/NC State Line upstream to the confluence of Ditch Creek Class IV (RD05).	4A	Escherichia coli (E. coli)	2012	L	5.97

Peters Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.97

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

Roanoke and Yadkin River Basins

Cause Group Code: L42R-05-BAC Dan River

Cause Location: The Dan River from the Pinnacles Power House downstream to the VA-NC State Line in Patrick County.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008 (Fed ID 35748) and State Water Control Board approved 4/28/2009. The 2014 initially 303(d) Listed bacteria impairment is nested within the Dan River Bacteria TMDL Watershed and allocations via the Study. A portion of these relisted Dan River waters from the mouth of Squirrel Creek downstream to the VA/NC State Line was 303(d) Listed for fecal coliform in 1998 and delisted in 2002 (10.41 miles). The waters are relisted with the 2014 Integrated Report (IR) for escherichia coli (E.coli). These waters are Category 4A. The 2014 relisted bacteria impairment extends 15.47 miles.

4ADAN181.10- (Rt. 648 Bridge near Kibler (Kibler Valley Rd.)) Two of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L42R_DAN01A00 / Dan River / Dan River mainstem from the VA/NC State Line upstream to the Squirrel Creek mouth on the Dan River Class V (RD02).	4A	Escherichia coli (E. coli)	2014	L	9.67
VAW-L42R_DAN02A02 / Dan River / Dan River mainstem from the Squirrel Creek mouth upstream to the Pinnacles Power House Class V (RD02).	4A	Escherichia coli (E. coli)	2014	L	5.81

Dan River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			15.48

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

Roanoke and Yadkin River Basins

Cause Group Code: L43R-01-BAC South Mayo River

Cause Location: The upper limit is 0.3 miles upstream of the Wilson Creek mouth (near Dobyns) on the South Mayo River and extends downstream to the Virginia / North Carolina State Line.

Cause City/County: Henry County; Patrick County

Use(s): Recreation

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

Cause Description: The South Mayo River Bacteria TMDL Load Duration Study is U.S. EPA approved 2/27/2004 and SWCB approved 6/17/2004 for the original 1998 303(d) Listed 5.78 mile impairment. Extensions described below were not specifically addressed by the Load Duration TMDL. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the extensions described below and are nested within the Bacteria TMDL. Additional data collection causes the original 1998 bacteria impairment (from Russell Creek mouth downstream to the mouth of Spoon Creek) to be extended 20.67 miles upstream with the 2004 Integrated Report (IR). The 2004 IR also extends the original listed bacteria impairment 10.97 miles downstream for a total impaired mileage of 37.47.

The original bacteria impairment (5.83 mi) is based on fecal coliform (FC) bacteria data producing a greater than 10% exceedance rate of the former 1998 1000 cfu/100 ml instantaneous criterion at station 4ASMR016.09 (Rt. 700 Bridge at the USGS gaging station). Additional data collection and application of the former FC 400 cfu/100 ml instantaneous criterion results in the 2004 IR extension upstream from 2 stations 4ASMR033.98 (Rt. 787 Bridge West of Stuart) and 4ASMR027.44 (Rt. 681 Bridge South of Stuart). The 2004 10.97 mile downstream extension in watershed L45 results from additional FC data collection at station 4ASMR004.14 (Rt. 695 Bridge).

Station 4ASMR033.98 (Rt. 787 Bridge West of Stuart) There are no additional data beyond the 2010 IR. 2010: 2/12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion with exceeding values of 420 and 450 cfu/100 ml. 2008: 2/12 FC samples exceed the former 400 cfu/100 ml instantaneous criterion at 900 and 1200 cfu/100 ml. 2006: 2/15 FC exceedances with the same exceedance range as 2008. 2004: initial 303(d) Listing Cycle 5/20 FC samples exceeding values range from 500-1200 cfu/100 ml. (Note: 4ASMR033.98 is a 1999 Federal Consent Decree Attachment B station for FC bacteria. The station was not 2002 303(d) Listed as there are no exceedances of the former 1000 cfu/100 ml criterion from 19 samples within the 2002 data window.)

4ASMR027.44- (Rt. 681 Bridge South of Stuart) 2016 IR: 1/11 value of 300 cfu/100 ml. Delisting of this station is not proposed as data from station 4ASMR016.09 shows impairment and upstream station 4ASMR033.98 has no additional data to indicate improved conditions. 2010 found 4/12 E.coli samples exceed. 2004 IR: initial 303(d) Listing Cycle, 2/9 samples and the same range of exceedance.

4ASMR016.09- (Rt. 700 Bridge at the USGS gaging station) 2020: 12/36 E.coli exceedances.

4ASMR004.14- (Rt. 695 Bridge) 2008 IR where 4/17 E.coli exceedances occur within the 2008 and 2010 data windows.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L43R_SMR02A02 / South Mayo River / South Mayo River mainstem from the Anglin Branch confluence downstream to the Russell Creek confluence on the South Mayo River.	4A	Escherichia coli (E. coli)	2010	L	8.16

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L43R_SMR03A02 / South Mayo River / South Mayo River mainstem from the Town of Stuart POTW downstream to the confluence of Anglin Branch.	4A	Escherichia coli (E. coli)	2010	L	4.61
VAW-L43R_SMR03B02 / South Mayo River / South Fork Mayo River mainstem from the confluence of the North Fork South Mayo River downstream to the Town of Stuart POTW.	4A	Escherichia coli (E. coli)	2010	L	2.32
VAW-L43R_SMR04A00 / South Mayo River / South Mayo River mainstem from the Town of Stuart water intake downstream to the North Fork South Mayo River confluence.	4A	Escherichia coli (E. coli)	2010	L	0.43
VAW-L43R_SMR05A00 / South Mayo River / South Mayo River mainstem from the WQS natural trout section just upstream of the Stuart water intake downstream to the Town of Stuart intake.	4A	Escherichia coli (E. coli)	2010	L	0.43
VAW-L43R_SMR06A00 / South Mayo River / South Mayo River mainstem from upstream of the Wilson Creek mouth downstream to the end of the WQS natural trout section located just upstream of the Town of Stuart water intake.	4A	Escherichia coli (E. coli)	2010	L	4.74
VAW-L45R_SMR01A00 / South Mayo River / South Mayo River mainstem from the upstream ending of the WQS designated public water supply (PWS) section 3f (36.5568, -80.0372) located downstream of unnamed tributary on downstream to VA/NC State Line (RD09).	4A	Escherichia coli (E. coli)	2008	L	5.02
VAW-L45R_SMR02A00 / South Mayo River / South Mayo River mainstem from the mouth of an unnamed tributary downstream to the WQS designated public water supply (PWS) section 3f upstream ending (36.5568, -80.0372) (RD09).	4A	Escherichia coli (E. coli)	2008	L	0.72
VAW-L45R_SMR03A00 / South Mayo River / South Mayo River mainstem from the Spoon Creek mouth downstream to an unnamed tributary above the WQS designated public water supply (PWS) section (RD09).	4A	Escherichia coli (E. coli)	2008	L	5.24
VAW-L45R_SMR04A14 / South Mayo River / South Mayo River mainstem from the Russell Creek mouth downstream to the Spoon Creek confluence (RD09).	4A	Escherichia coli (E. coli)	2008	L	5.83

South Mayo River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			37.5

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

Roanoke and Yadkin River Basins

Cause Group Code: L43R-01-TEMP South Mayo River

Cause Location: South Mayo River mainstem from upstream of the Wilson Creek mouth downstream to the end of the WQS natural trout section located just upstream of the Town of Stuart water intake.

Cause City/County: Patrick County

Use(s): Aquatic Life

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

Cause Description: These waters were previously 303(d) Listed in 2004 and delisted in 2006. The temperature impairment returns with the 2010 assessment.

4ASMR033.98 (Rt. 787 Bridge west of Stuart)- 2010 data find the Aquatic Life Use is impaired where temperature measurements exceed the Class VI 20 C criterion in three of 15 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L43R_SMR06A00 / South Mayo River / South Mayo River mainstem from upstream of the Wilson Creek mouth downstream to the end of the WQS natural trout section located just upstream of the Town of Stuart water intake.	5C	Temperature	2010	L	4.74

South Mayo River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			4.74

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L43R-02-BAC Russell Creek

Cause Location: Russell Creek from it's mouth on the South Mayo River upstream to Gilbert Mill (Rt. 631).

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008 Fed ID 35757; and SWCB approval on 4/28/2009. Previous to the Dan River TMDL a Flow Duration Bacteria TMDL Study on the South Mayo River received U.S. EPA approval on 02/27/2004 Fed ID 23412 / 24558; and SWCB approval on 6/17/2004. Russell Creek is nested within the Dan River TMDL watershed.

4ARSL003.20- (Palmetto School Rd. - Rt. 825 Bridge) The 2018 data window finds E.coli exceed the 235 cfu/100ml instantaneous criterion in eight of 12 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L43R_RSL01A12 / Russell Creek / Russell Creek from it's mouth on the South Mayo River upstream to Gilbert Mill (Rt. 631) (RD07).	4A	Escherichia coli (E. coli)	2012	L	8.54

Russell Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.54

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

Roanoke and Yadkin River Basins

Cause Group Code: L44R-01-BAC Spoon Creek

Cause Location: Spoon Creek mainstem from an unnamed tributary to Spoon Creek (southeast of Patrick Springs (36° 37' 02" / 80° 09' 45") downstream to its confluence with the South Mayo River.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: These 2004 fecal coliform (FC) bacteria 303(d) Listed waters remain impaired for 8.17 miles as non-support for the Recreational Use continues. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL Watershed incorporates Spoon Creek. Spoon Creek is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ASOO003.12 (Route 832 Bridge) The 2022 data window finds five of 12 E.coli samples in exceedance of the statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L44R_SOO01A00 / Spoon Creek / Spoon Creek mainstem from an unnamed tributary to Spoon Creek (southeast of Patrick Springs 36.617222 / -80.1621) downstream to its confluence with the South Mayo River (RD08).	4A	Escherichia coli (E. coli)	2006	L	8.17

Spoon Creek

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

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

Roanoke and Yadkin River Basins

Cause Group Code: L45R-01-HG South Mayo River

Cause Location: South Mayo River mainstem from the confluence of Spoon Creek downstream to the Virginia / North Carolina State Line.

Cause City/County: Henry County; Patrick County

Use(s): Fish Consumption

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

Cause Description: This initial 2008 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov/ for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ASMR004.17 (George Taylor Rd, Rt. 695 Bridge)- There are no additional data beyond the 2010 Integrated Report (IR). 2007 fish tissue records exceedance of the mercury (Hg) WQS tissue value (TV) of 0.30 ppm in smallmouth bass (1 fish 27.3 cm) at 0.442 ppm and (4 fish composite 38.0-43.1 cm) redhorse sucker at 0.419 ppm.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L45R_SMR01A00 / South Mayo River / South Mayo River mainstem from the upstream ending of the WQS designated public water supply (PWS) section 3f (36.5568, -80.0372) located downstream of unnamed tributary on downstream to VA/NC State Line (RD09).	5A	Mercury in Fish Tissue	2010	L	5.02
VAW-L45R_SMR02A00 / South Mayo River / South Mayo River mainstem from the mouth of an unnamed tributary downstream to the WQS designated public water supply (PWS) section 3f upstream ending (36.5568, -80.0372) (RD09).	5A	Mercury in Fish Tissue	2010	L	0.72
VAW-L45R_SMR03A00 / South Mayo River / South Mayo River mainstem from the Spoon Creek mouth downstream to an unnamed tributary above the WQS designated public water supply (PWS) section (RD09).	5A	Mercury in Fish Tissue	2010	L	5.24

South Mayo River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			10.98

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L46R-01-BAC North Mayo River

Cause Location: The bacteria impairment begins at the confluence of Laurel Branch and Polebridge Creek extending downstream to the Virginia / North Carolina State Line.

Cause City/County: Henry County; Patrick County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the North Mayo River within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Station 4ANMR002.60 is a 1999 Federal Consent Decree Attachment B station for fecal coliform bacteria (FC). The station is not 303(d) Listed in 2002 as only one exceedance of the former 1000 cfu/100 ml instantaneous criterion is found from 21 samples. Two stations 4ANMR020.13 (Rt. 626 Bridge) and 4ANMR002.60 (Rt. 629 Bridge at Gage) both found excursions of the former 400 cfu/100 ml Water Quality Standards (WQS) instantaneous criterion for fecal coliform (FC) bacteria in 2004. The Recreational Use remains impaired for 22.92 miles for bacteria exceedances.

4ANMR020.13- ((Rt. 626 Bridge) 2006 Integrated Report (IR) found four of 12 FC samples exceed the former 400 cfu/100 ml instantaneous criterion.

4ANMR002.60- (Rt. 629 Bridge at Gage) The 2024 data window finds four of 12 E.coli excursions of the STV WQS.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L46R_NMR01A00 / North Mayo River / North Mayo River mainstem from the Horse Pasture Creek mouth downstream to VA/NC State Line (RD12).	4A	Escherichia coli (E. coli)	2008	L	4.38
VAW-L46R_NMR02A00 / North Mayo River / North Mayo River mainstem from the upper end of the WQS designated public water supply (PWS) section 3f (36.5739, -79.9929) downstream to the Horse Pasture Creek mouth.	4A	Escherichia coli (E. coli)	2008	L	0.73
VAW-L46R_NMR03A00 / North Mayo River / North Mayo River mainstem from the first upstream (RF3) unnamed tributary downstream to the WQS designated public water supply (PWS) section 3f (36.5739, -79.9929).	4A	Escherichia coli (E. coli)	2008	L	5.25

North Mayo River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			10.36

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L46R_NMR04A00 / North Mayo River / North Mayo River mainstem from the Kroger Creek mouth downstream to the first upstream (RF3) unnamed tributary (36.5948, -80.0287) (RD12).	4A	Fecal Coliform	2004	L	2.76
VAW-L46R_NMR05A02 / North Mayo River / North Mayo River mainstem from the RD10/RD12 boundary downstream to the mouth of Kroger Creek (RD12).	4A	Fecal Coliform	2004	L	7.75
VAW-L46R_NMR06A14 / North Mayo River / North Mayo River mainstem from the confluence of Laurel Branch and Polebridge Creek downstream to the RD10/RD12 boundary (RD10).	4A	Fecal Coliform	2004	L	2.08

North Mayo River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			12.59

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

Roanoke and Yadkin River Basins

Cause Group Code: L47R-01-BAC Horse Pasture Creek

Cause Location: The upper limit of the bacteria impairment is at the confluence of an unnamed tributary East of Route 696 (36°39'38" / 80°00'55") downstream to the mouth of Horse Pasture Creek on the North Mayo River (Spencer and Price Quads).

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: The waters remain impaired for 7.44 miles for non-support of the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35754] and SWCB approved 4/28/2009. Horse Pasture Creek is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. The 2004 original 303(d) Listing for fecal coliform (FC) bacteria continues where escherichia coli (E.coli) replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AHRN004.93- (Route 695 Bridge) Nine of 22 E.coli excursions reported during the 2020 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L47R_HRN01A00 / Horse Pasture Creek / Horse Pasture mainstem from the ending of the WQS designated public water supply (PWS) section 3f (36.5833, -79.9942) downstream to the Horse Pasture Creek mouth on the North Mayo River (RD11).	4A	Escherichia coli (E. coli)	2006	L	0.48
VAW-L47R_HRN02A00 / Horse Pasture Creek / Horse Pasture Creek mainstem from an unnamed tributary mouth East of Route 696 (36.66073, -80.01509) downstream to the upstream ending of WQS PWS section 3f (36.5833, -79.9942) (RD11).	4A	Escherichia coli (E. coli)	2006	L	6.97

Horse Pasture Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.45

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

Roanoke and Yadkin River Basins

Cause Group Code: L47R-01-BEN Horse Pasture Creek

Cause Location: The upper limit of the bacteria impairment is at the confluence of an unnamed tributary East of Route 696 (36.660556 / -80.015278) downstream to the mouth of Horse Pasture Creek on the North Mayo River (Spencer and Price Quads).

Cause City/County: Henry County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is impaired from data collected at two sites within the 2010 data window causing this 2010 initial 303(d) Listing.

4AHRN007.65 (Off Rt. 695 north of Rt. 58) A 2003 Probabilistic site. The 2008 assessment reserved judgment on 303(d) listing of these waters for Aquatic Life Use impairment until more data could be collected to determine use support. Two 2003 Virginia Stream Condition Index (VSCI) surveys scoring 67.5 spring and 41.5 fall resulted in an average score of 54.5. The spring collection indicates full support while the fall indicates impairment. The impaired Use is confirmed based on additional data collection at 4AHRN004.93. The land use at this station consists of forest and pasture land. There is a beef cattle farm upstream that includes a large pond that may affect flow and the ability of the stream to transport sediment. Stream banks are eroded.

4AHRN004.93 (Route 695 Bridge) Five VSCI surveys (Fall 2009 and Fall 2010; Spring/Fall 2013-2014) find continued benthic impairment with an average score of 53.3. Three fall VSCI surveys (2008, 2009 & 2010) results in an average score of 49.3 indicating impairment. Data collection at this station validates biological community impairment at the upstream Probabilistic Monitoring station surveyed in 2003 (4AHRN007.93). This site is also collocated at an ambient chemical monitoring station. The stream substrate is impacted by fine sediments also with eroded stream banks.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L47R_HRN01A00 / Horse Pasture Creek / Horse Pasture mainstem from the ending of the WQS designated public water supply (PWS) section 3f (36.5833, -79.9942) downstream to the Horse Pasture Creek mouth on the North Mayo River (RD11).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	0.48
VAW-L47R_HRN02A00 / Horse Pasture Creek / Horse Pasture Creek mainstem from an unnamed tributary mouth East of Route 696 (36.66073, -80.01509) downstream to the upstream ending of WQS PWS section 3f (36.5833, -79.9942) (RD11).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	6.97

Horse Pasture Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.45

Sources: Sediment Resuspension (Clean Sediment); Streambank Modifications/Destabilization; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L48R-01-BAC Mayo River

Cause Location: Fall Creek and its tributaries downstream to the VA/NC State Line.

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: The 2016 initial 303(d) Listing is a result of escherichia coli (E.coli) bacteria excursions of the WQS instantaneous criterion of 235 cfu/100 ml criterion. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the Mayo River within the TMDL Watershed. The Mayo River is nested within the Dan River Bacteria TMDL. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMAY018.17 (Rt. 691 Bridge at Gage) 2016 data window found four of twelve E.coli samples exceed the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L48R_FCR01A16 / Mayo River (Fall Creek) / Fall Creek mainstem downstream to the VA/NC State Line (RD13).	4A	Escherichia coli (E. coli)	2016	L	4.02

Mayo River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.02

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

Roanoke and Yadkin River Basins

Cause Group Code: L50R-01-BAC Smith River and Sycamore Creek

Cause Location: Smith River from the mouth of Rich Run on the Smith River downstream to the mouth of Shooting Creek on the Smith River spanning the Woolwine and Charity Quads. And Sycamore Creek from it's mouth on the Smith River upstream to the Pole Branch confluence.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: The Recreational Use is impaired based on escherichia coli (E.coli) data showing excessive counts recoded at 4ASRE075.69 and 4ASYC002.02. The Dan River Bacteria TMDL Study received U.S. EPA approval on 12/08/2008 [Fed ID 35748 / 35756]; and SWCB approval on 4/28/2009. The Recreational Use impairment is extended during the 2018 Integrated Reporting window

4ASRE075.69 (Rt. 708 Bridge) The 2022 data window reports six of 36 excursions of the statistical threshold value of 410 cfu/100ml in the same 90-day period with <10 samples.

4ASRE069.46 (Downstream of Iron Bridge Rd. bridge) Nine of 36 E.coli excursions are reported during the 2020 data window.

4ASYC002.02 (Elamsville Road Bridge) Four of twelve E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L50R_SRE01A00 / Smith River / Smith River mainstem from the Liberty Fabrics outfall downstream to Sycamore Creek at the RD15/16/17 watershed boundaries (RD15).	4A	Escherichia coli (E. coli)	2012	L	3.89
VAW-L50R_SRE02A00 / Smith River / Smith River mainstem from the Jacks Creek mouth downstream to Liberty Fabrics outfall.	4A	Escherichia coli (E. coli)	2012	L	0.26
VAW-L50R_SRE03A00 / Smith River / Smith River mainstem WQS Class VI end of section, as described in WQS, downstream to mouth of Jacks Creek.	4A	Escherichia coli (E. coli)	2012	L	0.59
VAW-L50R_SRE04A00 / Smith River / Smith River mainstem from the Rich Run mouth downstream to WQS Natural Trout section, as described in WQS.	4A	Escherichia coli (E. coli)	2012	L	2.87
VAW-L50R_SYC01A12 / Sycamore Creek / Sycamore Creek from it's mouth on the Smith River upstream to the Pole Branch confluence (RD16).	4A	Escherichia coli (E. coli)	2012	L	6.15
VAW-L51R_SRE07A00 / Smith River / Smith River mainstem from the mouth of Shooting Creek upstream (WQS Class V waters) to Rt. 704 (RD17).	4A	Escherichia coli (E. coli)	2018	L	6.43
VAW-L51R_SRE08A00 / Smith River / Smith River mainstem (WQS Class VI waters) from Rt. 704 upstream to the mouth of Widgeon Creek.	4A	Escherichia coli (E. coli)	2018	L	1.45

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_SRE08B14 / Smith River / Smith River mainstem from the RD15/16/17 watershed boundaries downstream to the mouth of Widgeon Creek (RD17).	4A	Escherichia coli (E. coli)	2012	L	1.91

Smith River and Sycamore Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			23.55

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

Roanoke and Yadkin River Basins

Cause Group Code: L50R-01-TEMP Smith River

Cause Location: The temperature impaired waters begin at the mouth of Rich Run on the Smith River and extend downstream to the mouth of Shooting Creek on the Smith River spanning the Woolwine and Charity Quads.

Cause City/County: Patrick County

Use(s): Aquatic Life

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

Cause Description: Exceedance of the WQS Class VI 20 C temperature criterion for this natural trout water caused the original 2002 303(d) Listing of these waters. The 9.48 mile Aquatic Life Use impairment remains and is extended during the 2018 data window by 1.45 miles.

4ASRE075.69- (Rt. 708 Bridge) 2024 data window find five of 34 measurements in excess of the criterion. Excursions are found primarily during the 1999-2002 drought. The temperature impairment, originally listed in 2002, is based on 4ASRE075.69 data where three of 20 measurements exceed the criterion.

4ASRE069.46 (Downstream of Iron Bridge Rd. bridge) - From 24 temperature measurements during the 2018 data window, four exceed the Class VI 20 C criterion. These data were incorrectly assigned to 4ASRE063.69 during the 2016 IR.

Supplemental information: (Outside 2008 Assessment data window 2000 - 2004): Two of eight exceedances of the 20 C criterion are recorded by the US Geological Survey (USGS) station 02071510. The excursions are from July 18 (23 C) and August 15 (24 C) 1995. The USGS station is located 1.19 miles upstream of any known potential anthropogenic source of heat at the Rt. 615 crossing.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L50R_SRE01A00 / Smith River / Smith River mainstem from the Liberty Fabrics outfall downstream to Sycamore Creek at the RD15/16/17 watershed boundaries (RD15).	5C	Temperature	2002	L	3.89
VAW-L50R_SRE02A00 / Smith River / Smith River mainstem from the Jacks Creek mouth downstream to Liberty Fabrics outfall.	5C	Temperature	2002	L	0.26
VAW-L50R_SRE03A00 / Smith River / Smith River mainstem WQS Class VI end of section, as described in WQS, downstream to mouth of Jacks Creek.	5C	Temperature	2002	L	0.59
VAW-L50R_SRE04A00 / Smith River / Smith River mainstem from the Rich Run mouth downstream to WQS Natural Trout section, as described in WQS.	5C	Temperature	2002	L	2.87
VAW-L51R_SRE08A00 / Smith River / Smith River mainstem (WQS Class VI waters) from Rt. 704 upstream to the mouth of Widgeon Creek.	5C	Temperature	2018	L	1.45
VAW-L51R_SRE08B14 / Smith River / Smith River mainstem from the RD15/16/17 watershed boundaries downstream to the mouth of Widgeon Creek (RD17).	5C	Temperature	2002	L	1.91

Smith River

		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life	Temperature - Total Impaired Size by Water Type:			10.97

Sources: Natural Sources; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L51L-01-DO Philpott Reservoir

Cause Location: Philpott Reservoir

Cause City/County: Franklin County; Henry County; Patrick County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: The Aquatic Life Use is impaired from data collected at five sites within the 2024 data window supporting the 2020 initial 303(d) Listing.

4ASRE046.90 (Above the Dam) 2024: DO- 23 out of 96 measurements exceed the Class V 5mg/l DO criterion.

ASRE048.98 ((2A,2B,2C GOOSE POINT - TOP, MIDDLE, B) 2024: DO- 40 out of 113 measurements exceed the Class V 5 mg/l DO criterion.

4ASRE051.06 (Horsehoe point) 2024: DO- 31 out of 107 measurements exceed the Class V 5.0 mg/l DO criterion.

4ASRE052.31 (3A,3B,3C HORSEHOE POINT - TOP, MIDDLE) 2024: DO- 0 of 11 DO measurements exceed the Class V 5.0 mg/l DO criterion. 'FS'

4ASRE056.06 (4A,4B,4C UNION BRIDGE - TOP, MIDDLE) 2024: DO- 6 of 89 measurements exceed the Class V 5.0 mg/l DO criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51L_GOB01A02 / Philpott Reservoir (Goblin Town Creek) / Philpott Reservoir - Goblin Town Creek arm from its confluence with the Smith River upstream to the Fairystone Dam.	5A	Dissolved Oxygen	2020	L	532.39
VAW-L51L_SRE01A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from its impounding structure upstream to just above the confluence of Goblin Town Creek.	5A	Dissolved Oxygen	2002	L	1221.36
VAW-L51L_SRE02A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Goblin Town Creek confluence upstream to just above the Beards Creek mouth.	5A	Dissolved Oxygen	2020	L	671.09
VAW-L51L_SRE03A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Beards Creek confluence upstream to its backwaters.	5A	Dissolved Oxygen	2020	L	388.71

Philpott Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		2813.55	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L51L-01-HG Philpott Reservoir

Cause Location: Philpott Reservoir

Cause City/County: Franklin County; Henry County; Patrick County

Use(s): Fish Consumption

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

Cause Description: This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/01/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ASRE046.90 (Above Philpott Dam)- 2020 Mercury (Hg) Collections: two species exceed the Mercury (Hg) WQS based tissue value (TV) of 0.3 ppm; Largemouth bass (4 fish) at .47 ppm (4 fish) at .36 ppm, and Carp (2 fish) at .34 ppm. 2007 fish tissue analysis finds exceedances of the WQS based tissue value (TV) for mercury (Hg) of 0.3 ppm in three individual largemouth bass (size 41.8 cm) at 0.59 ppm, (size 40.9 cm) at 0.563 ppm and (size 33.2 cm) at 0.374 ppm.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51L_GOB01A02 / Philpott Reservoir (Goblin Town Creek) / Philpott Reservoir - Goblin Town Creek arm from its confluence with the Smith River upstream to the Fairystone Dam.	5A	Mercury in Fish Tissue	2010	L	532.39
VAW-L51L_SRE01A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from its impounding structure upstream to just above the confluence of Goblin Town Creek.	5A	Mercury in Fish Tissue	2010	L	1221.36
VAW-L51L_SRE02A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Goblin Town Creek confluence upstream to just above the Beards Creek mouth.	5A	Mercury in Fish Tissue	2010	L	671.09
VAW-L51L_SRE03A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Beards Creek confluence upstream to its backwaters.	5A	Mercury in Fish Tissue	2010	L	388.71

Philpott Reservoir

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		2813.55	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L51L-01-TEMP Philpott Reservoir

Cause Location: Philpott Reservoir

Cause City/County: Franklin County; Henry County; Patrick County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is impaired from data collected at five sites within the 2024 data window supporting the 2020 303(d) Listing.

4ASRE046.90 (Above the Dam) 2024: Temp- 93 out of 304 observations exceed the Class V Stockable Trout Waters criterion.

4ASRE048.98 ((2A,2B,2C GOOSE POINT - TOP, MIDDLE, B) 2024: Temp-95 out of 293 observations exceed the Class V Stockable Trout Waters criterion.

4ASRE051.06 (Horsehoe point) 2024: Temp- 79 out of 246 observations exceed the Class V Stockable Trout Waters criterion

4ASRE052.31 (3A,3B,3C HORSEHOE POINT - TOP,MIDDLE) 2024: Temp- 12 out of 58 observations exceed the Class V Stockable Trout Waters criterion.

4ASRE056.06 (4A,4B,4C UNION BRIDGE - TOP, MIDDLE) 2024: Temp-96 out of 180 observations exceed the Class V Stockable Trout Waters criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51L_GOB01A02 / Philpott Reservoir (Goblin Town Creek) / Philpott Reservoir - Goblin Town Creek arm from its confluence with the Smith River upstream to the Fairystone Dam.	5A	Temperature	2020	L	532.39
VAW-L51L_SRE01A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from its impounding structure upstream to just above the confluence of Goblin Town Creek.	5A	Temperature	2020	L	1221.36
VAW-L51L_SRE02A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Goblin Town Creek confluence upstream to just above the Beards Creek mouth.	5A	Temperature	2020	L	671.09
VAW-L51L_SRE03A02 / Philpott Reservoir (Smith River) / Philpott Reservoir from just downstream of the Beards Creek confluence upstream to its backwaters.	5A	Temperature	2020	L	388.71

Philpott Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:		2813.55	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L51R-01-BAC Goblintown Creek

Cause Location: Goblintown Creek from the backwaters of Fairystone Lake upstream to the headwaters of Goblintown Creek.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: Escherichia coli (E.coli) exceedances cause this initial 2014 303(d) Listing for the Recreational Use impairment. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748 / 35756. SWCB approved 4/28/2009. Goblintown Creek is nested within the overall Bacteria TMDL Watershed.

4AGOB005.18 (Rt. 623 Bridge near Fairystone State Park) The 2020 data window reports two of 12 E.coli excursions.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_GOB01A08 / Goblintown Creek / Goblintown Creek from the backwaters of Fairystone Lake upstream to the confluence of Little Goblintown Creek (RD20).	4A	Escherichia coli (E. coli)	2014	L	1.2
VAW-L51R_GOB02A08 / Goblintown Creek / Goblintown Creek from the mouth of Little Goblintown Creek upstream to its headwaters (RD20).	4A	Escherichia coli (E. coli)	2014	L	5.6

Goblintown Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.8

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

Roanoke and Yadkin River Basins

Cause Group Code: L51R-01-TEMP Rennet Bag Creek

Cause Location: Rennet Bag Creek from its headwaters downstream to its inundation at Philpott Reservoir. The impairment spans the Endicott, Charity and Philpott Reservoir Quads.

Cause City/County: Floyd County; Franklin County

Use(s): Aquatic Life

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

Cause Description: Station 4ARBC005.44 is utilized to assess both the natural trout and stockable trout waters for this stream. Station 4ARBC005.44 is located on Rt. 43 west of Endicott near the downstream end of the Water Quality Standards described 9.41 mile natural trout water section which is just upstream of the Class V stockable trout waters that are 2.13 miles in length. The 2002 temperature impairment remains from the initial 303(d) Listing.

4ARBC005.44- (Rt. 43 west of Endicott) 2016 assessment found three of 12 temperature measurements exceed the Class VI Natural Trout criterion of 20 C. Excursions occur during the 1999-2002 drought years.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_RBC01A00 / Rennet Bag Creek / Rennet Bag Creek mainstem from its inundation at Philpott Reservoir upstream to the confluence of Long Branch Class V (RD18).	5C	Temperature	2002	L	2.13
VAW-L51R_RBC02A02 / Rennet Bag Creek / Rennet Bag Creek mainstem from the confluence of Long Branch upstream to its headwaters Class VI (RD18).	5C	Temperature	2002	L	9.42

Rennet Bag Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			11.55

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L51R-02-BAC Shooting Creek

Cause Location: Shooting Creek from its mouth on the Smith River upstream to its headwaters.

Cause City/County: Floyd County; Franklin County; Patrick County

Use(s): Recreation

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

Cause Description: Escherichia coli (E.coli) exceedances cause this initial 2014 303(d) Listing for the Recreational Use impairment. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748 / 35756. SWCB approved 4/28/2009. Shooting Creek is nested within the overall Bacteria TMDL Watershed.

4ASOT000.99- (Rt. 622 Bridge, Deer Run Rd.) The 2016 and 2018 data windows find three of 24 escherichia coli (E.coli) samples in excess of the WQS instantaneous criterion of 235 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_SOT01A08 / Shooting Creek / Shooting Creek from its mouth on the Smith River upstream to its headwaters (RD17).	4A	Escherichia coli (E. coli)	2014	L	7.33

Shooting Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.33

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

Roanoke and Yadkin River Basins

Cause Group Code: L51R-02-TEMP Shooting Creek

Cause Location: Shooting Creek from its mouth on the Smith River upstream to its headwaters.

Cause City/County: Floyd County; Franklin County; Patrick County

Use(s): Aquatic Life

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

Cause Description: 4ASOT000.99- (Rt. 622 Bridge) Five of 24 temperature measurements exceed the Class VI 20 C within the 2018 and 2016 data windows. These waters were assessed based on a stream Class IV designation in the 2008 IR resulting in full support. The stream Class is VI, natural trout waters, and should have been initially 303(d) Listed in 2008.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_SOT01A08 / Shooting Creek / Shooting Creek from its mouth on the Smith River upstream to its headwaters (RD17).	5C	Temperature	2008	L	7.33

Shooting Creek

		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life	Temperature - Total Impaired Size by Water Type:			7.33

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L51R-03-BAC Nicholas Creek

Cause Location: Nicholas Creek from the inundated waters of Philpott Reservoir upstream to a point south of Franklin St. at 36°54'13" / 80°03'48".

Cause City/County: Franklin County; Henry County; Patrick County

Use(s): Recreation

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

Cause Description: This initial 2016 303(d) Listing is the result of excursions of the escherichia coli WQS instantaneous criterion of 235 cfu/100 ml. The Recreational Use is impaired. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748 / 35756. SWCB approved 4/28/2009. Nicholas Creek is nested within the overall Bacteria TMDL Watershed.

4ANCH001.23 (Rt. 780 (Jamison Rd.) Entrance to Jamison Mill Park- Four of 12 E.coli samples exceed the instantaneous criterion within the 2016 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_NCH01A12 / Nicholas Creek / Nicholas Creek from the inundated waters of Philpott Reservoir upstream to a point south of Franklin St. at 36.8876, -80.0535 (RD19).	4A	Escherichia coli (E. coli)	2016	L	5.41

Nicholas Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.41

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

Roanoke and Yadkin River Basins

Cause Group Code: L51R-03-TEMP Smith River

Cause Location: Smith River mainstem from the mouth of Shooting Creek upstream (WQS Class V waters) to Rt. 704 (RD17).

Cause City/County: Patrick County

Use(s): Aquatic Life

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

Cause Description: The 2016 Integrated Report (IR) produced the initial 303(d) Listing for temperature excursions of the Class V Stockable Trout water criterion resulting in impairment of the Aquatic Life Use. Part of the 2016 IR listing was made in error as the data discussed below were actually collected at 4ASRE069.46. Of the 2016 IR 8.99 mile listed segment, 2.55 miles are delisted and 6.43 miles remain listed in the 2018 IR.

4ASRE069.46 (Downstream of Iron Bridge Rd. bridge) - Two additional excursions are reported during the 2020 data window. The 2018 IR finds four of 24 excursions of the Class V 21 C criterion. Exceedances are: 21.6 C (7/7/14), 22.0 C (9/3/14), 21.6 C (8/18/16), and 21.7 C (9/19/16). The 7/7/14 and 9/3/14 excursions were incorrectly assigned to 4ASRE063.69 during the 2016 IR and resulted in the original temperature impairment.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_SRE07A00 / Smith River / Smith River mainstem from the mouth of Shooting Creek upstream (WQS Class V waters) to Rt. 704 (RD17).	5C	Temperature	2016	L	6.43

Smith River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			6.43

Sources: Natural Sources; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L51R-04-BAC Rennet Bag Creek

Cause Location: Rennet Bag Creek from its headwaters downstream to its inundation at Philpott Reservoir. The impairment spans the Endicott, Charity and Philpott Reservoir Quads.

Cause City/County: Floyd County; Franklin County

Use(s): Recreation

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

Cause Description: The 2016 Integrated Report (IR) is the initial listing of E.Coli for Rennet Bag Creek. The Dan River Bacteria TMDL Study is U.S. EPA approved on 12/08/2008. Fed ID 35748 / 35756. SWCB approved 4/28/2009. Rennet Bag Creek is nested within the overall Bacteria TMDL Watershed.

4ARBC005.44 - (Rt. 43 west of Endicott) The 2016 assessment finds three Escherichia Coli (E.Coli) bacteria exceedances of the 235 cfu/100 mL instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L51R_RBC01A00 / Rennet Bag Creek / Rennet Bag Creek mainstem from its inundation at Philpott Reservoir upstream to the confluence of Long Branch Class V (RD18).	4A	Escherichia coli (E. coli)	2016	L	2.13
VAW-L51R_RBC02A02 / Rennet Bag Creek / Rennet Bag Creek mainstem from the confluence of Long Branch upstream to its headwaters Class VI (RD18).	4A	Escherichia coli (E. coli)	2016	L	9.42

Rennet Bag Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.55

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

Roanoke and Yadkin River Basins

Cause Group Code: L52R-01-BAC Smith River

Cause Location: The bacteria impairment begins at the Smith River mainstem from just above Bassett and extends downstream to the backwaters of the Martinsville power pool (Martinsville West Quad).

Cause City/County: Henry County; Martinsville

Use(s): Recreation

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

Cause Description: The original 2002 Assessment basis for 303(d) Listing the waters is exceedance of the former fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml and the former geometric mean (WQS frequency of 2 samples/calendar month of 200 cfu/100 ml causing the waters to not support the Recreational Use. Special monitoring on Blackberry Creek (L52R) and the Smith River (L53R) reported and 303(d) Listed these exceedances in 2002. The 2020 IR extends impaired waters upstream an additional 2.53 miles.

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35748 / 35756] and SWCB approved 4/28/2009. The Smith River is encompassed by the overall Dan River Bacteria TMDL Watershed and allocations. Portions of the Smith River are nested within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

A portion of the bacteria impaired waters were delisted in 2004 for the area between the Blackberry Creek mouth on the Smith River (L52R Bassett Quad) extending downstream to the Reed Creek confluence on the Smith River L53R- Martinsville West Quad), 3.31 miles. The delisting of these waters was based on an exceedance rate of less than 10.5%. This portion returned to 303(d) Listing status with the 2006 Integrated Report (IR) based on stations 2000W0034A and 4ASRE036.55. The total bacteria impairment size is 10.30 miles.

4ASRE039.43- The 2020 data window finds three of 12 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

4ASRE036.55- 2008 assessment found escherichia coli (E.coli) are found to exceed the 235 cfu/100 ml instantaneous criterion in three of 21 samples.

4ASRE033.19- Nineteen of 41 E.coli samples exceed during the 2020 data window.

Special Study Stations: 2008 E. coli exceedances / total observations; range 2008 / 2006 & 2004 exceedances / total observations; range 2004. 2000W0034B- (downstream of Blackberry Creek confluence)- SS data ends 6/06/02- 1 of 10. / 2006 & 2004- 2 of 20; 2000W0034A- (located downstream in VAW-L53R)- SS data ends 6/06/02- 1 of 11 exceeds. / 2006 & 2004- 2 of 21;

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L52R_SRE01A00 / Smith River / The Smith River mainstem from the Blackberry Creek mouth downstream to Rock Run mouth (Watershed Boundary RD22).	4A	Escherichia coli (E. coli)	2006	L	0.97
VAW-L52R_SRE02A00 / Smith River / The Smith River mainstem from just above Bassett downstream to Blackberry Creek mouth (RD22).	4A	Escherichia coli (E. coli)	2020	L	2.54
VAW-L53R_SRE01B06 / Smith River / Smith River mainstem from the former E. I. duPont outfall upstream to the E. I. duPont water intake on the Smith River (RD24).	4A	Escherichia coli (E. coli)	2008	L	0.49

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_SRE02A00 / Smith River / Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall (RD24).	4A	Escherichia coli (E. coli)	2008	L	4.26
VAW-L53R_SRE03A00 / Smith River / Smith River mainstem from the former Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek (RD24).	4A	Escherichia coli (E. coli)	2008	L	2.26
VAW-L53R_SRE04A00 / Smith River / Smith River mainstem from the mouth of Reed Creek upstream to an unnamed tributary. The unnamed tributary is approximately 0.70 miles downstream of the Alt. 57 Bridge (RD22).	4A	Escherichia coli (E. coli)	2006	L	0.82
VAW-L53R_SRE05A00 / Smith River / Smith River mainstem from an unnamed tributary located approximately 0.70 miles downstream of the Alt. 57 Bridge, upstream to the watershed boundary at the mouth of Rock Run (RD22).	4A	Escherichia coli (E. coli)	2006	L	1.54

Smith River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			12.88

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L52R-02-BAC Blackberry Creek and Blackberry, UTs

Cause Location: The impairment begins at the headwaters of Blackberry Creek (~RM 13.63) and extends downstream to Blackberry Creek's mouth on the Smith River. The impaired waters include an unnamed tributary from the north (XMI). The mouth of the unnamed tributary is at 36° 44' 38" / 80° 03' 07". The bacteria impairment spans the Charity, Sanville, Martinsville West and Bassett Quads.

Cause City/County: Henry County; Patrick County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Blackberry Creek as it lies within the TMDL Watershed. An unnamed tributary (XMI) is nested within the Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment.

Exceedance of the former fecal coliform (FC) instantaneous criterion of 1000 cfu/100 ml and the geomean of 200 cfu/100 ml caused the waters to not support recreational use in 2002. Ambient station 4ABRY000.05, a 1999 Federal Consent Decree Attachment B station is 2002 303(d) Listed with a 2010 TMDL schedule date. The 2002 FC exceedance rate of 15% from 3/20 samples at 4ABRY000.05 resulted in the original 303(d) Listing. Exceedance of the Escherichia coli 235 cfu/100 ml instantaneous criterion and the former (2 samples/month) geomean in 2004 continue to show nonsupport with the 2010 Integrated Report (IR). Recreation Use is impaired for 15.49 mi in the Blackberry Creek drainage. An unnamed tributary comprises 1.15 mi of the overall impairment.

Special monitoring of Blackberry Creek began in fall 1999 after complaints from local residents regarding sewer service in the Blackberry Creek drainage. Below are sites having data within the 2008 data window, 2000 Special Study sites and instantaneous results from the 2004 IR.

4ABRY011.44 formerly 2000W0034L- (at Microfilm Rd) 2008 IR found E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 10/22 samples ranging from 250-20,000 cfu/100 ml. The former geomean (2 samps/mo) 126 cfu/100 ml criterion exceeds in 3/6 calcs. 2010: 6/12.

4ABRY010.27 formerly 2000W0034J- (Rt. 687 Br) 2010 and 2012: 4/12.

4ABRY000.05 formerly 2000W0034E- (American Legion Br) 2008 IR found 11/31 E.coli exceeds from 260-1200 cfu/100 ml and 3/7 geomean calcs exceed the former (2 samps/mo) 126 cfu/100 ml criterion.

Special Study Stations (no additional data beyond 2008 IR): 2008 E. coli exceeds / total obs; range 2008 / 2004 exceeds / total obs; range 2004.

2000W0034C (Rt. 57A) SS data ends 6/6/02 - 2 of 11 / range 500 to >800 / 2004 - 5 of 21 range 340 to >800. 2000W0034E (American Legion Br) SS data ends 6/6/02 - 2004 - 7 of 20 / range 250 to >800. 4ABRY000.05- 2004 FC exceeds the 400 cfu/100 ml inst. criterion in 4/20 samps from 500 cfu/100 ml to >8000. 2000W0034F (upstream of Rt. 698 Br) SS data ends 6/6/02 - 5 of 11; range 280 to >800 / 2004 - 10 of 21 range 280 to >800. 2000W0034G (Rt. 676 Br) SS data ends 6/6/02 - 1 of 10 / 620 / 2004 - 2 of 20; range 330-620. 2000W0034H (Rt. 677) SS data ends 6/6/02 - 2 of 10; 280 and >800 / 2004 - 3 of 20; 280 and >800. 2000W0034I (Rt. 882 Br) SS data ends 6/6/02 - 4 of 11; range 400 to >800 / 2004 - 7 of 21; range 330 to >800. 2000W0034J (Rt. 687 Br) SS data ends 6/6/02 - 2004 - 5 of 15; range 290 to >800. 2000W0034L (at Microfilm Rd) SS data ends 6/6/02 - 2004 - 8 of 19 / range 250 to >800. 2000W0034R (along Rt. 799) SS data ends 6/6/02 - 4 of 10; range 400 to >800 / 2004 - 8 of 20; range 380 to >800.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L52R_BRY01A00 / Blackberry Creek / Blackberry Creek mainstem from the upper end of the WQS designated public water supply (PWS) section near the American Legion Bridge downstream to the Blackberry Creek mouth on the Smith River.	4A	Escherichia coli (E. coli)	2004	L	0.54
VAW-L52R_BRY02A00 / Blackberry Creek / The Blackberry Creek mainstem from the confluence of Whitt Branch downstream to the end of the WQS public water supply designation near the American Legion Bridge.	4A	Escherichia coli (E. coli)	2004	L	3.73
VAW-L52R_BRY03A00 / Blackberry Creek / Blackberry Creek mainstem from the Sanville Utilities Fairway Acres outfall downstream to Whitt Branch.	4A	Escherichia coli (E. coli)	2004	L	5.54
VAW-L52R_BRY04A02 / Blackberry Creek / Blackberry Creek mainstem from its headwaters downstream to the Sanville Utilities Fairway Acres outfall.	4A	Escherichia coli (E. coli)	2004	L	4.56
VAW-L52R_XMI01A02 / Blackberry Creek, UT (XMI) / An unnamed tributary to Blackberry Creek from its mouth upstream to its headwaters. The mouth of the tributary is located at 36.74407, -80.05179 (RD22).	4A	Escherichia coli (E. coli)	2004	L	1.15

Blackberry Creek and Blackberry, UTs

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			15.52

Sources: Municipal (Urbanized High Density Area); Municipal Point Source Discharges; Unspecified Domestic Waste; Wastes from Pets; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L52R-03-BAC Town Creek

Cause Location: Town Creek from it's confluence on the Smith River upstream to the mouth of Grassy Fork.

Cause City/County: Franklin County; Henry County

Use(s): Recreation

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

Cause Description: The Town Creek Recreational Use impairment is a result of the 2012 assessment. Town Creek is nested within the overall Dan River Bacteria TMDL Watershed U.S. EPA approved on 12/8/2008, Fed ID: 35756 and SWCB approved on 4/28/2009.

4ATWN000.22- (Philpott Drive - Rt. 674 Bridge) Escherichia coli (E.coli) exceed the 235 cfu/100 ml water quality criterion in four of 12 samples collected during the 2018 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L52R_TWN01A12 / Town Creek / Town Creek from its confluence on the Smith River upstream to the mouth of Grassy Fork.	4A	Escherichia coli (E. coli)	2012	L	1.88

Town Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			1.88

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

Roanoke and Yadkin River Basins

Cause Group Code: L52R-04-BEN Smith River

Cause Location: Smith River mainstem just above Bassett downstream to the mouth of Reed Creek (RD22).

Cause City/County: Henry County

Use(s): Aquatic Life

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

Cause Description: The 2020 data window finds a new Aquatic Life Use 303(d) listing on the Smith River based on benthic macroinvertebrate community data evaluated by the Virginia Stream Condition Index (VSCI). Note that a downstream section of the Smith River is associated with the Smith River Benthic Phased TMDL (Phase I) U.S. EPA approved 1/13/2011 [Fed ID: 39707].

4ASRE038.57 (Off Rt. 57 in Bassett) Two 2017 VSCI Scores 43.3 (Spring) and 52.2 (Fall) confirm continued benthic macroinvertebrate community impairment. This station was sampled as one of the randomly chosen Probabilistic monitoring stations in 2017. Biologist notes: benthic community samples had low taxa richness and low abundance of pollution-sensitive organisms. The watershed upstream of this site includes Philpott Reservoir, industrial and commercial properties and roads. Fluctuating flows from Philpott Dam have an effect on the benthic community along with storm water runoff from developed land.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L52R_SRE01A00 / Smith River / The Smith River mainstem from the Blackberry Creek mouth downstream to Rock Run mouth (Watershed Boundary RD22).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	0.97
VAW-L52R_SRE02A00 / Smith River / The Smith River mainstem from just above Bassett downstream to Blackberry Creek mouth (RD22).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	2.54
VAW-L53R_SRE04A00 / Smith River / Smith River mainstem from the mouth of Reed Creek upstream to an unnamed tributary. The unnamed tributary is approximately 0.70 miles downstream of the Alt. 57 Bridge (RD22).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	0.82
VAW-L53R_SRE05A00 / Smith River / Smith River mainstem from an unnamed tributary located approximately 0.70 miles downstream of the Alt. 57 Bridge, upstream to the watershed boundary at the mouth of Rock Run (RD22).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	1.54

Smith River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.87

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

Roanoke and Yadkin River Basins

Cause Group Code: L53L-01-BAC Martinsville (Beaver Creek) Reservoir

Cause Location: Martinsville Reservoir

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. This bacteria impairment is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ABAU005.34 (Martinsville Reservoir at Dam) 2022: E.coli Comment: Insufficient Information (Prioritize for follow up monitoring)- No STV exceedances but insufficient data to analyze geomean. 2020 & 2018 assessment finds escherichia coli (E.coli) exceeds the WQS instantaneous criterion of 235 cfu/100ml in zero of 14 samples, this reservoir is bracketed by impaired stream AUs, therefore the reservoir is going to remain impaired due to the other continuous impairments upstream and downstream.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53L_BAU01A02 / Martinsville (Beaver Creek) Reservoir / Martinsville Reservoir on Beaver Creek from its impounding structure upstream to its backwaters.	4A	Escherichia coli (E. coli)	2010	L	182.29

Martinsville (Beaver Creek) Reservoir

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		182.29	

Sources: Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L53R-01-BEN Smith River

Cause Location: Smith River from the mouth of Reed Creek downstream to the backwaters of the Martinsville Dam Power Pool.

Cause City/County: Henry County; Martinsville

Use(s): Aquatic Life

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

Cause Description: The 2012 Integrated Report (IR) partially delisted the original 4.74 mile General Standard Benthic impairment. The 2014 assessment finds impairment has returned and relists these waters and extends the impairment upstream 2.25 miles. The extension upstream is due to declining Virginia Stream Condition Index (VSCI) scores at 4ASRE033.19. These waters (4.74 miles) were originally 303(d) Listed in 2008 for contravention of the General Standard and are now nested within the Smith River Benthic Phased TMDL. Phase I U.S. EPA approved 1/13/11 (Fed IDs: 39703, 39705 (delist), 39706 & 39707).

4ASRE033.19 (Rt. 701 Bridge - Fieldale) Six VSCI scores (2020-22) with average score of 50.5 are impaired. Biologist notes: The mean VSCI score for this assessment cycle is 50.5, which is below the VSCI impairment threshold of 60. Three VSCI scores (2016, 2020) avg 46 during the 2022 data window. No additional data since the 2016 assessment recorded 12 VSCI surveys (2009-14) with an average score of 55.5. This station has been the upstream control site for all Smith River biomonitoring stations and is located approximately 0.65 mi upstream of the Upper Smith River WWTP which is currently off line.

4ASRE032.38 (At former Upper Smith WWTP) This station initially assessed in 2012 using Best Professional Judgment (BPJ) based on 4ASRE033.19 and 4ASRE0031.00 scoring in the 60s, or fully supporting. Biologist notes: This station is re-assessed in 2014 indicating impairment. Two 2010 surveys with an average score of 59.7 (spring 56; fall 63). This station is between historical biomonitoring stations 4ASRE033.19 and 4ASRE031.00 and adjacent to the closed Upper Smith River STP. Similar to station 4ASRE033.19 and 4ASRE031.00, this reach of the river appears to be impacted by sediment deposition and urban NPS runoff.

4ASRE031.00- (Behind Church at Kohler) During the 2018 data window, 9 VSCI surveys and 12 VSCI surveys (2009-14) find impairment with an average score of 56.7 within the 2016 data window. The 2014 assessment reports 9 VSCI surveys (2008-12) with an average 6 year score of 59 and a 2 year average score of 54. These scores show impairment and result in the re-listing of this portion of the Smith River. The 2012 assessment de-listed these waters with a 6 year average score of 62 and a 2 year average of 645. Note: 2008 assessment (4 surveys 2003-2006) score 51.6. Compared to the upstream control site, there is a difference in the average VSCI score (51.6 at this station vs 60 at 4ASRE033.19). The benthic community typically has fewer total taxa and fewer sensitive taxa than the reference site. The station is approx. 1.54 mi below the former Upper Smith River WWTP. Similar to the reference station, this reach of the river appears to be impacted by sediment deposition and urban NPS runoff. The WWTP ceased discharge 11/11/03 and the VPDES permit terminated in June 2004. Benthic community scores declined 2000-04 and increased 2005-06.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_SRE01B06 / Smith River / Smith River mainstem from the former E. I. duPont outfall upstream to the E. I. duPont water intake on the Smith River (RD24).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	0.49
VAW-L53R_SRE02A00 / Smith River / Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall (RD24).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	4.26

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_SRE03A00 / Smith River / Smith River mainstem from the former Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek (RD24).	4A	Benthic Macroinvertebrates Bioassessments	2014	L	2.26

Smith River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.01

Sources: Dam or Impoundment; Municipal (Urbanized High Density Area); Sediment Resuspension (Clean Sediment)

Roanoke and Yadkin River Basins

Cause Group Code: L53R-01-TEMP Smith River

Cause Location: Smith River mainstem from the mouth of Reed Creek downstream to the E.I. DuPont Intake (RD24).

Cause City/County: Henry County; Martinsville

Use(s): Aquatic Life

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

Cause Description: The 2016 Integrated Report (IR) is the initial 303(d) listing for Aquatic Life Use due to temperature impairment.

4ASRE033.19 - (Rt. 701 in Fieldale) A continuous temperature monitoring device was placed at the station during the critical time period of August 4th to September 2nd 2014. The device recorded temperature every 30 minutes for 30 days. The 2016 assessment reveals 20% of the days exceeded the max daily temperature at least 10.5% of the day for the Class VI Natural Trout criterion of 20 C. The rate of temperature change (0.5°C per hour) was exceeded 72.4% of the days the temperature sensor was deployed. These temperature exceedances are believed the result of the hydroelectric operations and flow release patterns from the Philpott Dam.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_SRE02A00 / Smith River / Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall (RD24).	5A	Temperature	2016	L	4.26
VAW-L53R_SRE03A00 / Smith River / Smith River mainstem from the former Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek (RD24).	5A	Temperature	2016	L	2.26

Smith River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			6.52

Sources: Dam or Impoundment; Municipal (Urbanized High Density Area); Sediment Resuspension (Clean Sediment)

Roanoke and Yadkin River Basins

Cause Group Code: L53R-02-BAC Jordan Creek

Cause Location: The mainstem waters of Jordan Creek from its headwaters to its mouth on the Smith River.

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: The 2006 303(d) Listed 6.00 mile waters remain impaired for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Jordan Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AJOR000.02- (Rt. 682 Bridge) 2008 found seven of 21 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_JOR01A06 / Jordan Creek / The mainstem waters of Jordan Creek (RD24).	4A	Escherichia coli (E. coli)	2006	L	6

Jordan Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6

Sources: Municipal (Urbanized High Density Area); Residential Districts; Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L53R-03-BAC Beaver Creek

Cause Location: The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir.

Cause City/County: Franklin County; Henry County

Use(s): Recreation

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

Cause Description: The Recreational Use remains impaired for these 2006 303(d) Listed 5.30 mile waters. The impairment is extended 6.97 miles upstream from inundation of Martinsville Reservoir. Impairment results described below for station 4ABAU011.17 for a total of 12.27 impaired miles. The Dan River Bacteria TMDL is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. This bacteria impairment is nested within the Dan River Bacteria TMDL. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ABAU011.17 (Off Rt. 922 upstream of the Rt. 657 crossing) Fourteen of 14 E.coli excursions reported during the 2020 data window.

4ABAU000.94- (Rt. 220 Business Bridge) Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 10 of 24 samples within the 2012 data window.

4ABAU000.25- (Off Koehler Rd.) E.coli bacteria exceed the instantaneous criterion in three of 12 observations within the 2016 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_BAU01A06 / Beaver Creek / The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir (RD24).	4A	Escherichia coli (E. coli)	2006	L	5.30
VAW-L53R_BAU02A06 / Beaver Creek / Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir (RD24).	4A	Escherichia coli (E. coli)	2016	L	6.98

Beaver Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			12.28

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L53R-03-BEN Beaver Creek

Cause Location: Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir.

Cause City/County: Franklin County; Henry County

Use(s): Aquatic Life

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

Cause Description: The 2008 IR reports the Aquatic Life Use impaired for 6.97 miles due to contravention of the General Standard.

4ABAU011.17- (Off Rt. 922 upstream of Rt. 657 crossing) Six Virginia Stream Condition Index Scores confirm continued benthic macroinvertebrate community impairment on Beaver Creek during the 2024 data window (2017, 2019, 2021). Spring VSCI average is 57 and Fall average is 36. Biologist notes: Spring (average 57.1) VSCI scores are always about 20 points higher than the fall (average 35.7). The spring samples typically have more sensitive mayfly, stonefly, and caddisfly (EPT) taxa; whereas, the fall samples are dominated by Chironomid midges. Sediment deposition, bank erosion, bank vegetation, and riparian buffer width scores were low in this reach. Approximately 46% of the riparian land cover in the watershed is agricultural. The original listing from the 2008 Integrated Report found the benthic community impaired from two 2004 VSCI surveys with an average score of 51.2.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_BAU02A06 / Beaver Creek / Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir (RD24).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	6.98

Beaver Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.98

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

Roanoke and Yadkin River Basins

Cause Group Code: L53R-04-BAC Reed Creek

Cause Location: Reed Creek mainstem from its mouth on the Smith River upstream approximately one mile above the Rt. 609 crossing.

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: This 2008 303(d) Listed water extends 4.13 miles resulting in non-support for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Reed Creek as it lies within the TMDL Watershed. Reed Creek is nested within the Dan River Bacteria TMDL. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AREE000.80 (Rt. 993 Bridge upstream of Rt. 57 Bridge) Three of 12 E.coli excursions are reported during the 2020 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_REE01A00 / Reed Creek / Reed Creek mainstem from its mouth on the Smith River upstream approximately one mile above the Rt. 609 crossing (RD23).	4A	Escherichia coli (E. coli)	2008	L	4.14

Reed Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.14

Sources: Municipal (Urbanized High Density Area); Residential Districts; Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L53R-04-BEN Jones Creek, UT (XMP)

Cause Location: Unnamed tributary (XMP) to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek.

Cause City/County: Franklin County; Henry County; Martinsville

Use(s): Aquatic Life

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

Cause Description: The 2006 303(d) Listed 2.04 mile Aquatic Life Use impairment remains due to contravention of the General Standard.

4AXMP001.85- (directly below Henry County Landfill) A single impaired 2003 Virginia Stream Condition Index (VSCI) survey scoring spring 47. Biologist notes: Analysis of the benthic community data with VSCI metrics displays a difference between the benthic communities above and below the landfill. The community at the reference site (4AXMP002.21, VSCI avg.=72.8) was very diverse in pollution sensitive organisms and approximated what would be considered Ecoregion reference quality for a first order stream in the Piedmont area. Two metrics that show the difference in pollution sensitivity of the communities are the Taxa Richness and EPT metrics (representative of sensitive Mayflies, Stoneflies, and Caddisflies). The reference site also had a much higher number of organisms present (159) in a similar amount of habitat sampled relative to the impact site (34).

Additional Biologist notes: The main physical difference between the two stations is the presence of large growths of sphaerotilus bacteria at the downstream site. The bacteria covered practically every part of the stream substrate including the mineral sand, gravel and cobble bottom of the stream as well as the woody debris and leaf packs in stream. This covering ranged in thickness from about one inch in high velocity areas to approximately one foot in pool habitats. This bacterium typically thrives in waters impacted by organic effluents and is often referred to as “sewage fungus.” This bacterium was not observed at the reference site. Such a large presence of this bacterium indicates a pollution impact. More recent investigations have found that sphaerotilus bacteria is common in waters impacted by landfill leachate indicating that excessive growths are related to volatile organic chemicals. The bacterial growth has an impact on the abundance of benthic organisms.

4AXMP001.26- One fall 2006 survey scoring 57.4. Biologist notes: Several metrics indicated a substantial difference in the pollution sensitivity of the communities at this station versus the upstream site. This sample also required 3.5 times more effort than the upstream site to collect an equivalent number of organisms, displaying a large difference in macro invertebrate abundance.

4AXMP000.44 (Dwnstr. of Henry Co. Landfill off Rt. 663; Clearview Dr.) Four VSCI surveys (2013-14) with an average score of 52. Biologist Reserves Judgement and notes: This stream begins upslope of the Martinsville Sanitary Landfill then flows through a pipe that is buried below the landfill. In 2003 the stream appeared to be impacted by landfill leachate. Volatile organic chemicals (VOCs) were found in both groundwater and surface water samples collected down gradient of the landfill.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_XMP01A06 / Jones Creek, UT (XMP) / Unnamed tributary to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek (RD24).	5A	Benthic Macroinvertebrates Bioassessments	2006	L	2

Jones Creek, UT (XMP)

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2

Sources: Landfills

Roanoke and Yadkin River Basins

Cause Group Code: L53R-05-BAC Daniels Creek

Cause Location: Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: This initial 2016 Recreational Use impairment is a result of escherichia coli (E.coli) excursions of the WQS instantaneous criterion. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Daniels Creek bacteria impairment is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4ADEL001.35 (Off Rt. 619 (Daniels Cr. Rd) on Miles Rd.) 2016 data window found six of six E.coli samples exceed the WQS instantaneous criterion of 235 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_DEL01A10 / Daniels Creek / Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).	4A	Escherichia coli (E. coli)	2016	L	3.99

Daniels Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3.99

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

Roanoke and Yadkin River Basins

Cause Group Code: L53R-05-BEN Beaver Creek

Cause Location: The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir (RD24).

Cause City/County: Henry County

Use(s): Aquatic Life

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

Cause Description: The 2016 Integrated Report finds the benthic community impaired due to contravention of the WQS General Standard. The Virginia Stream Condition Index (VSCI) is a multi-metric statewide stream index of biotic integrity based on data collected from minimally impacted reference sites throughout Virginia. This index shows that an VSCI score of 60.0 is the lower limit for unimpaired conditions in a benthic community.

4ABAU000.25 (Off Koehler Rd.) Six VSCI surveys (2013-15) show impairment with an average score of 34.3. Biologist notes: The benthic community consisted of more pollution tolerant taxa and less diversity in the Spring surveys. Total Habitat Scores were in the Marginal to low Sub-Optimal range. Embeddedness and Substrate scores were the lowest ranging from marginal to poor and are likely the dominant factors in the negative effect on the benthic macroinvertebrate community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_BAU01A06 / Beaver Creek / The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir (RD24).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	5.3

Beaver Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.3

Sources: Clean Sediments; Sediment Resuspension (Clean Sediment); Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L53R-06-BAC Jones Creek, UT (XMP)

Cause Location: Unnamed tributary to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek (RD24).

Cause City/County: Franklin County; Henry County; Martinsville

Use(s): Recreation

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

Cause Description: The 2016 Listed water extends 2.00 miles resulting in non-support for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Jones Creek unnamed tributary (XMP) as it lies within the TMDL Watershed. The Jones Creek unnamed tributary (XMP) is nested within the Dan River Bacteria TMDL. The TMDL and allocations can be viewed at http://www.deq.virginia.gov

4AXMP000.44 (Dwnstr. Of Henry Co. Landfill off Rt. 663; Clearview Dr.) Five of 11 E.coli samples exceed the instantaneous criterion within the 2016 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_XMP01A06 / Jones Creek, UT (XMP) / Unnamed tributary to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek (RD24).	4A	Escherichia coli (E. coli)	2016	L	2

Jones Creek, UT (XMP)

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2

Sources: Municipal (Urbanized High Density Area); Residential Districts; Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L53R-06-BEN Daniels Creek

Cause Location: Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).

Cause City/County: Henry County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is impaired due to contravention of the WQS General Standard. The Virginia Stream Condition Index (VSCI) is a multi-metric statewide stream index of biotic integrity based on data collected from minimally impacted reference sites throughout Virginia. This index shows that an VSCI score of 60.0 is the lower limit for unimpaired conditions in a benthic community.

4ADEL001.35 (Off Rt. 619 (Daniels Cr. Rd) on Miles Rd.) The 2016 assessment finds the benthic community impaired from four of four VSCI surveys with an average score of 18.6. Biologist notes: Habitat survey scores were low in this reach due to urban impacts to the watershed. The benthic community is dominated by pollution tolerant organisms. Pollution sensitive organisms were not present in some samples.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_DEL01A10 / Daniels Creek / Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	3.99

Daniels Creek

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

Sources: Municipal (Urbanized High Density Area); Streambank Modifications/Destabilization; Unspecified Urban Stormwater; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L53R-07-BEN Jones Creek

Cause Location: Jones Creek mainstem upstream to XMP confluence (RD24).

Cause City/County: Henry County; Martinsville

Use(s): Aquatic Life

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

Cause Description: This 2016 initial macroinvertebrate impaired water is Listed for contravention of the WQS Aquatic Life Use General Standard. The Virginia Stream Condition Index (VSCI) is a multi-metric statewide stream index of biotic integrity based on data collected from minimally impacted reference sites throughout Virginia. This index shows that an VSCI score of 60.0 is the lower limit for unimpaired conditions in a benthic community.

4AJCR000.42 (Upstream of Rt. 220 Business) 2016 data window finds benthic macroinvertebrate community impairment based on four VSCI (2013-14) with an average score of 29.2. Biologist notes: Jones Creek appears to be impacted by storm water runoff from several shopping centers. Excess sediment has an impact on the substrate in this section of the stream.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L53R_JCR01A16 / Jones Creek / Jones Creek mainstem upstream to XMP confluence (RD24).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	2.36

Jones Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.36

Sources: Municipal (Urbanized High Density Area); Unspecified Urban Stormwater; Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: L54R-01-BAC Smith River

Cause Location: The bacteria impairment begins at the Martinsville Dam (Martinsville West Quad) and extends downstream to the VA/NC State Line on the Northwest Eden Quad.

Cause City/County: Henry County; Martinsville

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the Smith River as it lies within the TMDL Watershed.

Station 4ASRE022.71 is a 1999 Federal Consent Decree Attachment B station and was not 2002 listed as impaired for fecal coliform (FC) bacteria. Only 4/59 samples exceeded the former 1000 cfu/100 ml instantaneous criterion for an exceedance rate of 6% in 2002. The 2002 303(d) Listing for 10.06 mi has been extended upstream 3.65 mi (2004 Integrated Report (IR)) and downstream 6.30 mi (2006 IR) for a total of 20.01 mi thru the 2008 Assessment.

4ASRE026.27 2008 assessment found 2/21 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml inst. criterion. E.coli data indicate this station would meet delisting guidance however the range of exceeding values is from 600-1060 cfu/100 ml. Due to the magnitude of the exceedances and the downstream exceedances the waters remain impaired for Recreational Use.

4ASRE022.71 (Footbridge above the Martinsville STP) 2004 IR found 8/41 FC samples exceed the former 400 cfu/100 ml inst. criterion. The 2004 IR 303(d) Listing extends the 2002 bacteria impairment 3.59 mi upstream from the original 303(d) Listing.

4ASRE021.58 (Rt. 58 Bypass Bridge, Henry Co.) 2008 assessment found E.coli excursions in 4/9 samples.

4ASRE019.00 One of 7 E.coli excursions are reported during the 2020 data window.

4ASRE015.43 (Rt. 636 Bridge) Both the 2010 and 2008 assessments find E.coli exceed the inst. criterion in 4/20 samples.

4ASRE007.90 (Rt. 622 Bridge, Morgan Ford Bridge) The 2018 IR finds 9/47 E.coli samples exceed the 235 cfu/100 ml inst. criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_SRE01A00 / Smith River / Smith River mainstem from the Home Creek mouth downstream to VA/NC State Line (RD30).	4A	Escherichia coli (E. coli)	2008	L	3.19
VAW-L54R_SRE02A00 / Smith River / The mainstem Smith River located between the Turkeypen Branch mouth downstream to the Home Creek mouth (RD30).	4A	Escherichia coli (E. coli)	2008	L	3.12
VAW-L54R_SRE03A00 / Smith River / Smith River mainstem from the Leatherwood Creek mouth downstream to the confluence of Turkeypen Branch (RD30).	4A	Escherichia coli (E. coli)	2008	L	4.68

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_SRE03A02 / Smith River / Smith River mainstem from the Marrowbone Creek mouth downstream to the confluence of Leatherwood Creek (RD26).	4A	Escherichia coli (E. coli)	2008	L	1.75
VAW-L54R_SRE04A00 / Smith River / The mainstem Smith River located between the HCPSA Lower Smith River STP and the confluence of Marrowbone Creek (RD26).	4A	Escherichia coli (E. coli)	2008	L	0.39
VAW-L54R_SRE05A00 / Smith River / The mainstem Smith River located between the Martinsville City STP outfall downstream to the Henry County PSA Lower Smith STP outfall (RD26).	4A	Escherichia coli (E. coli)	2008	L	3.28
VAW-L54R_SRE06A00 / Smith River / The mainstem Smith River located between the Martinsville Dam downstream to Martinsville City STP outfall (RD26).	4A	Escherichia coli (E. coli)	2008	L	3.66

Smith River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			20.07

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L54R-01-BEN Smith River

Cause Location: The benthic impairment begins near the Martinsville Dam and extends downstream to the mouth of Turkeypen Creek.

Cause City/County: Henry County; Martinsville

Use(s): Aquatic Life

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

Cause Description: The Smith River General Standard - Benthic TMDL received U.S. EPA approval 1/13/11 for a phased approach [Fed IDs 39703/39705/39706/39707]. Phase I seeks to define/identify stressors to the benthic community beyond general identification. The 2012 assessment delisted the benthic impairment 3.59 mi (AU VAW-L54R_SRE06A00 / Fed ID 39705) based on Virginia Stream Condition Index (VSCI) surveys from stations 4ASRE024.30 & 4ASRE022.90 upstream of the Martinsville STP. Benthic data from station 4ASRE024.30 show a decline during the 2016 data window and return 3.65 mi to impaired status. The increase of 0.06 miles from 2012 are due to the 2014 cycle GIS mapping conversion of the National Hydrography Dataset from 1:100K to 1:24K scale.

4ASRE024.30 (Off Frith Rd. downstream of RR trestle) Six 2020-22 VSCI scores average 50.9 (impaired). Biologist notes: Overall, VSCI seasonal differences and the average VSCI score has improved during this assessment cycle. The mean VSCI score for this assessment cycle is 50.9, which is below the VSCI impairment threshold of 60. The spring benthic community experienced a decrease in pollution sensitive taxa (Amphinemura, Pteronarcys and Helopicus) and lower mayfly abundances (Maccaffertium). An increase in tolerant collector taxa such as aquatic worms (Oligochaeta) and midges (Chironomidae). Sewer infrastructure improvements projects were completed during the last assessment cycle. Less sediment deposition was observed during both 2020 visits.

4ASRE022.90 (Downstream of Machine Br mouth) The 2016 data window finds 11 surveys with an average VSCI score of 62.4.

4ASRE022.30 (below the Martinsville STP) Six 2020-22 VSCI scores avg 50.3. Biologist notes: Overall, the average VSCI scores have improved during this assessment cycle. The mean VSCI score for this assessment cycle is 50.3, which is below the VSCI impairment threshold of 60. In the Fall of 2011 and Spring 2012 scores (75.29 and 68.66, respectively) indicated the best water quality (Non-Impaired or >60 VSCI score) at this station since it was established in 1997. Total habitat scores are on the threshold of indicating low probability of stress to aquatic life due to the quality of habitat. The Spring 2020 benthic community was dominated by pollution tolerant Chironomidae taxa. Sensitive mayfly (Ephermeroptera) and stonefly (Plecoptera) taxa such as Teloganopsis and Pteronarcys were present in low abundances. Pollution tolerant filterer and collector taxa from the Chironomidae and Simuliidae families were dominant in the Fall 2020 sample. Total habitat scores are on the threshold of low probability of stress to aquatic life due to the quality of habitat. Less sediment deposition was observed during both 2020 visits.

4ASRE019.00 (abv Marrowbone Ck mouth) The 2024 data window finds impairment from six 2020-22 VSCI scores avg 53.2. Biologist notes: The average VSCI scores have slightly improved during this assessment cycle. The mean VSCI score for this assessment cycle is 53.2, which is below the VSCI impairment threshold of 60. The low spring VSCI scores during this assessment period were attributed to pollution tolerant midge (Chironomidae) taxa dominating the spring samples. The increase in the Fall VSCI score was mainly due to a greater abundance and richness of pollution sensitive EPT and scraper taxa such as Maccaffertium, Stenacron, and Goera. Less sediment deposition was observed during both 2020 and 2022 visits. Significantly lower flows were observed during the spring sample collection in 2021. The lower flows most likely impacted the spring VSCI score.

4ASRE015.43 (Rt. 636 Br) The 2024 data window finds impairment from two VSCI scores 59.9 (spring) and 49.9 (fall).

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_SRE03A00 / Smith River / Smith River mainstem from the Leatherwood Creek mouth downstream to the confluence of Turkeypen Branch (RD30).	4A	Benthic Macroinvertebrates Bioassessments	1998	L	4.68
VAW-L54R_SRE03A02 / Smith River / Smith River mainstem from the Marrowbone Creek mouth downstream to the confluence of Leatherwood Creek (RD26).	4A	Benthic Macroinvertebrates Bioassessments	1998	L	1.75
VAW-L54R_SRE04A00 / Smith River / The mainstem Smith River located between the HCPSA Lower Smith River STP and the confluence of Marrowbone Creek (RD26).	4A	Benthic Macroinvertebrates Bioassessments	1998	L	0.39
VAW-L54R_SRE05A00 / Smith River / The mainstem Smith River located between the Martinsville City STP outfall downstream to the Henry County PSA Lower Smith STP outfall (RD26).	4A	Benthic Macroinvertebrates Bioassessments	1998	L	3.28
VAW-L54R_SRE06A00 / Smith River / The mainstem Smith River located between the Martinsville Dam downstream to Martinsville City STP outfall (RD26).	4A	Benthic Macroinvertebrates Bioassessments	2004	L	3.66

Smith River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			13.76

Sources: Dam or Impoundment; Municipal (Urbanized High Density Area); Sediment Resuspension (Clean Sediment); Silviculture Harvesting

Roanoke and Yadkin River Basins

Cause Group Code: L54R-02-BAC Mulberry Creek

Cause Location: Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36°40'03"/79°50'00").

Cause City/County: Henry County; Martinsville

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35748] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Mulberry Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMBY001.51 (Sam Lions Trail/Country Club Dr. Crossing) 2016 Integrated report (IR) found the initial bacteria Listing from four of 12 escherichia coli (E.coli) samples in excess of the WQS instantaneous criterion of 235 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MBY01A10 / Mulberry Creek / Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36.6676, -79.8334) (RD26).	4A	Escherichia coli (E. coli)	2016	L	2.6

Mulberry Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.6

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

Roanoke and Yadkin River Basins

Cause Group Code: L54R-02-BEN Machine Branch

Cause Location: Machine Branch from its mouth on the Smith River upstream to its headwaters.

Cause City/County: Henry County; Martinsville

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment listing on Machine Branch is documented during the 2010 303(d) Impaired Waters List.

4AMCH000.53 (Clover Rd - Rt. 976 Bridge) Two 2020 VSCI scores avg 32 and confirm impairment on this segment. This is a TMDL station that was selected to be the Targeted Stress site in 2020. Biologist notes: The watershed is commercial, industrial and has a racetrack upstream. Much of the riparian zone is grass mowed up to the streambanks. The original 2010 303(d) Listing is based on the single 2008 survey scoring 30.7. The surveys find a stressed community with low taxonomic diversity dominated by pollution-tolerant organisms. Habitat surveys indicate a stream section with substrates impacted by excessive fine sediments, severely eroded stream banks, and impacted riparian buffer strips.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MCH01A10 / Machine Branch / Machine Branch from its mouth on the Smith River upstream to its headwaters (RD26).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	0.69

Machine Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			0.69

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

Roanoke and Yadkin River Basins

Cause Group Code: L54R-03-BAC Machine Branch

Cause Location: Machine Branch from its mouth on the Smith River upstream to its headwaters.

Cause City/County: Henry County; Martinsville

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Machine Branch as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

4AMCH000.53 (Clover Rd - Rt. 976 Bridge) This initial 2016 listing of the waters shows four of 13 escherichia coli samples exceed the WQS instantaneous criterion of 235 cfu/100 ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MCH01A10 / Machine Branch / Machine Branch from its mouth on the Smith River upstream to its headwaters (RD26).	4A	Escherichia coli (E. coli)	2016	L	0.69

Machine Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			0.69

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

Roanoke and Yadkin River Basins

Cause Group Code: L54R-03-BEN Mulberry Creek

Cause Location: Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36.6675/-79.833333).

Cause City/County: Henry County; Martinsville

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use is impaired as determined by benthic macroinvertebrate community sampling from the 2010 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR) data window.

4AMBY001.51 (Sam Lions Trail/Country Club Dr. Crossing) The 2016 IR found impairment from four Virginia Stream Condition Index (VSCI) surveys (2013-14). The average score is 45.9. Biologist notes: The samples are dominated by pollution tolerant organisms and show variability in the total number of taxa observed. Habitat surveys indicated the stream is impacted by eroded banks and sediment.

4AMBY001.33 (Near Lake Lanier, off Corn Tassel Tr.; a 2008 probabilistic site) Two 2008 VSCI surveys with an average score of 46.8 find a stressed benthic community dominated by pollution tolerant organisms. Biologist notes: Habitat surveys indicate the stream is impacted by eroded banks, sediment deposition and a riparian zone that has almost no vegetation.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L54R_MBY01A10 / Mulberry Creek / Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36.6676, -79.8334) (RD26).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	2.6

Mulberry Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.6

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

Roanoke and Yadkin River Basins

Cause Group Code: L55R-01-BAC Marrowbone Creek

Cause Location: The bacteria impairment begins at the former Henry County PSA Water Treatment Plant on Marrowbone Creek and extends downstream to Marrowbone Creek's mouth on the Smith River (Northwest Eden Quad).

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Marrowbone Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Station 4AMRR000.02 is a 1999 Federal Consent Decree Attachment B station. The 2002 impairment remains for the Recreational Use.

4AMRR000.02 (Rt. 642 Bridge) Four of 11 E.coli samples exceed during the 2020 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L55R_MRR01A00 / Marrowbone Creek / Marrowbone Creek mainstem from its mouth on the Smith River upstream to the Henry County PSA Water Treatment Plant (RD25).	4A	Escherichia coli (E. coli)	2008	L	4.48

Marrowbone Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.48

Sources: Livestock (Grazing or Feeding Operations); Municipal (Urbanized High Density Area); Unspecified Domestic Waste; Wet Weather Discharges (Non-Point Source); Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L56R-01-BAC Leatherwood Creek and Headwater Tributaries

Cause Location: This bacteria impairment begins in the headwater tributaries and mainstem of Leatherwood Creek, excluding the West Fork of Leatherwood Creek, on downstream to its mouth on the Smith River (Martinsville East and Northwest Eden Quads).

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Leatherwood Creek as it lies within the TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov.

Station 4ALWD002.54 is a 1999 Federal Consent Decree Attachment B station. The waters are 2002 303(d) Listed for fecal coliform bacteria where three of 23 samples exceed the former 1000 cfu/100 ml instantaneous criterion (1996 to 2000 data window). The 2002 original 8.45 mile 303(d) Listing is extended 25.30 miles with the 2006 Integrated Report (IR) based on results from station 4ALWD011.03. Bacteria impaired waters now total 33.75 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ALWD011.03 (Rt. 648 Bridge) Eight of 11 excursions are reported during the 2020 data window.

4ALWD002.54 (Rt. 650 Bridge) The 2016 assessment finds four of 12 E.coli samples exceed the WQS instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L56R_LWD01A00 / Leatherwood Creek / Leatherwood Creek mainstem from its mouth on the Smith River upstream to an unnamed tributary's confluence with Leatherwood approximately 0.1 miles upstream of the Rt. 620 crossing (RD29).	4A	Escherichia coli (E. coli)	2008	L	5.44
VAW-L56R_LWD02A00 / Leatherwood Creek / Leatherwood Creek mainstem from an unnamed tributary's confluence with Leatherwood approximately 0.1 miles upstream of the Rt. 620 crossing on upstream to the Martinsville City water intake (RD29).	4A	Escherichia coli (E. coli)	2008	L	3.02
VAW-L56R_LWD02B14 / Leatherwood Creek / Leatherwood Creek from the Martinsville City intake upstream to West Fork Leatherwood Creek confluence and tributaries to points 5 miles upstream (RD29).	4A	Escherichia coli (E. coli)	2006	L	0.04
VAW-L56R_LWD03A00 / Leatherwood Creek / Leatherwood Creek mainstem and tributaries from the mouth of West Fork Leatherwood Creek to points 5 miles upstream Class III sec. 4c PWS (RD27).	4A	Escherichia coli (E. coli)	2006	L	25.31

Leatherwood Creek and Headwater Tributaries

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			33.81

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

Roanoke and Yadkin River Basins

Cause Group Code: L56R-02-BAC West Fork Leatherwood Creek

Cause Location: West Fork of Leatherwood Creek mainstem and tributaries from its mouth on Leatherwood Creek upstream to the end of WQS PWS section waters.

Cause City/County: Henry County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35752] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the West Fork Leatherwood Creek as it lies within the TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at http://www.deq.virginia.gov. The 2012 assessment initially finds the Recreational Use impaired due to escherichia coli (E.coli) exceedances.

4ALWF004.32 (Rt. 57 Bridge) The 2018 data window finds three of 11 samples exceed the 235 cfu/100 ml instantaneous E.coli criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L56R_LWF01A00 / West Fork Leatherwood Creek & Tributaries / West Fork of Leatherwood Creek mainstem and tributaries from its mouth on Leatherwood Creek to points 5 miles upstream from the Martinsville City intake on Leatherwood Creek (RD28).	4A	Escherichia coli (E. coli)	2012	L	23.46

West Fork Leatherwood Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			23.46

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

Roanoke and Yadkin River Basins

Cause Group Code: L57R-01-BAC Dan River

Cause Location: Dan River mainstem from the downstream most Virginia/North Carolina State Line (exiting Virginia) in Watershed L57R upstream to the Rt. 880 crossing (Virginia/North Carolina State Line entering Virginia).

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 7.38 miles of impaired waters. 4ADAN075.22 (Ambient)(Route 880 Bridge at State Line)

4ADAN075.22 (Ambient)(Route 880 Bridge at State Line) Eight of 35 samples in excess of the statistical threshold value of 410 cfu/100ml in the 2022 data window

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN04A00 / Dan River / Dan River mainstem from the downstream most Virginia/North Carolina State Line (exiting Virginia) in Watershed L57R upstream to the Rt. 880 crossing (Virginia/North Carolina State Line entering Virginia) (RD32)	4A	Escherichia coli (E. coli)	2006	L	7.37

Dan River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.37

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

Roanoke and Yadkin River Basins

Cause Group Code: L57R-04-BAC Cascade Creek

Cause Location: Cascade Creek mainstem from the VA/NC State Line upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 11.79 miles of impaired waters. 4ACAS001.92 (Ambient) (Route 860 - near State Line) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_CAS01A00 / Cascade Creek / Cascade Creek mainstem from the VA/NC State Line upstream to its headwaters (RD31).	4A	Escherichia coli (E. coli)	2006	L	11.82

Cascade Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.82

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

Roanoke and Yadkin River Basins

Cause Group Code: L57R-04-BEN Cascade Creek and East Branch Cascade Creek

Cause Location: Cascade Creek mainstem from the VA/NC State Line upstream to its headwaters including East Branch Cascade Creek (CEB) mainstem from its mouth on Cascade Cr. upstream to its headwaters in RD31.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment on Cascade Creek occurs during the 2020 data window based on several benthic macroinvertebrate samples collected at the stations listed below. The 2022 data window extends the impairment to include the entire 4.9 miles of East Branch Cascade Creek mainstem upstream to its headwaters.

4ACAS006.64 (Cascade Mill Rd Rt. 855) - Six Virginia Stream Condition Index (VSCI) scores average 53 (2017, 2019-20) and find continued Aquatic Life Use impairment. Biologist notes: This stream had relatively good habitat measures with a low probability of stress. It is a sandy stream with good riffles and stable banks. There is evidence of sedimentation occurring that is likely affecting the benthic community. Initial impairment listing is based on VSCI scores collected in Spring (59.6) and Fall 2017 (50.7).

4ACAS004.33 (Unicorn Dr Rt. 855) Benthic macroinvertebrate impairment is confirmed from four VSCI scores averaging 45 (2017, 2019). Biologist notes: This stream has good cobble riffles but they are embedded and likely limiting the habitat available to benthic organisms. There are also some areas with scoured and/or failing banks. Initial impairment listing due to 2017 VSCI scores of 50.6 (spring) and 49 (fall).

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_CAS01A00 / Cascade Creek / Cascade Creek mainstem from the VA/NC State Line upstream to its headwaters (RD31).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	11.82
VAW-L57R_CEB01A20 / East Branch Cascade Creek / East Branch Cascade Creek mainstem from its mouth on Cascade Cr. (CAS) upstream to its headwaters (RD31).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	4.90

Cascade Creek and East Branch Cascade Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			16.72

Sources: Agriculture; Non-Point Source; Silviculture Harvesting; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L57R-05-BEN Pumpkin Creek

Cause Location: Pumpkin Creek from its mouth on Cascade Cr. (CAS) upstream to its headwaters just over the Henry Co. / Pittsylvania Co. line (RD31).

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The initial 2020 303(d) Impaired Waters Listing for Pumpkin Creek finds that the Aquatic Life Use is not met.

4APMN001.01 (2017 Bio)(Cobb Knob Rd) The 2022 data window confirms benthic macroinvertebrate community impairment due to Virginia Stream Condition Index scores averaging 45 (2017, 2019). Biologist notes: This stream is very sandy and has marginal riffles consisting of gravel with some cobble. Cattle have access to the stream and the habitat assessment indicates a high probability of stress to the aquatic life.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_PMN01A20 / Pumpkin Creek / Pumpkin Creek from its mouth on Cascade Cr. (CAS) upstream to its headwaters just over the Henry Co. / Pittsylvania Co. line (RD31).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	3.73

Pumpkin Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.73

Sources: Clean Sediments; Livestock (Grazing or Feeding Operations); Loss of Riparian Habitat

Roanoke and Yadkin River Basins

Cause Group Code: L57R-06-HG Dan River

Cause Location: Dan River mainstem from the impounded backwaters of Schoolfield Dam upstream to the VA/NC State Line.

Cause City/County: Pittsylvania County

Use(s): Fish Consumption

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

Cause Description: This Dan River Mercury 303(d) listing is separated from the adjacent Mercury 303(d) listing by the Schoolfield Dam. This initial 2020 data window listing is based on fish tissue collections during 2017 and 2018. It will ultimately include the impounded waters of Schoolfield Dam, but those waters were previously listed and assigned to a different cause group code.

4ADAN060.16 (Above Schoolfield Dam) 2021 (Hg) collections find four exceedances of the Mercury (Hg) WQS based tissue value (TV) of 0.3 ppm; largemouth Bass (1 fish) @ 0.54 ppm, (1 fish) @ 0.76 ppm, (1 fish) @ 0.76 ppm, and Black Crappie (3 fish) @ 0.38 ppm; 2019 FT finds three exceedances; Largemouth bass (1 fish) at 0.50 ppm, (2 fish) at .34 ppm, (2 fish) at .53 ppm; 2018 finds three exceedances; Largemouth Bass (3 fish) at .32ppm, (3 fish) at .34ppm, and (2 fish) at .61 ppm; 2017 FT finds six exceedances; Largemouth Bass (1 fish)) at 0.61 ppm and (1 fish) at 0.53 ppm ; Largemouth Bass (1 fish) at 0.49 ppm, (1 fish) at 0.39 ppm, and (1 fish) at 0.39 ppm; and Quillback Carpsucker (1 fish) at 0.46 ppm.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN03A00 / Dan River / Dan River mainstem from the impounded backwaters of Schoolfield Dam upstream to the VA/NC State Line (RD33).	5A	Mercury in Fish Tissue	2020	L	4.17

Dan River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			4.17

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L57R-07-FE Dan River

Cause Location: Dan River mainstem from the Schoolfield Dam upstream to the backwaters of the impoundment (RD33).

Cause City/County: Pittsylvania County

Use(s): Public Water Supply

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

Cause Description: The 2024 data window finds Public Water Supply Use impairment on this section of the Dan River due to excursions of the Total Iron criterion. Virginia Administrative Code 9VAC25-260-140 Criteria for surface water establishes the iron criterion in order to maintain acceptable taste, odor, or aesthetic quality of drinking water and applies at the drinking water intake.

4ADAN059.97 (0.13 miles upstream of Schoolfield Dam) Total Iron exceeds the 300 ug/L Human Health Public Water Supply criterion in six out of six observations from 2017-18 (exceedance range: 470-780 ug/L).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN02A00 / Dan River / Dan River mainstem from the Schoolfield Dam upstream to the backwaters of the impoundment (RD33).	5A	Iron	2024	L	2.52

Dan River

Public Water Supply	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Iron - Total Impaired Size by Water Type:			2.52

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L57R-08-BEN Upper Mountain Run and tributaries

Cause Location: Upper Mountain Run mainstem and tributaries from the confluence of an unnamed tributary just upstream of the Huntington Trl (Rt. 621) bridge to its headwaters (RD31).

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment on Upper Mountain Run is documented from data collection, DEQ, and EPA review during the 2024 data window.

4AMHH004.54 - Final Assessment Rating: Impaired. EPA requested a review of the assessment decision at this site in Spring 2024 after DEQ submitted the draft 2024 IR. Based on this review by DEQ, the final assessment rating was changed to Impaired, with the following rationale: "VSCI- Spring 2021: 42, Fall 2021: 54. This is a probabilistic site accessible via private land and can't be revisited. Revisiting 2024 at nearest bridge and will assess the stream during the next cycle."

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_MHH02A24 / Mountain Run, Upper, and Tributaries / Upper Mountain Run mainstem and tributaries from the confluence of an unnamed tributary just upstream of the Huntington Trl (Rt. 621) bridge to its headwaters (RD31).	5A	Benthic Macroinvertebrates Bioassessments	2024	L	7.3

Upper Mountain Run and tributaries

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.3

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L58R-01-BAC Sandy River

Cause Location: Sandy River mainstem from the Hickory Forest Creek mouth downstream to the Sandy River confluence on the Dan River.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 7.23 miles of impaired waters.
4ASRV000.20 (Ambient, TMDL Monitoring)(Route 58 Bridge) 2022: Seven of 35 samples in excess of the statistical threshold value of 410 cfu/100ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SRV01A00 / Sandy River / Sandy River mainstem from the Hickory Forest Creek mouth downstream to the Sandy River confluence on the Dan River (RD36).	4A	Escherichia coli (E. coli)	2010	L	7.23

Sandy River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.23

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

Roanoke and Yadkin River Basins

Cause Group Code: L58R-01-BEN Sandy River

Cause Location: Sandy River from its confluence with the Bawley Branch to its confluence with Sugartree Creek (RD36).

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: This initial 2024 303(d) listing is based on Virginia Stream Condition Index (VSCI) scores during the 2024 data window. The Aquatic Life Use impairment is 6.88 miles in length.

4ASRV015.06 (Sandy River at Route 851) Four 2019 and 2022 VSCI scores averaging 55.6 define the initial Aquatic Life Use listing on Sandy River. Spring VSCI scores average 55 and fall average is 56. Biologist notes that habitat includes great riffles that are somewhat embedded. This stream has stable banks and the riffles mostly consist of bedrock and/or cobble covered in submerged/attached aquatic vegetation. Some sedimentation is occurring and there was evidence of flooding during 2018 that may have impacted the benthic community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SRV03A06 / Sandy River / From its confluence with the Bawley Branch to its confluence with Sugartree Creek (RD36).	5A	Benthic Macroinvertebrates Bioassessments	2024	L	6.88

Sandy River

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.88

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L58R-02-BAC Tanyard Creek

Cause Location: Tanyard Creek from the confluence of Glady Fork to South Prong Sandy River

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35759, 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 2.86 miles of impaired waters. 4ATRD000.04 (Ambient) (Route 855 in Soap Stone) two of 11 samples in excess of the instantaneous criterion.

Was listed in 2008 as Tardy Creek - correct name is Tanyard Creek

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_TRD01A06 / Tanyard Creek / From the confluence of Glady Fork to South Prong Sandy River (RD34).	4A	Escherichia coli (E. coli)	2006	L	2.86

Tanyard Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.86

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

Roanoke and Yadkin River Basins

Cause Group Code: L58R-04-BAC Sandy River

Cause Location: Sandy River from its headwaters to its confluence with Bawley Branch.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

Two stations are located within the 10.79 miles of impaired waters. 4ASRV022.99 (Ambient)(Sandy River @ Wyatt Farm Road RT. 612) and 4ASRV025.40 (Ambient)(2018)(Sandy River @ Mapleton Rd.)

4ASRV022.99 (Ambient)(Sandy River @ Wyatt Farm Road RT. 612)Three of 12 samples in excess of the instantaneous criterion.

4ASRV025.40 (Ambient)(2018)(Sandy River @ Mapleton Rd.) Six of 12 samples in excess of the instantaneous criterion..

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SRV04A06 / Sandy River / From its headwaters to its confluence with Bawley Branch (RD35).	4A	Escherichia coli (E. coli)	2006	L	10.79

Sandy River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			10.79

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

Roanoke and Yadkin River Basins

Cause Group Code: L58R-05-BAC Sugartree Creek

Cause Location: Sugartree Creek from its headwaters to its mouth on Sandy River

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35759, 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 6.97 miles of impaired waters. 4ASUT000.89 (Ambient)(2018)(Sugartree @ Inman Rd) Three of 10 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SUT01A08 / Sugartree Creek / Sugartree Creek from its headwaters to its mouth on Sandy River	4A	Escherichia coli (E. coli)	2008	L	6.97

Sugartree Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.97

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

Roanoke and Yadkin River Basins

Cause Group Code: L58R-06-BAC Stewart Creek

Cause Location: Stewart Creek from its headwaters to its mouth on Sandy River

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35759, 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 7.34 miles of impaired waters. 4ASWA002.97 (TMDL Monitoring)(Route 882) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SWA01A08 / Stewart Creek / Stewart Creek from its headwaters to its mouth on Sandy River (RD36).	4A	Escherichia coli (E. coli)	2008	L	7.34

Stewart Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.34

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

Roanoke and Yadkin River Basins

Cause Group Code: L58R-07-BAC South Prong Sandy River

Cause Location: South Prong Sandy River from its headwaters to the confluence with Sandy River

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2018: 35759, EPA Approved 12/8/2008

The Dan River Bacteria TMDL Study (Sandy River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35759] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35759, 12/8/2008

One station is located within the 13.22 miles of impaired waters. 4ASSP002.44 (Rt. 841, Whispering Pines Rd.) - The 2022 data window finds three of 12 Escherichia coli (E.coli) samples in excess of the 410 cfu/100 ml statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L58R_SSP01A06 / South Prong Sandy River / From its headwaters to the confluence with Sandy River (RD34).	4A	Escherichia coli (E. coli)	2018	L	13.23

South Prong Sandy River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			13.23

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

Roanoke and Yadkin River Basins

Cause Group Code: L59R-01-BAC Sandy Creek

Cause Location: Sandy Creek mainstem from near its headwaters downstream to the confluence of Little Sandy Creek.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Sandy Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID.35758] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35758, 12/8/2008

One station is located within the 9.49 miles of impaired waters. 4ASCR007.06 (Ambient, TMDL Monitoring)(Route 746 Bridge) 2022: Three of 12 samples in excess of the statistical threshold value of 410 cfu/100ml.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L59R_SCR02A02 / Sandy Creek / Sandy Creek mainstem from near its headwaters downstream to the confluence of Little Sandy Creek (RD37).	4A	Escherichia coli (E. coli)	2008	L	9.49

Sandy Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.49

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

Roanoke and Yadkin River Basins

Cause Group Code: L59R-02-BEN Sandy Creek

Cause Location: Sandy Creek mainstem from the Little Sandy Creek mouth downstream to the confluence of Sandy Creek on the Dan River.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The 2022 data window finds the initial 5.52 mile listing of Sandy Creek for Aquatic Life Use based on benthic macroinvertebrate community surveys.

4ASCR003.33 (upstream of Rt 724, Pittsylvania Co.; Probabilistic Monitoring) The 2022 data window finds two Virginia Stream Condition Index (VSCI) Scores not meeting the impairment threshold of 60. The data were collected during 2020: VSCI 53.3 (Spring) and VSCI 42.8 (Fall). Biologist notes: this stream is very sandy and has marginal riffles. Sediment deposition and bank erosion are stressors to the benthic community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L59R_SCR01A02 / Sandy Creek / Sandy Creek mainstem from the Little Sandy Creek mouth downstream to the confluence of Sandy Creek on the Dan River.	5A	Benthic Macroinvertebrates Bioassessments	2022	L	5.52

Sandy Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.52

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L60R-01-BAC Dan River

Cause Location: Dan River from the VA/NC State Line to its confluence with Peter Creek.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

Three stations are located within the 36.91 miles of impaired waters. 4ADAN042.80 (Ambient)(2018)(Route 62 at VA/NC State Line) 2020: Two of 12 samples in excess of the instantaneous criterion.

4ADAN028.90 (Ambient) (Route 658 at Paces) 2022:Four of 29 samples in excess of the statistical threshold value of 410 cfu/100ml.

4ADAN015.30 (Ambient)(Route 501 below South Boston) 6 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_DAN01A00 / Dan River / Dan River mainstem from VA/NC State Line downstream to watershed L60R/L62R boundary downstream of the mouth of Mineral Springs Branch (RD41).	4A	Escherichia coli (E. coli)	2004	L	1.84
VAW-L62R_DAN02A98 / Dan River / Mineral Springs Branch to Route 658 bridge (RD46).	4A	Escherichia coli (E. coli)	1998	L	11.86
VAW-L62R_DAN03A98 / Dan River / Route 658 bridge to Birch Creek (RD46).	4A	Escherichia coli (E. coli)	1998	L	2.81
VAW-L64R_DAN04A98 / Dan River / Birch Creek to South Boston raw water intake location (RD49).	4A	Escherichia coli (E. coli)	1998	L	10.57
VAW-L64R_DAN05A98 / Dan River / South Boston raw water intake location to Banister River.	4A	Escherichia coli (E. coli)	1998	L	6.58
VAW-L73R_DAN06A98 / Dan River / Dan River from the Banister River (watershed boundary) to the Peter Creek confluence (Kerr Reservoir)	4A	Escherichia coli (E. coli)	1998	L	3.30

Dan River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			36.96

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

Roanoke and Yadkin River Basins

Cause Group Code: L60R-01-HG Dan River, Banister River and Hyco River

Cause Location: Dan River within the state of Virginia from Schoolfield Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 bridge and Banister River up to the Banister Dam.

Cause City/County: Danville; Halifax County; Mecklenburg County; Pittsylvania County

Use(s): Fish Consumption

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

Cause Description: The initial 303(d) listing is based on 2007 fish tissue collections and new Water Quality Standards effective 2/1/2010. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm.

4ADAN054.03 [Rt.265 Bridge] - The initial 303(d) Listing is based on 2007 fish tissue analysis where Hg is found in 4 Sp; Smouth bass @ 0.71 ppm, flathead catfish @ 0.90 ppm and 0.78 ppm and 0.38 ppm, channel catfish @ 0.31 ppm, and quillback carpsucker @ 0.39 ppm; [2021] 3 exceedances; Striped Bass @ .81ppm, Blue Catfish @ 0.34 ppm, Flathead Catfish @ 0.4ppm; [2020] Walleye @ 0.4 ppm; [2019] Striped Bass @ 0.57 ppm, Flathead catfish @ 0.56 ppm; [2018] Walleye @ 037 ppm; [2017] Striped Bass @ 0.56 ppm and Smallmouth Bass @ 0.4 ppm.

4ABAN000.50 (2007 FT/Sed)[upstream of the pipeline]- Listing based on 2007 FT finds Hg exceeds the new WQS TV based 0.3 ppm in 2 sp; longnose gar at 1.03ppm, 0.83ppm, and 1.09 ppm and blue catfish at 0.72 ppm, 0.83 ppm, 0.39 ppm, 0.37 ppm, 0.36 ppm, and 0.32.

4ABAN008.30 (2007 FT/Sed)[near Rt.614 bridge]- Listing based on 2007 FT where Hg exceeds the new WQS TV based 0.3 ppm in 1 species; blue catfish at 0.52 ppm and 0.51 ppm.

4ADAN015.30 (near Route 501 below South Boston) [2021] two exceedances of the Hg WQS based TV of 0.30 ppm; Carp @ 0.32 ppm and Blue Catfish @ 0.32 ppm; [2020] one exceedance; Walleye @ 0.63 ppm; [2018] two exceedances; Blue Catfish @ .37ppm, and Flathead Catfish @ 0.52 ppm; [2017] five exceedances; Freshwater Drum @ 0.36 ppm, @ 0.47 ppm, and @ 0.37 ppm; Flathead Catfish @ 0.46 ppm; Blue Catfish @ 0.70 ppm.

4ADAN001.18 [Dan River/Kerr Reservoir near State Park] ° Listing based on 2007 FT where Hg is in excess of the new WQS TV based 0.3 ppm in 3 sp; white crappie at 0.42 ppm and 0.39 ppm, Lmouth bass at 0.36 ppm and 0.43 ppm, and flathead catfish at 0.37 ppm; [2021] three exceeds. Blue catfish @ 0.53 ppm, 0.76 ppm, 0.65 ppm. [2020] 2 species [2019] 2 species [2018] 2 species [2017] 3 species.

4AHYC002.70 (2007 FT/Sed)[Hyco River near Rt.58] - Listing based on 2007 FT finding Hg exceeding the new WQS TV based 0.3 ppm in 3 sp; Lmouth bass @ 1.28 ppm, 0.73 ppm, and 0.48 ppm, bowfin @ 0.47 ppm, and blue catfish @ 0.45 ppm and 0.44 ppm; [2021] Four Exceedances; Chain Picker @ 0.35 ppm and 0.42 ppm, Largemouth Bass @ 0.61 ppm and Walleye @ 0.61 ppm. [2019] Two exceedances; Largemouth Bass @ 0.43ppm and @ 0.68ppm. [2018] No exceedances.
VDH Fish Advisory - PCBs: Issued 10/27/99, revised 12/31/04 & Mercury: Issued 8/31/07 Dan River within the state of Virginia from the Brantley Steam Plant Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 br. and Banister River up to the Banister Dam. These river segments comprise ~67 miles

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN01A00 / Dan River / Dan River mainstem from the mouth of Sandy River upstream to the Schoolfield Dam (RD33).	5A	Mercury in Fish Tissue	2010	L	1.17

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_DAN01A00 / Dan River / Dan River mainstem from VA/NC State Line downstream to watershed L60R/L62R boundary downstream of the mouth of Mineral Springs Branch (RD41).	5A	Mercury in Fish Tissue	2008	L	1.84
VAW-L60R_DAN02A00 / Dan River / Dan River mainstem from Danville Northside POTW downstream to VA/NC State Line (exiting Virginia) (RD39).	5A	Mercury in Fish Tissue	2008	L	2.03
VAW-L60R_DAN03A02 / Dan River / Dan River mainstem from the Brantley Steam Plant Dam downstream to the Danville Northside POTW (RD39).	5A	Mercury in Fish Tissue	2008	L	0.38
VAW-L60R_DAN04A06 / Dan River / From its confluence with Sandy River to Brantley Steam Plant Dam (RD39).	5A	Mercury in Fish Tissue	2010	L	4.28
VAW-L62R_DAN02A98 / Dan River / Mineral Springs Branch to Route 658 bridge (RD46).	5A	Mercury in Fish Tissue	2008	L	11.86
VAW-L62R_DAN03A98 / Dan River / Route 658 bridge to Birch Creek (RD46).	5A	Mercury in Fish Tissue	2008	L	2.81
VAW-L64R_DAN04A98 / Dan River / Birch Creek to South Boston raw water intake location (RD49).	5A	Mercury in Fish Tissue	2008	L	10.57
VAW-L64R_DAN05A98 / Dan River / South Boston raw water intake location to Banister River.	5A	Mercury in Fish Tissue	2008	L	6.58
VAW-L71R_BAN04A00 / Banister River / Banister Lake to Burlington Industries raw water intake 2000' downstream of Route 360 bridge (RD67).	5A	Mercury in Fish Tissue	2008	L	1.40
VAW-L71R_BAN05A00 / Banister River / 2000' downstream of Rt. 360 bridge (Burlington Industries' raw water intake) to its confluence with Wolf Trap Creek (RD67).	5A	Mercury in Fish Tissue	2008	L	8.25
VAW-L71R_BAN06A08 / Banister River / Confluence of Wolf Trap Creek to its mouth on the Dan River (RD67).	5A	Mercury in Fish Tissue	2008	L	2.34
VAW-L73L_DAN07A04 / Dan River / Peter Creek Confluence to Roanoke River Confluence (Kerr Reservoir)	5A	Mercury in Fish Tissue	2008	L	1655.18
VAW-L73R_DAN06A98 / Dan River / Dan River from the Banister River (watershed boundary) to the Peter Creek confluence (Kerr Reservoir)	5A	Mercury in Fish Tissue	2008	L	3.30
VAW-L74R_HYC01A00 / Hyco River / Route 738 Bridge to Dan River.	5A	Mercury in Fish Tissue	2008	L	6.12

Dan River, Banister River and Hyco River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		1655.18	62.93

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L60R-01-PCB Dan River, Banister River and Hyco River

Cause Location: Dan River within the state of Virginia from the VA/NC State Line in Pittsylvania Co. downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to the VA/NC State Line and Banister River up to the Banister Dam.

Cause City/County: Danville; Halifax County; Mecklenburg County; Pittsylvania County

Use(s): Fish Consumption

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

Cause Description: The 2022 data window extends impairment on the Dan R. all the way up to the VA/NC State Line in Pittsylvania Co. and includes the backwaters of the Schoolfield Dam impoundment. Previously, the 2018 data window extended the impairment upstream on Hyco River by 17.48 miles.

4ADAN060.16 (Above Schoolfield Dam) [2019] 1 exceedance of the DEQ screening value of 18 ppb: Carp @ 59 ppb.

4ADAN054.03 (Rte 265 Br.-downstream of Danville) [2021] 3 exceedances of DEQ°s PCB screening value of 18 ppb; Striped Bass @ 55 ppb, Blue Catfish @ 32 ppb, Flathead Catfish @ 300 ppb; [2020] 3 exceedances; Blue Catfish @ 22 ppb, 43 ppb, and Channel Catfish @ 33 ppb; [2019] 4 exceedances; Striped Bass @ 100 ppb, Channel Catfish @ 29 ppb, Flathead Catfish @ 200 ppb and 30 ppb; and [2018] 3 exceedances; Golden Redhorse Sucker @ 98 ppb, Carp @ 20 ppb, and Blue Catfish @ 59 ppb. [2013] five exceedances of the WQS TV of 20 ppb - Flathead catfish @ 235 ppb. Carp @ 58 ppb and 76 ppb; Blue catfish @ 91 ppb; and Golden redhorse sucker@ 42 ppb.

4ADAN028.90 (near Route 658 Br. near Paces) [2013] seven exceedances of the WQS TV of 20 ppb - Flathead catfish @ 283 ppb and 68 ppb; Carp @ 45 ppb and 69 ppb; Blue catfish @ 55 ppb and 27 ppb; and Channel catfish @ 33 ppb.

4ADAN015.30 (near Route 501 below South Boston) [2021]: five exceedances of DEQ°s PCB screening value (SV) of 18 ppb: Carp @ 350 ppb and 88 ppb; Channel Catfish @ 31 ppb; Blue Catfish @ 35 ppb and 72 ppb; [2020] Five exceedances; Carp @ 21 ppb, Blue Catfish @ 55 ppb, 26 ppb, and 49 ppb and Channel Catfish @ 33 ppb. [2019] Six exceedances; Blue Catfish @ 29 ppb and 25 ppb ; Channel Catfish @ 29 ppb; Carp @ 51 ppb; Golden Redhorse Sucker @ 20 ppb; Freshwater Drum @ 22ppb: [2018] four exceedances of the WQS TV of 20 ppb; Flathead Catfish @110 ppb; Smallmouth Bass @ 45 ppb; Blue Catfish @ 41 ppb and @ 58 ppb. [2013] six exceedances of the WQS TV of 20 ppb - Blue catfish @ 118 ppb, 268 ppb and 44 ppb; Carp @ 71 ppb; Flathead catfish @ 724 ppb and 602 ppb.

4ABAN000.50 (upstream of the pipeline) [2013] four exceedances of the WQS TV of 20 ppb; Blue catfish @ 32 ppb; Flathead catfish @ 225 ppb; and Carp @ 32 ppb and 54 ppb.

4ABAN008.30 (near Route 614 br.) [2013] °PCB No exceedances. [2007] five exceedances of the WQS TV of 20 ppb - Flathead catfish @ 222 ppb; Channel catfish @ 99 ppb and 28 ppb; and Blue catfish @ 199 ppb and 48 ppb.

4ADAN009.93 (at mouth of Grassy Cr.) [2013] Seven exceedances of the WQS TV of 20 ppb - Flathead catfish @ 480 ppb and 535 ppb; Carp @ 50 ppb and 87 ppb; Blue catfish @ 84 ppb and 30 ppb; and Golden redhorse sucker @ 39 ppb.

4ADAN001.18 (near Staunton River State Park) [2021] five exceedances of DEQ°s PCB screening value (SV) of 18 ppb: Blue Catfish @ 19 ppb, 21 ppb, 39 ppb, 95 ppb and 100 ppb. [2020] 2 exceedances; [2019] 2 exceedances; [2018] one exceedance; [2007] seven exceedances of the WQS TV of 20 ppb - Flathead catfish @ 357 ppb; Channel catfish @ 21 ppb, 20 ppb, and 51 ppb; and Carp @ 61 ppb, 158 ppb, and 20 ppb.

4AHYC010.76 (Near Rt. 744 Br.) [2013] two exceedances of the DEQ's screening value of 20 ppb -Channel Catfish @ 29 ppb and 28 ppb.

4AHYC002.70 (near Route 58 br.) [2021] No exceedance of the PCB WQS of 18 ppb. [2019] One exceedance; Carp @t 25 ppb: [2018] No exceedance of the PCB WQS of 20 ppb. [2013] three exceedances; Flathead catfish @ 77 ppb; Carp @ 36 ppb and 71 ppb.

VDH Fish Advisory - PCBs: Issued 10/27/99, revised 12/31/04 & Mercury: Issued 8/31/07 Dan River within the state of Virginia from the Brantley Steam Plant Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 br. and Banister River up to the Banister Dam. These river segments comprise ~67 miles.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L57R_DAN01A00 / Dan River / Dan River mainstem from the mouth of Sandy River upstream to the Schoolfield Dam (RD33).	5A	PCBs in Fish Tissue	2010	L	1.17
VAW-L57R_DAN02A00 / Dan River / Dan River mainstem from the Schoolfield Dam upstream to the backwaters of the impoundment (RD33).	5A	PCBs in Fish Tissue	2022	L	2.52
VAW-L57R_DAN03A00 / Dan River / Dan River mainstem from the impounded backwaters of Schoolfield Dam upstream to the VA/NC State Line (RD33).	5A	PCBs in Fish Tissue	2022	L	4.17
VAW-L60R_DAN01A00 / Dan River / Dan River mainstem from VA/NC State Line downstream to watershed L60R/L62R boundary downstream of the mouth of Mineral Springs Branch (RD41).	5A	PCBs in Fish Tissue	2002	L	1.84
VAW-L60R_DAN02A00 / Dan River / Dan River mainstem from Danville Northside POTW downstream to VA/NC State Line (exiting Virginia) (RD39).	5A	PCBs in Fish Tissue	2006	L	2.03
VAW-L60R_DAN03A02 / Dan River / Dan River mainstem from the Brantley Steam Plant Dam downstream to the Danville Northside POTW (RD39).	5A	PCBs in Fish Tissue	2006	L	0.38
VAW-L60R_DAN04A06 / Dan River / From its confluence with Sandy River to Brantley Steam Plant Dam (RD39).	5A	PCBs in Fish Tissue	2010	L	4.28
VAW-L62R_DAN02A98 / Dan River / Mineral Springs Branch to Route 658 bridge (RD46).	5A	PCBs in Fish Tissue	2002	L	11.86
VAW-L62R_DAN03A98 / Dan River / Route 658 bridge to Birch Creek (RD46).	5A	PCBs in Fish Tissue	2004	L	2.81
VAW-L64R_DAN04A98 / Dan River / Birch Creek to South Boston raw water intake location (RD49).	5A	PCBs in Fish Tissue	2002	L	10.57
VAW-L64R_DAN05A98 / Dan River / South Boston raw water intake location to Banister River.	5A	PCBs in Fish Tissue	2002	L	6.58
VAW-L71R_BAN04A00 / Banister River / Banister Lake to Burlington Industries raw water intake 2000' downstream of Route 360 bridge (RD67).	5A	PCBs in Fish Tissue	2004	L	1.40
VAW-L71R_BAN05A00 / Banister River / 2000' downstream of Rt. 360 bridge (Burlington Industries' raw water intake) to its confluence with Wolf Trap Creek (RD67).	5A	PCBs in Fish Tissue	2004	L	8.25
VAW-L71R_BAN06A08 / Banister River / Confluence of Wolf Trap Creek to its mouth on the Dan River (RD67).	5A	PCBs in Fish Tissue	2004	L	2.34

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73L_DAN07A04 / Dan River / Peter Creek Confluence to Roanoke River Confluence (Kerr Reservoir)	5A	PCBs in Fish Tissue	2002	L	1655.18
VAW-L73R_DAN06A98 / Dan River / Dan River from the Banister River (watershed boundary) to the Peter Creek confluence (Kerr Reservoir)	5A	PCBs in Fish Tissue	2002	L	3.30
VAW-L74R_HYC01A00 / Hyco River / Route 738 Bridge to Dan River.	5A	PCBs in Fish Tissue	2006	L	6.12
VAW-L74R_HYC02A06 / Hyco River / From the VA/NC State Line downstream to the Route 738 Bridge.	5A	PCBs in Fish Tissue	2018	L	17.48

Dan River, Banister River and Hyco River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCBs in Fish Tissue - Total Impaired Size by Water Type:		1655.18	87.1

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L60R-02-BAC Pumpkin Creek

Cause Location: Pumpkin Creek from the VA/NC line to the mouth on the Dan River.

Cause City/County: Danville; Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 4.28 miles of impaired waters. 4APKP002.31 (Ambient) (Old Route 86)Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_PKP01A06 / Pumpkin Creek / From the VA/NC line to the mouth on the Dan River (RD39).	4A	Escherichia coli (E. coli)	2006	L	4.28

Pumpkin Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.28

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

Roanoke and Yadkin River Basins

Cause Group Code: L60R-02-BEN Pumpkin Creek

Cause Location: From the VA/NC line to the mouth on the Dan River

Cause City/County: Danville; Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment is established on the 2012 303(d) Impaired Waters list due to benthic macroinvertebrate community samples collection in 2009.

4APKP002.46 (College Park Road) The impairment remains through the 2018 data window due to two 2015 Virginia Stream Condition Index scores (VSCI): Spring 26.5 and Fall 57.7. Biologist notes: Pumpkin Creek is in an urban watershed with abundant impervious surfaces. Flow regime and sedimentation seem to be affecting the benthic community negatively.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_PKP01A06 / Pumpkin Creek / From the VA/NC line to the mouth on the Dan River (RD39).	5A	Benthic Macroinvertebrates Bioassessments	2012	L	4.28

Pumpkin Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.28

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L60R-03-BAC Cane Creek

Cause Location: Cane Creek mainstem from its headwaters downstream to the VA/NC State Line.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 12.25 miles of impaired waters. 4ACAN000.80 (Ambient)(2018) (Cane Cr. @ Cedar Rd (NC Route 1530))Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_CAN01A02 / Cane Creek / Cane Creek mainstem from its headwaters downstream to the VA/NC State Line (RD41).	4A	Escherichia coli (E. coli)	2008	L	12.25

Cane Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			12.25

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

Roanoke and Yadkin River Basins

Cause Group Code: L60R-03-BEN Cane Creek

Cause Location: Cane Creek mainstem from its headwaters downstream to the VA/NC State Line.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The initial Cane Creek Aquatic Life Use impairment occurs with the 2012 303(d) listing based on benthic macroinvertebrate collections from 2009.

4ACAN000.80 (Cedar Road (NC Route 1530)) The impairment continues with the 2018 data window which finds two 2016 Virginia Stream Condition Index (VSCI) scores of 43.7 (spring) and 74 (fall). Biologist notes: Bank scour and sedimentation are negatively affecting the site.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_CAN01A02 / Cane Creek / Cane Creek mainstem from its headwaters downstream to the VA/NC State Line (RD41).	5A	Benthic Macroinvertebrates Bioassessments	2012	L	12.25

Cane Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			12.25

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L60R-04-BEN Rutledge Creek

Cause Location: Rutledge Creek from its headwaters to its mouth on Pumpkin Creek.

Cause City/County: Danville

Use(s): Aquatic Life

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

Cause Description: The initial Rutledge Creek Aquatic Life Use impairment occurs with the 2012 303(d) listing based on benthic macroinvertebrate collections from 2009.

4ARUT000.45 (Edmunds St, Danville) Initial impairment is defined from Virginia Stream Condition Index (VSCI) scores and benthic macroinvertebrate community collections from 2009. Biologist notes: 4ARUT000.45 is located in an older suburban watershed with abundant impervious surfaces. A historic pollution event at an up gradient industrial facility may be affecting the benthic community as well.

4ARUT002.04 (Elizabeth St, Danville) Data from this station was considered inconclusive, or Reserve Judgement, in 2009 and 2011. Biologist notes that the station is located in an older suburban watershed with abundant impervious surfaces. An historic pollution event at an up gradient industrial facility may be affecting the benthic community as well. Significant seasonal variability and a single score near the impairment cutoff of 60 warrants further sampling at 4ARUT002.04.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_RUT01A12 / Rutledge Creek / Rutledge Creek from its headwaters to the mouth on Pumpkin Creek	5A	Benthic Macroinvertebrates Bioassessments	2012	L	4.37

Rutledge Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.37

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L60R-05-BAC Dan River

Cause Location: Dan River from its confluence with Sandy River downstream to VA/NC State Line (exiting Virginia).

Cause City/County: Danville; Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for the original 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008. The 2018 303(d) listed waters are nested in the Dan River Bacteria TMDL. The 2022 cycle extends the bacteria impairment an addition 2.02 miles to the VA/NC state line.

4ADAN053.40 (Bridge located near Danville STP) The 2018 data window finds four of 11 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L60R_DAN02A00 / Dan River / Dan River mainstem from Danville Northside POTW downstream to VA/NC State Line (exiting Virginia) (RD39).	4A	Escherichia coli (E. coli)	2022	L	2.03
VAW-L60R_DAN03A02 / Dan River / Dan River mainstem from the Brantley Steam Plant Dam downstream to the Danville Northside POTW (RD39).	4A	Escherichia coli (E. coli)	2018	L	0.38
VAW-L60R_DAN04A06 / Dan River / From its confluence with Sandy River to Brantley Steam Plant Dam (RD39).	4A	Escherichia coli (E. coli)	2018	L	4.28

Dan River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.69

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

Roanoke and Yadkin River Basins

Cause Group Code: L61R-01-BAC Fall Creek

Cause Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Fall Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID.35751] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35751, 12/8/2008

Three stations are located within the 11.97 miles of impaired waters. 4AFAL001.58 (Ambient, TMDL Monitoring)(Route 730) Three of 24 samples in excess of the instantaneous criterion.

4AFAL005.42 (TMDL)(Fall Cr @ Twin Arch Dr (Rt 695)) Five of 12 samples in excess of the instantaneous criterion.

4AFAL006.58 (Probambient)(2018)(in stream) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_FAL01A00 / Fall Creek / Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters (RD38).	4A	Escherichia coli (E. coli)	2008	L	11.97

Fall Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.97

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

Roanoke and Yadkin River Basins

Cause Group Code: L61R-01-BEN Fall Creek

Cause Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: Initial Aquatic Life Use impairment on Fall Creek is defined during the 2014 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report period based on benthic macroinvertebrate community collections as detailed below.

4AFAL000.92 (Near E. Thomas St./Rt. 655) Biologist notes that Virginia Stream Condition Index (VSCI) scores from 2011 and 2012 indicate an unbalanced community with tolerant taxa dominating the samples. Sediment and nutrient enrichment are probable stressors to this reach. The benthic macroinvertebrate community at this station exhibits significant seasonal variation. Additional data must be collected to accurately characterize the status of the stream community.

4AFAL006.61 (Upstream of Business Rt. 29) The 2018 data window confirms the Aquatic Life Use impairment due to four VSCI surveys (2014, 2016) with an average score of 48.3. Biologist notes: Bank scour and slight sedimentation were observed. This was a 2014 Probabilistic Monitoring station accessible from Rt 29 in Danville.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_FAL01A00 / Fall Creek / Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters (RD38).	5A	Benthic Macroinvertebrates Bioassessments	2014	L	11.97

Fall Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			11.97

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L61R-01-HG Fall Creek

Cause Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Fish Consumption

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

Cause Description: Station ID:

4AFAL000.92 (2007 FT Sampling)(Fall Creek near E. Thomas St. (Rt. 655))

Hg 2 Species

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_FAL01A00 / Fall Creek / Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters (RD38).	5A	Mercury in Fish Tissue	2010	L	11.97

Fall Creek

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			11.97

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L61R-02-BAC Lawless Creek

Cause Location: Lawless Creek from its headwaters to its mouth at Fall Creek.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35751

The Dan River Bacteria TMDL Study (Fall Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID.35751] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35751, 12/8/2008

One station is located within the 4.72 miles of impaired waters. 4ALAW002.43 (Ambient)(2018)(Lawless Creek @ Lawless Creek Rd) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_LAW01A04 / Lawless Creek / Lawless Creek from its headwaters to its mouth at Fall Creek (RD38).	4A	Escherichia coli (E. coli)	2014	L	4.72

Lawless Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.72

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

Roanoke and Yadkin River Basins

Cause Group Code: L61R-02-BEN Lawless Creek

Cause Location: Lawless Creek from its headwaters to its mouth at Fall Creek.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: This initial 2018 Aquatic Life Use impairment listing is based on Virginia Stream Condition Index (VSCI) surveys collected at two stations on Lawless Creek.

4ALAW002.43 (Above Lawless Creek Rd.) The 2018 data window finds impairment from four (2013, 2015) VSCI surveys with an average score of 46.2, which is below the impairment threshold. Biologist notes: Lawless Creek exhibits significant seasonal variation and has excessive sediment deposition.

4ALAW002.33 (40 meters downstream of Lawless Creek Rd. bridge) The 2018 data window finds impairment from five VSCI surveys (2013-2015) with an average VSCI score of 50.8.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L61R_LAW01A04 / Lawless Creek / Lawless Creek from its headwaters to its mouth at Fall Creek (RD38).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	4.72

Lawless Creek

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

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L62R-03-BAC Double Creek

Cause Location: Double Creek from its headwaters to its mouth on the Dan River.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Double Creek) received U.S. EPA approval on 12/8/2008 [Fed. ID.35942] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35942, 12/8/2008

One station is located within the 8.89 miles of impaired waters. 4ADBC002.19 (Ambient, TMDL) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_DBC01A98 / Double Creek / Headwaters to Dan River (RD44).	4A	Escherichia coli (E. coli)	2008	L	8.89

Double Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.89

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

Roanoke and Yadkin River Basins

Cause Group Code: L62R-04-BAC Byrds Branch

Cause Location: Byrds Branch from its headwaters to the mouth at the Dan River

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The Dan River Bacteria TMDL Study (Byrds Branch) received U.S. EPA approval on 12/8/2008 [Fed. ID.35750] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35750, 12/8/2008

Two stations are located within the 3.76 miles of impaired waters. 4ABYR000.80 (Hog Farm Special Study Station & Follow-up) Two of 6 samples in excess of the instantaneous criterion.

4ABYR002.13 (Hog Farm Special Study Station & Follow-up)(2018) Three of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_BYR01A04 / Byrds Branch / Byrds Branch from its headwaters to the mouth at the Dan River (RD46).	4A	Escherichia coli (E. coli)	2008	L	3.76

Byrds Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3.76

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

Roanoke and Yadkin River Basins

Cause Group Code: L62R-05-BAC Big Toby Creek

Cause Location: Big Toby Creek from its headwaters to its mouth on the Dan River

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 7.57 miles of impaired waters.
4ABTC000.60 (Ambient)(2018) Six of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_BTC01A08 / Big Toby Creek / Big Toby Creek from its headwaters to its mouth on the Dan River	4A	Escherichia coli (E. coli)	2008	L	7.57

Big Toby Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.57

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

Roanoke and Yadkin River Basins

Cause Group Code: L62R-06-BAC Powells Creek

Cause Location: Powells Creek from its headwaters to its mouth on the Dan River

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 4.63 miles of impaired waters. 4APOW000.69 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_POW01A08 / Powells Creek / Powells Creek from its headwaters to its mouth on the Dan River	4A	Escherichia coli (E. coli)	2008	L	4.63

Powells Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.63

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

Roanoke and Yadkin River Basins

Cause Group Code: L62R-06-BEN Powells Creek

Cause Location: Powells Creek from its headwaters to its mouth on the Dan River

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The initial Powells Creek Aquatic Life Use impairment listing occurs with the 2024 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report and is based on benthic macroinvertebrate collections described below.

4APOW000.69 (Rt. 751) Benthic macroinvertebrate community impairment is defined based on two Virginia Stream Condition Index (VSCI) scores averaging 52.9 (2021-2022). Biologist notes: This stream had considerable deposition of sand and fine gravel in the stream channel. It had some raw, eroded bank areas but overall had decent benthic habitat.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_POW01A08 / Powells Creek / Powells Creek from its headwaters to its mouth on the Dan River	5A	Benthic Macroinvertebrates Bioassessments	2024	L	4.63

Powells Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.63

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L62R-07-BEN Wolfe Creek

Cause Location: Wolfe Creek from its headwaters to its mouth on the Dan River.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The initial Wolfe Creek Aquatic Life Use listing occurred with the 2008 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report and is based on benthic macroinvertebrate collections described below.

4AWFE000.60 (Rt. 58) 2012 benthic macroinvertebrate community data collection at this station is considered inconclusive (Reserve Judgement). Biologist notes: This stream had marginal bank stability and increased sedimentation as well as marginal habitat.

4AWFE001.57 (North of Rt. 58, West of County Line) (2006-2007 FPM) Benthic macroinvertebrate impairment is found at this station and is defined by Virginia Stream Condition Index Scores below the impairment threshold. Biologist notes: Habitat seemed suitable in Wolfe Creek; nutrient levels may be shifting the stream community towards more tolerant taxa. Access to the site is limited by private landowners and additional sampling will be difficult.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_WFE01A08 / Wolfe Creek / Wolfe Creek from its headwaters to its mouth on the Dan River	5A	Benthic Macroinvertebrates Bioassessments	2008	L	2.87

Wolfe Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.87

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L62R-08-BAC Sandy Creek

Cause Location: Sandy Creek from its headwaters to the mouth at the Dan River

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 9.41 miles of impaired waters.

4ASLC002.75 (Ambient)(2018)

4ASLC002.75 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_SLC01A04 / Sandy Creek / Sandy Creek from its headwaters to the mouth at the Dan River (RD43).	4A	Escherichia coli (E. coli)	2012	L	9.41

Sandy Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.41

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

Roanoke and Yadkin River Basins

Cause Group Code: L62R-09-BAC Winns Creek

Cause Location: Winns Creek from its headwaters to the Dan River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 7.12 miles of impaired waters.
4AWNS004.02 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_WNS01A04 / Winns Creek / Winns Creek from its headwaters to the mouth at the Dan River (RD45).	4A	Escherichia coli (E. coli)	2016	L	7.12

Winns Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.12

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

Roanoke and Yadkin River Basins

Cause Group Code: L62R-10-BAC Sandy Creek, Unnamed Tributary

Cause Location: Unnamed Tributary of Sandy Creek from its headwaters to the mouth.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 2.3 miles of impaired waters.
4AXVQ000.97 (Prob Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_XVQ01A16 / Sandy Creek, Unnamed Tributary / Unnamed Tributary of Sandy Creek from its headwaters to the mouth (RD43).	4A	Escherichia coli (E. coli)	2016	L	2.29

Sandy Creek, Unnamed Tributary

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.29

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

Roanoke and Yadkin River Basins

Cause Group Code: L62R-10-BEN Sandy Creek, Unnamed Tributary

Cause Location: Unnamed Tributary of Sandy Creek from its headwaters to its mouth.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use impairment on Unnamed Tributary to Sandy Creek is established during the 2016 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report period.

4AXVQ000.77 (0.25 mile downstream of Rte 732) (2013 FPM) This station was initially sampled as part of the 2013 Probabilistic Monitoring network. The benthic macroinvertebrate community impairment is based on Virginia Stream Condition Index (VSCI) scores of 16 (spring) and 32 (fall). Biologist notes: 4AXVQ000.77 is a small stream and access to the site is limited by private landowners. Additional sampling will not be possible at this location.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L62R_XVQ01A16 / Sandy Creek, Unnamed Tributary / Unnamed Tributary of Sandy Creek from its headwaters to the mouth (RD43).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	2.29

Sandy Creek, Unnamed Tributary

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.29

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L63R-01-BAC Birch Creek

Cause Location: Birch Creek from its headwaters to the mouth on the Dan River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The Birch Creek Bacteria TMDL Study received U.S. EPA approval on 5/26/2004 [Fed. ID.23317] and SWCB approval on 8/31/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23317, 5/26/2004

Five stations are located within the 20.14 miles of impaired waters. 4ABIR001.00 (Ambient & Birch Creek TMDL) Six of 11 samples in excess of the instantaneous criterion.

4ABIR004.22 (Birch Creek TMDL) Five of 11 samples in excess of the instantaneous criterion.

4ABIR005.34 (Birch Creek TMDL) Six of 11 samples in excess of the instantaneous criterion.

4ABIR011.55 (Birch Creek TMDL & Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

4ABIR014.28 (Birch Creek TMDL) Two of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_BIR01A98 / Birch Creek / From its headwaters to its mouth on the Dan River (RD47).	4A	Escherichia coli (E. coli)	2004	L	20.16

Birch Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			20.16

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

Roanoke and Yadkin River Basins

Cause Group Code: L63R-01-BEN Birch Creek

Cause Location: Birch Creek from its headwaters to the mouth on the Dan River.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The Birch Creek Aquatic Life Use impairment is established in 2016 based on benthic macroinvertebrate community data collections described below.

4ABIR011.55 (Rt. 729) (2013 Bio) 2013 benthic macroinvertebrate community data collection results in two impaired 2013 Virginia Stream Condition Index Scores of 44.2 (spring) and 49.6 (fall). Biologist notes that Birch Creek supports an unbalanced benthic community. A breached mill dam is present upstream which may negatively affect the flow regime. Moderate algae production and embeddedness indicate nutrient enrichment and sedimentation are also likely stressors.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_BIR01A98 / Birch Creek / From its headwaters to its mouth on the Dan River (RD47).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	20.16

Birch Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			20.16

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L63R-02-BAC Unnamed Tributary to Birch Creek

Cause Location: Unnamed Tributary to Birch Creek from its headwaters to its mouth on Birch Creek

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23317

The Birch Creek Bacteria TMDL Study received U.S. EPA approval on 5/26/2004 [Fed. ID.23317] and SWCB approval on 8/31/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23317, 5/26/2004

One station is located within the 5.35 miles of impaired waters.
4AXDK000.94 (TMDL Monitoring) Four of 11 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_XDK01A06 / Birch Creek, Unnamed Tributary / From its headwaters to the mouth on Birch Creek	4A	Escherichia coli (E. coli)	2006	L	5.35

Unnamed Tributary to Birch Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.35

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

Roanoke and Yadkin River Basins

Cause Group Code: L63R-03-BAC Germy Creek

Cause Location: Germy Creek from its headwaters to its mouth on Birch Creek

Cause City/County: Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 23317

The Birch Creek Bacteria TMDL Study received U.S. EPA approval on 5/26/2004 [Fed. ID.23317] and SWCB approval on 8/31/2004 for these 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 23317, 5/26/2004

One station is located within the 5.37 miles of impaired waters.
4AGER001.17 (Ambient)(2018) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L63R_GER01A08 / Germy Creek / Germy Creek from its headwaters to its mouth on Birch Creek	4A	Escherichia coli (E. coli)	2014	L	5.37

Germy Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.37

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

Roanoke and Yadkin River Basins

Cause Group Code: L64R-01-BAC Lawsons Creek

Cause Location: Lawsons Creek from its headwaters to the mouth on the Dan River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 15.54 miles of impaired waters.
4ALSN007.45 (Ambient, TMDL Monitoring) 2022: Six of 12 samples in excess of the statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_LSN01A98 / Lawsons Creek / Headwaters to Jerimy Creek (RD50).	4A	Escherichia coli (E. coli)	2008	L	8.27
VAW-L64R_LSN02A02 / Lawsons Creek / Lawsons Creek from Jerimy Creek to its confluence with Dan River (RD50).	4A	Escherichia coli (E. coli)	2012	L	7.27

Lawsons Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			15.54

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

Roanoke and Yadkin River Basins

Cause Group Code: L64R-02-BAC Miry Creek

Cause Location: Miry Creek from the confluence with the Dan River upstream to its headwaters.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 35748

The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008. The 2018 cycle extends the E.coli impairment upstream to the headwaters of Miry Creek.

One station is located within the 1.12 miles of impaired waters. 4AMRY003.58 (Route 681, Union Church Road) - The 2018 IR finds ten of 12 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

4AMRY000.82 (Ambient) Six of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_MRY01A04 / Miry Creek / Miry Creek from the Mikes Creek confluence to the Dan River (RD48).	4A	Escherichia coli (E. coli)	2006	L	1.12
VAW-L64R_MRY02A18 / Miry Creek (Middle) / Miry Creek from the confluence with Mikes Cr. upstream to the UT confluence at Deer View Trl crossing (36 41 32.5 N, -78 59 56.4 W) (RD48).	4A	Escherichia coli (E. coli)	2018	L	2.12
VAW-L64R_MRY03A18 / Miry Creek (Upper) / Miry Creek from its confluence with Unnamed Tributary at Deer View Trl crossing (36 41 32.5 N, -78 59 36.4 W) upstream to its headwaters (RD48).	4A	Escherichia coli (E. coli)	2018	L	9.84

Miry Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			13.08

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

Roanoke and Yadkin River Basins

Cause Group Code: L64R-02-BEN Miry Creek

Cause Location: Miry Creek from the confluence with the Dan River upstream to its headwaters.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The 2020 data window is the initial 303(d) Aquatic Life Use listing for Miry Creek.

4AMRY000.82 (River Rd. [Rt. 659]) Benthic macroinvertebrate community impairment is found from the following Virginia Stream Condition Index (VSCI) scores: 46 (spring 2018), 61 (spring 2020), and 47 (fall 2020); VSCI average is 52. Biologist notes: 4AMRY000.82 continues to exhibit significant seasonal variation. Sedimentation is a probable stressor to the benthic community. There are areas of pasture and silviculture observed upstream of this monitoring station.

4AMRY003.58 (Union Church Rd. [Rt. 681]) Benthic macroinvertebrate community impairment is found from the following five VSCI scores: 50 (spring 2018), 76 (spring 2020), 50 (fall 2020), 60 (spring 2022), and 39 (fall 2022); overall average VSCI is 55. Biologist notes: This stream has heavy sedimentation and minimal habitat present.

Additional Information: 4AMRY003.02 (Downstream of Rt. 681) Data collection at this station is inconclusive (Reserve Judgement) due to two 2015 VSCI scores of 48.46 (Spring) and 39.13 (Fall). Biologist notes: This site was sampled as part of the probabilistic monitoring program and will not be revisited. Follow up samples were collected at 4AMRY003.58.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_MRY01A04 / Miry Creek / Miry Creek from the Mikes Creek confluence to the Dan River (RD48).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	1.12
VAW-L64R_MRY02A18 / Miry Creek (Middle) / Miry Creek from the confluence with Mikes Cr. upstream to the UT confluence at Deer View Trl crossing (36 41 32.5 N, -78 59 56.4 W) (RD48).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	2.12
VAW-L64R_MRY03A18 / Miry Creek (Upper) / Miry Creek from its confluence with Unnamed Tributary at Deer View Trl crossing (36 41 32.5 N, -78 59 36.4 W) upstream to its headwaters (RD48).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	9.84

Miry Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			13.08

Sources: Clean Sediments; Non-Point Source

Roanoke and Yadkin River Basins

Cause Group Code: L64R-03-BAC Grassy Creek

Cause Location: Grassy Creek from its headwaters to the Route 744 crossing

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The 2020 IR is the initial 303(d) listing for the Recreational Use on Grassy Creek. These waters are Nested in the Dan River Watershed Bacteria TMDL: Approved EPA 12/8/08, SWCB 4/28/09 [TMDL ID: 36223].

4AGSY004.60 - The 2022 data window finds five of 12 E.coli samples in exceedance of the 410 cfu/100 ml statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_GSY01A08 / Grassy Creek / Grassy Creek from its headwaters to the Route 744 crossing (RD51).	4A	Escherichia coli (E. coli)	2020	L	0.83

Grassy Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			0.83

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

Roanoke and Yadkin River Basins

Cause Group Code: L64R-03-BEN Grassy Creek

Cause Location: Grassy Creek from its headwaters to the Route 744 crossing

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The 2008 303(d) Impaired Waters Listing on Grassy Creek is based on benthic macroinvertebrate community collections as described below.

4AGSY004.98 (East of Rt. 744 and West of Rt. 745) This is the initial Aquatic Life Use listing station on Grassy Creek and was a 2006 Probabilistic Monitoring station. Biologist notes: Grassy Creek is a headwater stream which flows through an active cattle pasture. The stream community may be negatively impacted from sedimentation and excess nutrients. Additional monitoring needed to accurately delineate impairment.

4AGSY004.60 (Rt. 744) The benthic macroinvertebrate community impairment is confirmed by ten 2024 data window Virginia Stream Condition Index (VSCI) scores averaging 42 (2017-18, 2020-22). Biologist notes: This site is characterized by embedded riffles that are deteriorating with time. Some of the streambanks have eroded and collapsed. Previous impairment status based on two 2014 Virginia Stream Condition Index (VSCI) surveys of 23.5 (spring) and 46.1 (fall). Biologist notes: Significant seasonal variability and very low flows are characteristic of this waterbody. 4AGSY004.60 was sampled in response to an inconclusive (Reserve Judgement) assessment from upstream Probabilistic Monitoring station 4AGSY004.98.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_GSY01A08 / Grassy Creek / Grassy Creek from its headwaters to the Route 744 crossing (RD51).	5A	Benthic Macroinvertebrates Bioassessments	2008	H	0.83

Grassy Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			0.83

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L64R-04-BAC Poplar Creek

Cause Location: Poplar Creek from its headwaters to its mouth on the Dan River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The 2020 IR finds the initial Recreational Use 303(d) impairment listing for Poplar Creek. These waters are Nested in the Dan River Watershed Bacteria TMDLs which were EPA approved on 12/8/2008 and SWCB approved on 4/28/2009 [Fed ID: 36223].

4APDA000.35 - The 2022 data window finds six of 12 E.coli samples in exceedance of the 410 cfu/100 ml statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_PDA01A10 / Poplar Creek / Poplar Creek from its headwaters to its mouth on the Dan River (RD51).	4A	Escherichia coli (E. coli)	2020	L	4.05

Poplar Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.05

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

Roanoke and Yadkin River Basins

Cause Group Code: L64R-04-BEN Poplar Creek

Cause Location: Poplar Creek from its headwaters to its mouth on the Dan River.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The 2010 Aquatic Life Use impairment listing on Poplar Creek is based on benthic macroinvertebrate community collections described below.

4APDA000.35 (2008/2012 Bio) Benthic macroinvertebrate community impairment is based on four Virginia Stream Condition Index (VSCI) surveys with an average score of 41.2 (2008). Biologist notes: Flow regime related sedimentation seems to be negatively affecting the stream community. 4APDA000.35 is located in a highly urban/industrial watershed. Impairment is confirmed with the 2024 data window which finds four VSCI surveys with an average score of 23.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_PDA01A10 / Poplar Creek / Poplar Creek from its headwaters to its mouth on the Dan River (RD51).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	4.05

Poplar Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.05

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L64R-05-BAC Reedy Creek

Cause Location: Reedy Creek from its headwaters to the confluence of Woods Creek.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The 2020 data window finds the Recreational Use impaired on Reedy Creek based on E.coli samples collected in 2018. These waters are Nested in the Dan River Watershed Bacteria TMDL [Fed ID: 36223], EPA approved 12/8/2008 and SWCB approved 4/28/2009.

4ARAC000.92 (Ash St, South Boston)- The 2022 data window finds three of 12 E.coli samples in exceedance of the 410 cfu/100ml statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_RAC01A04 / Reedy Creek / Reedy Creek from its headwaters to the confluence of Woods Creek (RD51).	4A	Escherichia coli (E. coli)	2020	L	2.92

Reedy Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.92

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

Roanoke and Yadkin River Basins

Cause Group Code: L64R-05-BEN Reedy Creek

Cause Location: Reedy Creek from its headwaters to the confluence of Woods Creek.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The initial 2010 Aquatic Life Use 303(d) Impaired Waters listing for Reedy Creek is based on benthic macroinvertebrate community data collected in 2008.

4ARAC000.92 (Ash St., South Boston) The 2018 data window continues to find benthic macroinvertebrate community impairment from four Virginia Stream Condition Index (VSCI) surveys averaging 31.1 (2012, 2016). During the 2020 data window, two spring and two fall samples collected (2017-18) find VSCI scores well below the impairment threshold at 19 (spring average) and 19 (fall average). Biologist notes that 4ARAC000.92 is located in an older suburban watershed with abundant impervious surfaces which negatively affect flows and sedimentation. Specific Conductance (15/16) and Chlorides (Dissolved, 13/13) consistently found to be in the High Probability of Stress to Aquatic Life ranges (2017-18) and Sulfates have 4/13 elevated observations in the High Probability of Stress to Aquatic Life (2017-18).

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_RAC01A04 / Reedy Creek / Reedy Creek from its headwaters to the confluence of Woods Creek (RD51).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	2.92

Reedy Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.92

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L64R-06-BAC Stokes Creek

Cause Location: Stokes Creek from its mouth on Lawsons Creek upstream to the confluence of Bowles Spring Branch (RD50).

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: Stokes Creek was nested during the 2014 data window in the Dan River Bacteria TMDL Study (Dan River) which received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009. Original bacteria listing included on the 2004 303(d) Impaired Waters List for fecal coliform and 2006 303(d) List for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ASKS002.80 - No new data since the 2018 data window where two of 11 samples exceeded the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_SKS01A08 / Stokes Creek / Stokes Creek from its mouth on Lawsons Creek upstream to the confluence of Bowles Spring Branch (RD50).	4A	Escherichia coli (E. coli)	2014	L	4.46

Stokes Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.46

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

Roanoke and Yadkin River Basins

Cause Group Code: L64R-07-BEN Perrin Creek

Cause Location: Perrin Creek main stem and tributaries from its mouth on Dan River to its headwaters (RD51).

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment on Perrin Creek is based on benthic macroinvertebrate community data collected during the 2024 data window.

4APRN000.29 (Hwy 58) Benthic macroinvertebrate community impairment is based on two 2022 Virginia Stream Condition Index (VSCI) scores of 57 (Spring) and 33 (Fall). Biologist notes that stream is very sandy with incised banks and tall sandbars; there is minimal available habitat.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_PRN01A24 / Perrin Creek and Tributaries / Perrin Creek main stem and tributaries from its mouth on Dan River to its headwaters (RD51).	5A	Benthic Macroinvertebrates Bioassessments	2024	L	4.23

Perrin Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.23

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L64R-08-BEN Upper Stokes Creek

Cause Location: Upper Stokes Creek from the confluence of Bowle Spring Branch upstream to its headwaters including unnamed tributaries (RD50).

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: These waters are impaired for the Aquatic Life Use during the 2024 data window due to benthic macroinvertebrate community collections.

4ASKS005.54 (Rt. 705) The 2024 data window finds benthic macroinvertebrate impairment from two 2022 Virginia Stream Condition Index (VSCI) scores of 54 (Spring) and 51 (Fall). Biologist notes that this stream was incised and much of the bank areas had scoured raw areas.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L64R_SKS02A24 / Stokes Creek, Upper / Upper Stokes Creek from the confluence of Bowle Spring Branch upstream to its headwaters including unnamed tributaries (RD50).	5A	Benthic Macroinvertebrates Bioassessments	2024	L	5.59

Upper Stokes Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.59

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L65R-01-BAC Banister River

Cause Location: Banister River from its headwaters to its confluence with Bearskin Creek.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID.33820] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33820, 11/04/2007

Two stations are located within the 11.88 miles of impaired waters.
4ABAN070.20 (Ambient & Banister River TMDL Study)(2018) Six of 12 samples in excess of the instantaneous criterion.

4ABAN074.58 (TMDL Monitoring) Three of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_BAN03A00 / Banister River / Banister River mainstem from the mouth of Bearskin Creek upstream to the mouth of Wet Sleeve Creek (RD52).	4A	Escherichia coli (E. coli)	2010	L	5.09
VAW-L65R_BAN04A00 / Banister River / Banister River mainstem from the mouth of Wet Sleeve Creek upstream to its headwaters (RD52).	4A	Escherichia coli (E. coli)	2008	L	6.79

Banister River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.88

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

Roanoke and Yadkin River Basins

Cause Group Code: L65R-02-BAC Bearskin Creek

Cause Location: Bearskin Creek from its mouth on the Banister River upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 33820

The Banister River Bacteria TMDL Study (Bearskin Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID.34104] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34104, 11/04/2007

One station is located within the 9.57 of impaired waters.
4ABKN002.47 (Banister River TMDL Study) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_BKN01A00 / Bearskin Creek / Bearskin Creek from its mouth on the Banister River upstream to its headwaters (RD53).	4A	Escherichia coli (E. coli)	2006	L	9.57

Bearskin Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.57

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

Roanoke and Yadkin River Basins

Cause Group Code: L65R-02-BEN Bearskin Creek

Cause Location: Bearskin Creek from its mouth on the Banister River upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The 2010 Bearskin Creek Aquatic Life Use impairment listing is based on benthic macroinvertebrate community collections described below.

4ABKN000.52 (Rt 703 / Tight Squeeze Road) Benthic macroinvertebrate impairment is based on two 2019 Virginia Stream Condition Index (VSCI) Scores averaging 40 (spring 45, fall 36). Biologist notes: Limited habitat available and sand deposition occurring. Initial impairment is based on 2008 biological monitoring. Biologist noted: Sediment and flow regime seem to affect the stream community negatively. Showing improvement in 2012 and 2014. Sedimentation still seems to be the main stressor. However, when in-stream snag habitat is present a fairly diverse benthic community is supported.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_BKN01A00 / Bearskin Creek / Bearskin Creek from its mouth on the Banister River upstream to its headwaters (RD53).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	9.57

Bearskin Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			9.57

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L65R-03-BAC White Oak Creek

Cause Location: White Oak Creek from its headwaters to its mouth.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 33820

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID.33820] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33820, 11/04/2007

One station is located within the 6.37 miles of impaired waters. 4AWOA002.43 (Ambient) (2022) Six of 12 samples in excess of the statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_WOA01A10 / White Oak Creek / White Oak Creek from its headwaters to its mouth (RD54).	4A	Escherichia coli (E. coli)	2010	L	6.37

White Oak Creek

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

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

Roanoke and Yadkin River Basins

Cause Group Code: L65R-04-BAC Strawberry Creek

Cause Location: Strawberry Creek from its headwaters to its mouth on the Banister River.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Strawberry Creek Recreational Use is 303(d) listed during the 2020 IR. These waters are Nested in the Banister River Watershed Bacteria TMDL [Fed ID: 33820], EPA approved 11/42007 and SWCB approved 7/31/2008.

4ASRW002.32 (Strawberry Rd, Rt 750) - The 2020 data window finds six of 12 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_SRW02A08 / Strawberry Creek / Strawberry Creek from its headwaters to its mouth on the Banister River (RD52).	4A	Escherichia coli (E. coli)	2020	L	5.96

Strawberry Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.96

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

Roanoke and Yadkin River Basins

Cause Group Code: L65R-04-BEN Strawberry Creek

Cause Location: Strawberry Creek from its headwaters to its mouth on the Banister River.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The 2014 Aquatic Life Use impairment on Strawberry Creek is based on benthic macroinvertebrate community data collections described below.

4ASRW002.32 (Strawberry Road / Rt. 750) (2011 Bio) Initial benthic macroinvertebrate community impairment is based on data collection from 2011. Biologist notes: Habitat scores and taxa lists indicate sedimentation as a stressor causing an unbalanced community. Impairment is confirmed during the 2022 data window from two 2020 VSCI scores with an average of 55 (spring 56.5, fall 54.7). Biologist notes: Sedimentation is a likely stressor to the benthic community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L65R_SRW02A08 / Strawberry Creek / Strawberry Creek from its headwaters to its mouth on the Banister River (RD52).	5A	Benthic Macroinvertebrates Bioassessments	2014	L	5.96

Strawberry Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.96

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L66L-02-DO Roaring Fork Reservoir

Cause Location: Roaring Fork Reservoir

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Station ID: 4ARFK000.20 (Lake Station) 2024: Dissolved Oxygen - 6/37 Exceedance Rate 2022: Dissolved Oxygen - 8/39 Exceedance Rate

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66L_RFK01A06 / Roaring Fork Reservoir / From its headwaters to its impounding structure	5A	Dissolved Oxygen	2008	L	19.58

Roaring Fork Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		19.58	

Sources: Dam or Impoundment

Roanoke and Yadkin River Basins

Cause Group Code: L66R-01-BAC Cherrystone Creek

Cause Location: Cherrystone Creek from the Cherrystone Creek Reservoir Dam to the Chatham STP outfall.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Cherrystone Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID.33823] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33823, 11/04/2007

One station is located within the 5.97 miles of impaired waters.
4ACRR003.56 (Ambient) 2022: Eight of 12 samples in excess of the statistical threshold value.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66R_CRR02A00 / Cherrystone Creek / Cherrystone Creek mainstem from the Chatham STP outfall upstream to Chatham's water intake (RD55).	4A	Escherichia coli (E. coli)	2008	L	3.49
VAW-L66R_CRR03A00 / Cherrystone Creek / Cherrystone Creek from the town of Chatham water intake upstream to the Cherrystone Creek Dam (RD55).	4A	Escherichia coli (E. coli)	2008	L	2.49

Cherrystone Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.98

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

Roanoke and Yadkin River Basins

Cause Group Code: L66R-02-BAC Little Cherrystone Creek

Cause Location: Little Cherrystone Creek from its headwaters to its mouth on Cherrystone Creek

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 33823

The Banister River Bacteria TMDL Study (Cherrystone Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID.33823] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33823, 11/04/2007

One station is located within the 4.84 miles of impaired waters. 4ALCC000.59 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66R_LCC01A08 / Little Cherrystone Creek / Little Cherrystone Creek from its headwaters to its mouth on Cherrystone Creek	4A	Escherichia coli (E. coli)	2008	L	4.84

Little Cherrystone Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.84

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

Roanoke and Yadkin River Basins

Cause Group Code: L66R-03-BAC Pole Bridge Branch

Cause Location: Pole Bridge Branch from its headwaters to its mouth.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 33823

The Banister River Bacteria TMDL Study (Cherrystone Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID.33823] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33823, 11/04/2007

One station is located within the 5.02 miles of impaired waters. 4APDE002.12 (Ambient) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66R_PDE01A10 / Pole Bridge Branch / Pole Bridge Branch from its headwaters to its mouth.	4A	Escherichia coli (E. coli)	2010	L	5.02

Pole Bridge Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.02

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

Roanoke and Yadkin River Basins

Cause Group Code: L66R-04-BEN Cherrystone Creek

Cause Location: Cherrystone Creek mainstem from the backwaters of Cherrystone Creek Reservoir upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The 2022 data window finds this initial 4.1 mile Aquatic Life Use 303(d) listing on Cherrystone Creek due to Virginia Stream Condition Index (VSCI) scores below the assessment threshold of 60.

4ACRR011.77 (Upstream of Rt. 798 / Old Red Eye Road) The 2022 data window finds benthic macroinvertebrate impairment from 7 VSCI scores averaging 59 (2016-17, 2019). Biologist notes: This stream has great riffles but all surfaces are covered in periphyton. Previous samples scored just above the impairment threshold.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L66R_CRR04A00 / Cherrystone Creek / Cherrystone Creek mainstem from the backwaters of Cherrystone Creek Reservoir upstream to its headwaters (RD55).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	4.1

Cherrystone Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.1

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L67R-01-BAC Banister River

Cause Location: Banister River from its confluence with Cherrystone Creek to the backwaters of Banister Lake.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID.34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

Four stations are located within the 39.29 miles of impaired waters.
4ABAN023.28 (Ambient) 2022: Six of 12 samples in excess of the statistical threshold value.

4ABAN029.81 (TMDL Monitoring) Three of 12 samples in excess of the instantaneous criterion.

4ABAN039.76 (Ambient)(2024) Five of 12 samples in excess of the STV in the same 90-day period with < 10 samples.

4ABAN053.77 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BAN01A98 / Banister River / Elkhorn Creek to Sandy Creek (RD62).	4A	Escherichia coli (E. coli)	2004	L	8.61
VAW-L67R_BAN02A04 / Banister River / Banister River from the Pittsylvania/Halifax County line downstream to the Elkhorn Creek confluence (RD60).	4A	Escherichia coli (E. coli)	2012	L	1.83
VAW-L67R_BAN03A04 / Banister River / Banister River from the Stinking River confluence downstream to the Pittsylvania/Halifax County line (RD60).	4A	Escherichia coli (E. coli)	2012	L	7.48
VAW-L67R_BAN04A08 / Banister River / Banister River from its confluence with Cherrystone Creek to its confluence with Stinking River (RD58).	4A	Escherichia coli (E. coli)	2016	L	16.87
VAW-L71R_BAN02A98 / Banister River / Sandy Creek to Banister Lake	4A	Escherichia coli (E. coli)	2004	L	4.49

Banister River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			39.28

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

Roanoke and Yadkin River Basins

Cause Group Code: L67R-02-BAC Allen Creek

Cause Location: Allen Creek from its headwaters to its mouth on the Banister River

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID.34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

One station is located within the 5.45 miles of impaired waters.
4AALL001.13 (Ambient) Eight of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_ALL01A08 / Allen Creek / Allen Creek from its headwaters to its mouth on the Banister River	4A	Escherichia coli (E. coli)	2008	L	6.02

Allen Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.02

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

Roanoke and Yadkin River Basins

Cause Group Code: L67R-03-BEN Elkhorn Creek

Cause Location: Elkhorn Creek from its headwaters to its mouth.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The initial 2010 Elkhorn Creek Aquatic Life Use impairment is based on benthic macroinvertebrate community collections described below.

4AEKH003.68 (Rt. 680 / Church Road) Benthic macroinvertebrate community samples collected in 2008 showed an impaired community and are the basis of the initial impairment listing: 43.1 (spring 2008) and 45.9 (fall 2008). This station was sampled to represent 4AEKH003.18 (2001 Probabilistic Monitoring station). 4AEKH003.18 is located on private property and not accessible for repeat sampling. The proximity of station 4AEKH003.68 to 4AEKH003.18 makes it a suitable surrogate for the assessment of both stations. Additional samples collected at 4AEKH003.68 confirm continued impairment due to four impaired Virginia Stream Condition Index (VSCI) surveys (2012, 2015) with an average score of 45.7. Biologist notes: Abundant filamentous algae were noted at this site, indicating a possible nutrient problem. The riffles were also somewhat embedded, indicating sediment as a possible benthic stressor.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_EKH01A04 / Elkhorn Creek / Elkhorn Creek from the Pittsylvania/Halifax County line downstream to the Banister River (RD61).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	3.01
VAW-L67R_EKH02A10 / Elkhorn Creek / Elkhorn Creek from the Pittsylvania/Halifax County line upstream to its headwaters (RD61).	5A	Benthic Macroinvertebrates Bioassessments	2010	L	9.91

Elkhorn Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			12.92

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L67R-04-BAC Bradley Creek

Cause Location: Bradley Creek from its headwaters to its mouth on the Banister River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID.34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

One station is located within the 6.47 miles of impaired waters. 4ABDB000.75 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BDB01A08 / Bradley Creek / Bradley Creek from its headwaters to its mouth on the Banister River (RD62).	4A	Escherichia coli (E. coli)	2014	L	6.47

Bradley Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.47

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

Roanoke and Yadkin River Basins

Cause Group Code: L67R-04-BEN Bradley Creek

Cause Location: Bradley Creek from its headwaters to its mouth on the Banister River.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The 2016 Aquatic Life Use impairment on Bradley Creek is based on benthic macroinvertebrate community data collection as described below.

4ABDB000.75 (Rt. 628) Benthic macroinvertebrate community impairment is based on two Virginia Stream Condition Index (VSCI) scores averaging 46 (2017). Biologist notes: Additional sampling yielded lower scores. Loose soft sand/sediment dominated stream bottom and banks. Initial impairment listing was based on 2014 VSCI scores of 44.4 (spring) and 56.5 (fall).

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BDB01A08 / Bradley Creek / Bradley Creek from its headwaters to its mouth on the Banister River (RD62).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	6.47

Bradley Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.47

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L67R-05-BAC Bye Creek

Cause Location: Bye Creek from its headwaters to its mouth on the Banister River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID.34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/04/2007

One station is located within the 7.3 miles of impaired waters 4ABYE000.85 (Ambient)(2018) Five of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_BYE01A08 / Bye Creek / Bye Creek from its headwaters to its mouth on the Banister River	4A	Escherichia coli (E. coli)	2014	L	7.3

Bye Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.3

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

Roanoke and Yadkin River Basins

Cause Group Code: L67R-06-BEN Shockoe Creek

Cause Location: Shockoe Cr. mainstem from its headwaters to its mouth on Banister R.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The 2022 assessment cycle finds the initial 5.51 mile 303(d) Aquatic Life Use listing on Shockoe Creek based on benthic macroinvertebrate community data as evaluated by the Virginia Stream Condition Index (VSCI).

4ASCK003.10 (Rt. 895) finds impairment from two 2019 VSCI scores: 58 (Spring) and 36 (Fall). Regional Biologist notes that this stream had low water and was very incised. It had multiple bank failures and the habitat was poor.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L67R_SCK01A22 / Shockoe Creek / Shockoe Cr. mainstem from its headwaters to its mouth on Banister R. (BAN) (RD58).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	5.51

Shockoe Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.51

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L68R-01-BAC Whitehorn Creek

Cause Location: Whitehorn Creek mainstem from its mouth upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Whitehorn Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID.33819] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33819, 11/04/2007

Two stations are located within the 15.89 miles of impaired waters. 4AWRN000.43 (Ambient, TMDL Monitoring)(2018) Five of 11 samples in excess of the instantaneous criterion.

4AWRN000.43 (Ambient, TMDL Monitoring)(2018) Six of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L68R_WRN01A00 / Whitehorn Creek / Whitehorn Creek mainstem from its mouth upstream to the confluence with Georges Creek (RD57).	4A	Escherichia coli (E. coli)	2006	L	0.79
VAW-L68R_WRN02A06 / Whitehorn Creek / From its headwaters to the confluence with Georges Creek (RD56).	4A	Escherichia coli (E. coli)	2006	L	15.11

Whitehorn Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			15.9

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

Roanoke and Yadkin River Basins

Cause Group Code: L68R-01-BEN Whitehorn Creek

Cause Location: Whitehorn Creek mainstem from its confluence with Georges Creek upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The Aquatic Life Use on Whitehorn Creek is initially listed as impaired with the 2016 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report due to benthic macroinvertebrate community data collection.

4AWRN005.50 (Rt. 685 Bridge) The 2016 data window recorded the initial benthic macroinvertebrate community impairment. Impairment is confirmed during the 2018 data window from four Virginia Stream Condition Index (VSCI) surveys (2013, 2016) averaging 51.1. Biologist notes: Whitehorn Creek exhibits significant seasonal variation. Additional data were collected to accurately characterize the stream community. 2013 data are dominated by tolerant Chironomidae taxa and may indicate sediment as a probable stressor.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L68R_WRN02A06 / Whitehorn Creek / From its headwaters to the confluence with Georges Creek (RD56).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	15.11

Whitehorn Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			15.11

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L68R-02-BAC Mill Creek

Cause Location: Mill Creek from its headwaters to its mouth on Whitethorn Creek.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The 2020 IR finds the Mill Creek Recreational Use impaired. These waters are Nested in the Banister River Watershed Bacteria TMDLs [Fed ID: 33820], EPA approved 11/4/2007 and SWCB approved 7/31/2008.

4AMIL002.17 - Five of 12 E.coli samples exceed the 410 cfu/100 ml statistical threshold value during the 2022 data window.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L68R_MIL01A16 / Mill Creek / Mill Creek from its headwaters to its mouth (RD56).	4A	Escherichia coli (E. coli)	2020	L	9.29

Mill Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.29

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

Roanoke and Yadkin River Basins

Cause Group Code: L69R-01-BAC Stinking River

Cause Location: Stinking River mainstem from its mouth on the Banister River upstream to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Stinking Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID.33822] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33822, 11/04/2007

Two stations are located within the 14.15 miles of impaired waters.
4ASNE005.30 (Ambient, TMDL Monitoring)(2018) One of 12 samples in excess of the instantaneous criterion.

4ASNE010.46 (TMDL Monitoring) Two of 12 samples in excess of the instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L69R_SNE01A00 / Stinking River / Stinking River mainstem from its mouth on the Banister River upstream to its headwaters (RD59).	4A	Escherichia coli (E. coli)	2008	L	14.15

Stinking River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			14.15

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

Roanoke and Yadkin River Basins

Cause Group Code: L69R-02-BEN Flybow Creek

Cause Location: Flyblow Creek from the confluence with an unnamed tributary (36.949068, -79.212505) to its headwaters.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The 2022 assessment report finds the initial benthic macroinvertebrate community 303(d) listing affecting the Aquatic Life Use on Flybow Creek. Virginia Stream Condition Index (VSCI) scores are reported below the impairment threshold of VSCI=60.

4AFLY001.78 (Rt. 606) The 2024 and 2022 data windows find an impaired benthic macroinvertebrate community from two VSCI scores (2019): Spring 55.9, Fall 51.3. Biologist notes: Habitat scores indicate a high probability of stress to Aquatic Life. There is silviculture very close to the stream and heavy sediment deposition instream.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L69R_FLY02A18 / Flyblow Creek / Flyblow Creek from the confluence with an unnamed tributary (36 56' 56.645"N, -79 12' 45.017"W) to its headwaters (RD59).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	2.14

Flybow Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.14

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L70R-01-BAC Sandy Creek

Cause Location: Sandy Creek from its confluence with Pine Creek to its mouth on the Banister River.

Cause City/County: Halifax County; Pittsylvania County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Sandy Creek) received U.S. EPA approval on 11/4/2007 [Fed. ID.33821] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33821, 11/04/2007

Two stations are located within the 20.47 miles of impaired waters.
4ASNA000.20 (Ambient)(2022) Nine of 30 samples in excess of the instantaneous criterion.

4ASNA015.30 (Ambient) Four of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_SNA01A00 / Sandy Creek / Near the Pittsylvania/Halifax County line to mouth on Banister River (RD64).	4A	Escherichia coli (E. coli)	2014	L	14.57
VAW-L70R_SNA01B10 / Sandy Creek / Sandy Creek from its confluence with Pine Creek to near the Halifax/Pittsylvania County line.	4A	Escherichia coli (E. coli)	2010	L	5.90

Sandy Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			20.47

Sources: Livestock (Grazing or Feeding Operations); Unspecified Domestic Waste; Upstream Impoundments; Wastes from Pets; Wildlife Other than Waterfowl

Roanoke and Yadkin River Basins

Cause Group Code: L70R-02-BEN Sweden Fork

Cause Location: Sweden Fork from its headwaters to the mouth.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: Sweden Creek is impaired for the Aquatic Life Use during the 2014 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report data window.

4ASDE004.07 (Downstream of Rt. 718 and below confluence with unnamed tributary) The benthic macroinvertebrate community is impaired from two 2014 Virginia Stream Condition Index (VSCI) surveys with an average score of 52.6.

4ASDE002.18 (Upstream of Rt. 707) No additional data since the 2016 data window where there were three impaired VSCI surveys (2012, 2014) averaging 38.9. Biologist notes: This site is on private property and was sampled as part of the Probabilistic Monitoring program, therefore it will not be revisited. The stream had relatively unstable banks and increased sediment deposition. There was a large beaver dam just downstream of the reach in fall 2012 in addition to several smaller beaver dams throughout the sampling reach.

4ASDE002.65 (West of Rt. 707, North of Rt. 662) Benthic macroinvertebrate community sampling from 2010 resulted in a 'Reserve Judgement' assessment by Regional Biologists. It was determined that further sampling is required to accurately assess this waterbody.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_SDE01A12 / Sweden Fork / From its headwaters to the mouth	5A	Benthic Macroinvertebrates Bioassessments	2014	L	8.64

Sweden Fork

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.64

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L70R-03-BEN Bar Branch

Cause Location: Bar Branch from its headwaters to its mouth.

Cause City/County: Pittsylvania County

Use(s): Aquatic Life

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

Cause Description: The 2016 Aquatic Life Use impairment on Bar Branch is based on benthic macroinvertebrate community data collection as described below.

4ABAR000.32 (2012/2014 Bio) No additional data beyond the 2016 data window where impairment is found from four samples (2012, 2014) with a 52.3 average Virginia Stream Condition Index (VSCI). Biologist notes: 4ABAR000.32 exhibits great seasonal variability with the fall sample scoring near the impairment threshold of 60. Habitat scores indicate sediment may be a stressor on the system. Additional sampling is required to accurately assess water quality within this reach.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_BAR01A06 / Bar Branch / From its headwaters to the mouth	5A	Benthic Macroinvertebrates Bioassessments	2016	L	4.04

Bar Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.04

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L70R-04-BAC Lick Branch

Cause Location: Lick Branch mainstem from its mouth on Sandy Cr. to the confluence of two unnamed tributaries (RD63).

Cause City/County: Pittsylvania County

Use(s): Recreation

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

Cause Description: The 2018 initial Recreational Use listing of Lick Branch is Nested in the Banister River Bacteria TMDL Study (Sandy Creek) which received U.S. EPA approval on 11/4/2007 [Fed. ID.33821] and SWCB approval on 7/31/2008. The TMDL addressed 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33821, 11/04/2007

4ALBR000.37 (Route 662 / Randolph Road) The 2018 data window finds an E.coli exceedance rate of 5/12.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L70R_LBR01A18 / Lick Branch / Lick Branch mainstem from its mouth on Sandy Cr. to the confluence of two unnamed tributaries (RD63).	4A	Escherichia coli (E. coli)	2018	L	3

Lick Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			3

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

Roanoke and Yadkin River Basins

Cause Group Code: L71L-01-HG Banister Lake

Cause Location: Banister Lake

Cause City/County: Halifax County

Use(s): Fish Consumption

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

Cause Description: 4ABAN012.46: 2020 FT (Hg) one species, 2 fish

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71L_BAN03L00 / Banister Lake / From its impounding structure to its backwaters on the Banister River	5A	Mercury in Fish Tissue	2022	L	351.84

Banister Lake

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		351.84	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L71R-04-BAC Banister River

Cause Location: Banister River from Banister Lake Dam to its mouth on the Dan River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 7/8/2013 [Fed. ID.52942] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52942, 7/8/2013

Two stations are located within the11.99 miles of impaired waters.
4ABAN005.58 (Ambient)(2018) 12 of 36 samples in excess of the instantaneous criterion.

4ABAN001.86 (Ambient) Four of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_BAN04A00 / Banister River / Banister Lake to Burlington Industries raw water intake 2000' downstream of Route 360 bridge (RD67).	4A	Escherichia coli (E. coli)	2012	L	1.40
VAW-L71R_BAN05A00 / Banister River / 2000' downstream of Rt. 360 bridge (Burlington Industries' raw water intake) to its confluence with Wolf Trap Creek (RD67).	4A	Escherichia coli (E. coli)	2012	L	8.25
VAW-L71R_BAN06A08 / Banister River / Confluence of Wolf Trap Creek to its mouth on the Dan River (RD67).	4A	Escherichia coli (E. coli)	2008	L	2.34

Banister River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			11.99

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

Roanoke and Yadkin River Basins

Cause Group Code: L71R-05-BAC Polecat Creek

Cause Location: Polecat Creek from its headwaters to the mouth at the Banister River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 34089

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 11/4/2007 [Fed. ID.34089] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 34089, 11/4/2007

Two stations are located within the 9.7 miles of impaired waters.
4APEC002.42 (Ambient)(2022) Three of 12 samples in excess of the statistical threshold value.

4APEC006.49 (Ambient) Two of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_PEC01A04 / Polecat Creek / Polecat Creek from its headwaters to the mouth at the Banister River (RD65).	4A	Escherichia coli (E. coli)	2010	L	9.71

Polecat Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.71

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

Roanoke and Yadkin River Basins

Cause Group Code: L71R-05-BEN Polecat Creek

Cause Location: Polecat Creek from its headwaters to the mouth at the Banister River.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The 2016 Aquatic Life Use impairment on Polecat Creek is based on benthic macroinvertebrate community data collection as described below.

4APEC002.42 (Rt. 832) (2009 & 2013 Bio) The 2018 data window finds benthic macroinvertebrate community impairment from four Virginia Stream Condition Index (VSCI) surveys (2013, 2016) with an average score of 49.1. Biologist notes: 4APEC002.42 exhibits seasonal variability. Spring scores are very low. Sedimentation is a likely stressor due to high embeddedness scores.

4APEC006.49 (Rt. 677 Bridge) The 2018 data window confirms benthic macroinvertebrate community impairment from four VSCI surveys (2013, 2016) averaging 43.8. Biologist notes: 4APEC006.49 has fall VSCI scores very close to the impairment cutoff score of 60. Spring scores are very low. Sedimentation is a likely stressor due to high embeddedness scores.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_PEC01A04 / Polecat Creek / Polecat Creek from its headwaters to the mouth at the Banister River (RD65).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	9.71

Polecat Creek

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

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L71R-06-BAC Winn Creek

Cause Location: Winn Creek from its headwaters to the mouth on the Banister River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Winn Creek) received U.S. EPA approval on 7/8/2013 [Fed. ID.52941] and SWCB approval on 74/4/2014 for these 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52941, 7/8/2013

One station is located within the 7.09 miles of impaired waters. 4AWNN000.99 (Ambient) Two of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_WNN01A06 / Winn Creek / From its headwaters to the mouth on the Banister River	4A	Escherichia coli (E. coli)	2008	L	7.09

Winn Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			7.09

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

Roanoke and Yadkin River Basins

Cause Group Code: L71R-07-BAC Gibson Creek

Cause Location: Gibson Creek from its headwaters to its mouth on the Banister River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2014: 52942

The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 7/8/2013[Fed. ID.52942] and SWCB approval on 7/31/2008 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52942, 7/8/2013

One station is located within the 5.26 miles of impaired waters.
4AGIB000.66 (Ambient)(2018) Two of 6 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_GIB01A08 / Gibson Creek / Gibson Creek from its headwaters to its mouth on the Banister River (RD67).	4A	Escherichia coli (E. coli)	2014	L	5.39

Gibson Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.39

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

Roanoke and Yadkin River Basins

Cause Group Code: L71R-08-BAC Kents Creek

Cause Location: Kents Creek from its backwaters on Banister Lake to its headwaters (RD65).

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The Banister River Bacteria TMDL Study (Banister River) received U.S. EPA approval on 7/8/2013 [Fed. ID.52942] and SWCB approval on 4/4/2014 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 52942, 7/8/2013. The Unnamed Tributary to Kents Creek (XVY) is nested within the Banister River TMDL Study.

4AXVY000.00 (Off Ball Park Loop) - The 2018 data window finds E.coli exceeds the 235 cfu/100 ml instantaneous criterion in five of 12 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L71R_KTS01A18 / Kents Creek / Kents Creek from its backwaters on Banister Lake to its headwaters (RD65).	4A	Escherichia coli (E. coli)	2018	L	1.9

Kents Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			1.9

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

Roanoke and Yadkin River Basins

Cause Group Code: L72R-01-BAC Terrible Creek

Cause Location: Terrible Creek from Little Terrible Creek to its mouth on Banister River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: Station ID:

4ATRR001.92 (Ambient/Bio)(2018)

E. coli - 4/12Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L72R_TRR01A00 / Terrible Creek / Little Terrible Creek to Banister River (RD66).	5A	Escherichia coli (E. coli)	2014	L	4.83

Terrible Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.83

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L72R-01-BEN Terrible Creek

Cause Location: Terrible Creek from Little Terrible Creek to its mouth on Banister River.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The initial Aquatic Life Use impairment on Terrible Creek is listed with the 2014 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR).

4ATRR001.92 (Rt. 615 / Dudley Road) -The 2018 data window confirms the Aquatic Life Use impairment based on six Virginia Stream Condition Index (VSCI) surveys (2011-12, 2016) with an average score of 55.1. Biologist notes: 4ATRR001.92 exhibits some seasonal variability near the assessment threshold of 60. The community depends greatly on snag habitat which is limited by scoured banks and sandy bottoms. Sampling was moved downstream of the bridge in fall 2016 due to a massive beaver dam under the bridge. Beaver activity in the area may be affecting the flow regime of the stream and consequently the benthic community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L72R_TRR01A00 / Terrible Creek / Little Terrible Creek to Banister River (RD66).	5A	Benthic Macroinvertebrates Bioassessments	2014	L	4.83

Terrible Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			4.83

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L73R-01-BAC Aarons Creek

Cause Location: Aarons Creek from its headwaters to the first unnamed tributary downstream of White House Road.

Cause City/County: Halifax County; Mecklenburg County

Use(s): Recreation

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

Cause Description: NESTED 2016: 64072 The Hyco River Bacteria TMDL Study (Aarons Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID.64072] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64072, 2/3/2015

One station is located within the9.41 miles of impaired waters.
4AAAR006.20 (Ambient)(2018) Three of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73R_AAR02A10 / Aarons Creek / Aarons Creek from the VA/NC border to the confluence with Big Branch located downstream of White House Road (RD75).	4A	Escherichia coli (E. coli)	2016	L	9.41

Aarons Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.41

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

Roanoke and Yadkin River Basins

Cause Group Code: L73R-02-BAC North Fork Aarons Creek

Cause Location: From its headwaters to the mouth on Aarons Creek

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2016: 64072 The Hyco River Bacteria TMDL Study (Aarons Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID.64072] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64072, 2/3/2015

One station is located within the 9.75 miles of impaired waters.
4ANFA000.35 (Ambient) Two of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73R_NFA01A06 / North Fork Aarons Creek / From its headwaters to the mouth on Aarons Creek	4A	Escherichia coli (E. coli)	2012	L	9.75

North Fork Aarons Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.75

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

Roanoke and Yadkin River Basins

Cause Group Code: L73R-03-BAC Peter Creek

Cause Location: Peter Creek from its headwaters to its confluence with the Dan River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2016: 35748 The Dan River Bacteria TMDL Study (Dan River) received U.S. EPA approval on 12/8/2008 [Fed. ID.35748] and SWCB approval on 4/28/2009 for these 2004 303(d) Listed waters for fecal coliform and 2006 303(d) Listed waters for Bacteria. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 35748, 12/8/2008

One station is located within the 6.6 miles of impaired waters. 4APET004.35 (Ambient)(2018) Four of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L73R_PET01A16 / Peter Creek / From its headwaters to its confluence with the Dan River (RD76).	4A	Escherichia coli (E. coli)	2016	L	6.61

Peter Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.61

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

Roanoke and Yadkin River Basins

Cause Group Code: L74R-01-BAC Hyco River

Cause Location: Hyco River from the VA/NC state line to its mouth on the Dan River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID.64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

One station is located within the 23.57 miles of impaired waters.
4AHYC016.70 (Ambient)(2018) Four of 36 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_HYC01A00 / Hyco River / Route 738 Bridge to Dan River.	4A	Escherichia coli (E. coli)	2008	L	6.12
VAW-L74R_HYC02A06 / Hyco River / From the VA/NC State Line downstream to the Route 738 Bridge.	4A	Escherichia coli (E. coli)	2006	L	17.48

Hyco River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			23.6

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

Roanoke and Yadkin River Basins

Cause Group Code: L74R-03-BAC Coleman Creek

Cause Location: Coleman Creek from its headwaters to its mouth on the Hyco River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID.64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

Two stations are located within the8.49 miles of impaired waters.
4ACLB005.17 (Hog Farm Special Study & Follow-up)(2018) One of 6 samples in excess of the instantaneous criterion.

4ACLB007.78 (Hog Farm Special Study & Follow-up) Three of 6 Insufficient Data.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_CLB01A06 / Coleman Creek / From its headwaters to its mouth on the Hyco River (RD72).	4A	Escherichia coli (E. coli)	2008	L	8.49

Coleman Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.49

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

Roanoke and Yadkin River Basins

Cause Group Code: L74R-03-BEN Coleman Creek

Cause Location: Coleman Creek from its headwaters to its mouth on the Hyco River.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The Coleman Creek Sediment TMDL for a Benthic Impairment received U.S. EPA approval on 2/3/2015 [Fed. ID.63928] and SWCB approval on 12/11/2014 for this 2008 303(d) Listed impairment to the benthic community.

4ACLB001.90 (0.7 miles up/East from Rt. 501) This station was sampled as part of the 2006 and 2017 Probabilistic Monitoring networks. Biologist notes an impaired benthic macroinvertebrate community. Lack of suitable habitat is negatively affecting the stream community.

4ACLB004.14 (Rt. 707) No new data since 2014 data window where Biologist notes benthic macroinvertebrate community impairment. Beaver dam downstream. Very slow-moving water. Habitat rather lacking and livestock have access upstream of bridge.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_CLB01A06 / Coleman Creek / From its headwaters to its mouth on the Hyco River (RD72).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	8.49

Coleman Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.49

Sources: Clean Sediments

Roanoke and Yadkin River Basins

Cause Group Code: L74R-05-BEN Bowes Branch

Cause Location: Bowes Branch from the VA/NC State Line to its confluence with the Hyco River.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: Bowes Branch is impaired for the Aquatic Life Use as recorded in the 2008 303(d) Impaired Waters List.

4ABOS000.13 (East of Rt. 710 near NC border) This station was sampled as part of the 2004 Probabilistic Monitoring Program. Biologist notes benthic macroinvertebrate community impairment. This segment is affected by beaver activity. Suitable habitat was limited for the maintenance of an adequate stream community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_BOS01A06 / Bowes Branch / From the VA/NC State Line to its confluence with the Hyco River	5A	Benthic Macroinvertebrates Bioassessments	2008	L	1.44

Bowes Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			1.44

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L74R-06-BAC Mayo Creek

Cause Location: Mayo Creek from the VA/NC border to its confluence with Hyco River.

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2016: 64076 The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID.64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

One station is located within the 4.93 miles of impaired waters.
4AMYO001.48 (Ambient)(2018) Two of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_MYO01A04 / Mayo Creek / Mayo Creek from the VA/NC border to its confluence with Hyco River (RD71).	4A	Escherichia coli (E. coli)	2016	L	4.93

Mayo Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.93

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

Roanoke and Yadkin River Basins

Cause Group Code: L74R-07-BAC Powells Creek

Cause Location: Powells Creek from its headwaters to the confluence with an unnamed tributary upstream of NC Route 1325. (Virginia Portion of Powells Creek)

Cause City/County: Halifax County

Use(s): Recreation

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

Cause Description: NESTED 2016: 64076 The Hyco River Bacteria TMDL Study (Hyco River) received U.S. EPA approval on 2/3/2015 [Fed. ID.64076] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64076, 2/3/2015

One station is located within the 4.65 miles of impaired waters. 4APWL001.11 (Ambient)(2018) Three of 11 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_PWL01A10 / Powells Creek / Powells Creek from its headwaters to the confluence with an unnamed tributary upstream of NC Route 1325 (RD69).	4A	Escherichia coli (E. coli)	2016	L	4.66

Powells Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.66

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

Roanoke and Yadkin River Basins

Cause Group Code: L74R-08-BEN Little Bluewing Creek

Cause Location: Little Bluewing Creek mainstem from its mouth on Big Bluewing Cr. to its headwaters in Halifax Co.

Cause City/County: Halifax County

Use(s): Aquatic Life

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

Cause Description: The 2018 data window produces this initial Aquatic Life Use listing for Little Bluewing Creek.

4ALWN000.88 (Rt. 740 / Wilson Rd) Benthic macroinvertebrate community impairment is observed based on two 2015 Virginia Stream Condition Index (VSCI) surveys: Spring 41.5, Fall 50.6. Biologist notes: The high numbers of Chironomids (blackfly larvae) and Chuematopsyche (netspinning caddisfly larvae) in spring indicate a nutrient or organic pollution problem.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L74R_LWN01A18 / Little Bluewing Creek / Little Bluewing Creek mainstem from its mouth on Big Bluewing Cr. to its headwaters in Halifax Co. (RD73).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	7.92

Little Bluewing Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			7.92

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L75L-01-PCB Kerr Reservoir

Cause Location: Kerr Reservoir from the John H. Kerr dam to its backwaters, excluding the Dan River portion.

Cause City/County: Charlotte County; Halifax County; Mecklenburg County

Use(s): Fish Consumption

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

Cause Description: VDH Fish Advisory - PCBs: Issued 7/24/98 , revised 8/31/07 & Mercury: Issued 8/31/07 Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Creek up to Rough Creek Road (State Route 695) near Rough Creek. 4AROA129.95 (near Bus Route 29 Bridge near Altavista Gage) 2019:5-sp. exceed DEQ's screening value (18ppb); Smallmouth Bass, Golden Redhorse Sucker, Carp, Blue Catfish, & Channel Catfish. Carp exceeds the VDH "Upper" (500ppb); 2006:6-sp exceeded VDH lower level of concern (50ppb); Smallmouth bass, Rock bass, Redbreast sunfish, Channel catfish, Carp, Redhorse sucker.
4AROA108.09 (near Long Island) 2018:2-sp.exceed the VDH "upper" (500ppb); Flathead Catfish and Carp. Golden Redhorse Sucker exceeds the VDH "lower" (100ppb); 3-sp. exceed (20ppb); Smallmouth Bass, Channel Catfish, & Spotted Bass. 2006: Carp exceeds VDH "upper" (500ppb). 3-sp.exceed VDH "lower" (50ppb); Smallmouth bass, Channel catfish, Carp, Redhorse sucker. 4AROA097.07 (Route 501 at Brookneal) - 2018: 4-sp.exceed the VDH "lower" (100ppb) Walleye, Carp, Channel Catfish, & Blue Catfish. Smallmouth Bass exceeds (20ppb); 2006:Striped Bass exceeds VDH "upper" (500ppb); 5-sp.exceeds VDH "lower" (50ppb); Striped bass, Black crappie, Channel catfish, Carp, & Redhorse sucker. 4AROA067.91 (Route 746 Bridge) - 2018:5-sp. exceed WQS (20ppb); Smallmouth Bass, Walleye, Blue Catfish, Carp, & Channel Catfish. Carp and Channel Catfish exceed the VDH "lower" (100ppb); 2006:Walleye, and Carp exceed VDH "upper"(500ppb); 5-sp. exceed VDH "lower" (50ppb); Blue catfish, Channel catfish, carp, Golden redhorse sucker, & Gizzard shad.
4AROA059.12 (Route 360 Bridge, east of Clover) - 2018:4-sp.exceed the VDH "lower" (100ppb); Freshwater Drum, Carp, Blue Catfish, & Golden Redhorse Sucker. Smallmouth Bass exceeds (20ppb); 2006: Striped Bass & Carp exceed VDH "upper" (500ppb); 7-sp. exceed VDH "lower" (50ppb); Striped bass, White bass, Largemouth bass, walleye, Channel catfish, carp, & Redhorse sucker.

4AROA036.59 (Station B Buoy 18 Kerr Reservoir) - Exceedance of the PCB WQS based tissue value (TV) 18 ppb is found in (2021) one species; (2020) two species; (2019) three species; (2018) one species.

4AROA028.04 (Station B-9 Kerr Reservoir - Buoy 9) - 2006:2-sp. exceed VDH "lower" (50ppb); Largemouth bass & Longnose gar

4AIND001.39 (Sta 14 Island Creek 1 mile above the mouth)- 2021 FT - Three species exceeds the WQS TV of 18 ppb for PCB- Striped Bass (4 fish composite) @ 45 ppb, (4 fish composite) @ 45 ppb, (4 fish composite) @ 51 ppb, Quillback Carpsucker (4 fish composite) @ 74 ppb, Blue Catfish (1 fish) @ 28 ppb, (2 fish composite) @ 45 ppb, and (2 fish composite) @ 42 ppb.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75L_BHB01A22 / Butcher Creek / Butcher Creek and Tribs included in the boundaries of Kerr Reservoir.	5A	PCBs in Fish Tissue	2002	L	2196.07
VAW-L75L_ROA05L98 / Kerr Reservoir / Kerr Reservoir from the John H. Kerr dam to ~ Long Grass Branch confluence.	5A	PCBs in Fish Tissue	2002	L	7018.24

(continued)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75L_ROA05M22 / Kerr Reservoir / Kerr Reservoir from ~Long Grass Branch confluence to about 2 miles upstream of the confluence with Grassy Creek.	5A	PCBs in Fish Tissue	2002	L	14828.41
VAW-L75L_ROA05N22 / Kerr Reservoir / Kerr Reservoir from about 2 miles upstream of the confluence of Grassy Creek tot about 1 mile upstream of the confluence with Bluestone Creek.	5A	PCBs in Fish Tissue	2002	L	4182.41
VAW-L75L_ROA05O22 / Kerr Reservoir / Kerr Reservoir from about 1 mile upstream of the confluence of Bluestone Creek to the backwaters, excluding the Dan River, Bluestone Creek, Buffalo Creek, and Butcher Creek.	5A	PCBs in Fish Tissue	2002	L	2440.31
VAW-L76L_BMA01A06 / Buffalo Creek / Buffalo Creek and Tribs included in the boundaries of Kerr Reservoir	5A	PCBs in Fish Tissue	2002	L	358.96
VAW-L77L_BST01A06 / Bluestone Creek / Bluestone Creek and Tribs included in the boundaries of Kerr Reservoir	5A	PCBs in Fish Tissue	2002	L	860.22

Kerr Reservoir

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCBs in Fish Tissue - Total Impaired Size by Water Type:		31884.62	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L75L-02-DO Kerr Reservoir

Cause Location: Kerr Reservoir from the John H. Kerr dam to about 2 miles upstream of the confluence of Grassy Creek, including Butcher Creek. Kerr Reservoir-Bluestone Creek.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Dissolved oxygen exceeds the WQS in the following stations: 4ABHB004.40 Butcher Creek 58 out of 242 exceedance rate 4ABST001.13 Bluestone Creek 28 out of 147 exceedance rate 4AROA018.36 147 out of 501 exceedance rate 4AROA022.52 106 out of 503 exceedance rate
4AROA028.04 80 out of 372 exceedance rate 4AROA032.42 63 out of 305 exceedance rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75L_BHB01A22 / Butcher Creek / Butcher Creek and Tribs included in the boundaries of Kerr Reservoir.	5A	Dissolved Oxygen	2022	L	2196.07
VAW-L75L_ROA05L98 / Kerr Reservoir / Kerr Reservoir from the John H. Kerr dam to ~ Long Grass Branch confluence.	5A	Dissolved Oxygen	2022	L	7018.24
VAW-L75L_ROA05M22 / Kerr Reservoir / Kerr Reservoir from ~Long Grass Branch confluence to about 2 miles upstream of the confluence with Grassy Creek.	5A	Dissolved Oxygen	2022	L	14828.41
VAW-L77L_BST01A06 / Bluestone Creek / Bluestone Creek and Tribs included in the boundaries of Kerr Reservoir	5A	Dissolved Oxygen	2022	L	860.22

Kerr Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		24902.94	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L75L-03-TP Kerr Reservoir

Cause Location: Kerr Reservoir from about 1 mile upstream of the confluence of Bluestone Creek to the backwaters, excluding the Dan River, Bluestone Creek, Buffalo Creek, and Butcher Creek.

Cause City/County: Charlotte County; Halifax County; Mecklenburg County

Use(s): Aquatic Life

Causes(s)/VA Category: Phosphorus, Total/5A

Cause Description: A portion of Kerr Reservoir (2440.31 acres) is originally 2024 303(d) Listed for Total Phosphorus for excursions of the annual median Water Quality Standard (WQS) minimum criterion of 0.03 mg/l. Data from station 4-ROA043.14 finds the waters not supporting the Aquatic Life Use from total phosphorus 2/2 of the most recent years (2021,2022) 2017-2022 the Lake was treated with Herbicide Application as reported by U.S. Army Corps of Engineers. Herbicide: Komeen and Tribune.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75L_ROA05O22 / Kerr Reservoir / Kerr Reservoir from about 1 mile upstream of the confluence of Bluestone Creek to the backwaters, excluding the Dan River, Bluestone Creek, Buffalo Creek, and Butcher Creek.	5A	Phosphorus, Total	2024	L	2440.31

Kerr Reservoir

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus, Total - Total Impaired Size by Water Type:		2440.31	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L75R-03-BAC Beech Creek

Cause Location: Beech Creek from its headwaters to the VA/NC state line.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: The Hyco River Bacteria TMDL Study (Beech Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID.64066] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64066, 2/3/2015

One station is located within the 4.7 miles of impaired waters. 4ABEE000.80 (Ambient)(2022) Zero of 12 samples in excess of the statistical threshold value, Insufficient Information. (2018) Four of 11 samples in excess of instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75R_BEE01A98 / Beech Creek / Headwaters to North Carolina Border (RL01).	4A	Escherichia coli (E. coli)	2008	L	4.7

Beech Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.7

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

Roanoke and Yadkin River Basins

Cause Group Code: L75R-03-BEN Beech Creek

Cause Location: Beech Creek from its headwaters to the VA/NC state line.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The initial Beech Creek Aquatic Life Use impairment is recorded with the 2016 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report (IR).

4ABEE000.80 (Rt. 727) The 2018 data window confirms continued benthic macroinvertebrate community impairment from four Virginia Stream Condition Index (VSCI) surveys (2014, 2016) averaging 52.5. Biologist notes: Site exhibits seasonal variability. Further sampling indicates an unbalanced benthic community. Sedimentation and nutrient enrichment are probable stressors.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75R_BEE01A98 / Beech Creek / Headwaters to North Carolina Border (RL01).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	4.7

Beech Creek

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

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L75R-04-BEN Rocky Branch, Upper

Cause Location: Rocky Branch mainstem (Upper) from the confluence with an unnamed tributary near Red Oak Ln upstream to its headwaters (RL07).

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The initial 2022 303(d) General Standard listing is based on benthic macroinvertebrate community data collection on Rocky Branch.

4AROB001.36 (Rocky Mt. Rd. / Rt. 689) The 2022 data window finds two 2020 Virginia Stream Condition Index (VSCI) survey scores averaging 41 (43 spring and 38 fall). Biologist notes: Rocky Branch is a small stream that is incised. Riffles were somewhat embedded and the habitat was suboptimal.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L75R_ROB02A22 / Rocky Branch, Upper / Rocky Branch mainstem (Upper) from the confluence with an unnamed tributary near Red Oak Ln upstream to its headwaters (RL07).	5A	Benthic Macroinvertebrates Bioassessments	2022	L	3.08

Rocky Branch, Upper

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.08

Sources: Source Unknown; Streambank Erosion

Roanoke and Yadkin River Basins

Cause Group Code: L76L-01-BAC Buffalo Creek

Cause Location: Buffalo Creek and Tribs included in the boundaries of Kerr Reservoir

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: The initial 2020 303(d) Listing of these waters is a result of escherichia coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion in five of 36 samples. 2022: E.coli 5/35 Exceedance rate. Impaired- 2 or more STV hits in the same 90-day period with < 10 samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76L_BMA01A06 / Buffalo Creek / Buffalo Creek and Tribs included in the boundaries of Kerr Reservoir	5A	Escherichia coli (E. coli)	2020	L	358.96

Buffalo Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		358.96	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L76R-01-BAC Little Buffalo Creek

Cause Location: Little Buffalo Creek from its headwaters to its mouth on Kerr Reservoir.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: The Hyco River Bacteria TMDL Study (Little Buffalo Creek) received U.S. EPA approval on 2/3/2015 [Fed. ID.64074] and SWCB approval on 12/11/2014 for these 2004 303(d) Listed waters for fecal, 2006 303(d) Listed waters for bacteria, and 2008 303(d) Listed waters for e.coli. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 64074, 2/3/2015

One station is located within the 2.51 miles of impaired waters.
4ALFF001.85 (Ambient)(2018) Six of 12 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_LFF01A00 / Little Buffalo Creek / Headwaters to Kerr Reservoir (RD77).	4A	Escherichia coli (E. coli)	2004	L	2.51

Little Buffalo Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.51

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

Roanoke and Yadkin River Basins

Cause Group Code: L76R-01-BEN Little Buffalo Creek

Cause Location: Little Buffalo Creek from its headwaters to its mouth on Kerr Reservoir.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The 2012 Little Buffalo Creek Aquatic Life Use impairment is based on contravention of the General Standard as evidenced by benthic macroinvertebrate community collections.

4ALFF001.85 (Rt. 58 Bridge) The 2018 data window confirms benthic macroinvertebrate community impairment from two 2015 Virginia Stream Condition Index (VSCI) surveys: Spring 30.0, Fall 38.7. Initial impairment was identified from two 2010 VSCI Scores of 17.2 (spring) and 45.9 (fall). Biologist noted: Sedimentation and STP effluent have negatively affected the benthic community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_LFF01A00 / Little Buffalo Creek / Headwaters to Kerr Reservoir (RD77).	5A	Benthic Macroinvertebrates Bioassessments	2012	L	2.51

Little Buffalo Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.51

Sources: Municipal Point Source Discharges

Roanoke and Yadkin River Basins

Cause Group Code: L76R-02-BAC Buffalo Creek

Cause Location: Buffalo Creek from its headwaters to the backwaters of Kerr Reservoir.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID: 4ABMA002.00 - The 2018 data window finds four of 36 Escherichia coli (E.coli) samples in excess of the 235 cfu/100 ml instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_BMA01A06 / Buffalo Creek / From its headwaters to the backwaters of Kerr Reservoir (RD77).	5A	Escherichia coli (E. coli)	2018	L	5.68

Buffalo Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.68

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L76R-02-BEN Buffalo Creek

Cause Location: Buffalo Creek from its headwaters to the backwaters of Kerr Reservoir.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The 2018 Buffalo Creek Aquatic Life Use impairment listing is based on benthic macroinvertebrate community collections.

4ABMA006.65 (Overby Road) Benthic macroinvertebrate community impairment is based on two 2015 Virginia Stream Condition Index (VSCI) scores of 34.5 and 48.2. This stream had minimal habitat available for macroinvertebrate colonization due to its hardpan clay banks and stream bottom along with its stagnant nature.

4ABMA005.64 (Upstream of Hicks Spring Branch confluence and Rt. 735 / White House Rd.) The 2024 data window finds Aquatic Life Use impairment from two 2022 VSCI surveys: Spring 45.9 and Fall 42.7. Original impairment listing was based on two 2015 VSCI scores from this station: 27.8 (spring) and 57.1 (fall). Biologist notes: There were beaverdams in the stream that may have impacted the flow of the stream.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L76R_BMA01A06 / Buffalo Creek / From its headwaters to the backwaters of Kerr Reservoir (RD77).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	5.68

Buffalo Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			5.68

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L77R-01-BAC Little Bluestone Creek

Cause Location: Little Bluestone Creek from a fork upstream of Route 696 to Kerr Reservoir.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:
4ALNE006.56 (Ambient)(2018) E. coli - 9/35 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_LNE01A98 / Little Bluestone Creek / Fork upstream of Route 696 to Kerr Reservoir.	4A	Escherichia coli (E. coli)	2006	L	9.39

Little Bluestone Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.39

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L77R-02-BAC Bluestone Creek

Cause Location: Bluestone Creek from its headwaters to its confluence with Moody Creek.

Cause City/County: Charlotte County; Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:

4ABST017.09 (Ambient)(2018)

E. coli - 5/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_BST02A06 / Bluestone Creek / From its headwaters to Moody Creek	4A	Escherichia coli (E. coli)	2006	L	8.26

Bluestone Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.26

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L77R-02-BEN Bluestone Creek

Cause Location: Bluestone Creek from its confluence with Moody Creek to the backwaters of Kerr Reservoir.

Cause City/County: Charlotte County; Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: Bluestone Creek is listed as impaired for the Aquatic Life Use in 2014 based on benthic macroinvertebrate community collections.

4ABST013.64 (Rt. 605) Benthic macroinvertebrate community impairment is based on four VSCI surveys with an average score of 43.3 (2012, 2015). Biologist notes: 4ABST013.64 has limited habitat due to scour and sedimentation. Riparian vegetation was suitable but bank scour was evident. Spring taxa list was dominated by Simuliidae and Chironomidae, bringing VSCI scores well below the impairment threshold.

4ABST014.94 (Upstream of Rt. 605 Bridge) This station was part of the 2007 Probabilistic Monitoring network. Biologist recorded assessment as 'Reserve Judgement' and noted 4ABST014.94 exhibits significant seasonal variation. Additional data must be collected to accurately characterize the status of the stream community; however this station is located on private property and will not be revisited.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_BST01A98 / Bluestone Creek / Moody Creek to the backwaters of Kerr Reservoir	5A	Benthic Macroinvertebrates Bioassessments	2014	L	13.73

Bluestone Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			13.73

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L77R-03-BEN Devils Branch

Cause Location: Devils Branch from its headwaters to its mouth.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The 2022 Aquatic Life Use impairment listing on Devils Branch is based on benthic macroinvertebrate collections from 2020.

4ADEV000.86 (Rt. 603) Benthic macroinvertebrate community impairment is based on two Virginia Stream Condition Index (VSCI) surveys collected in 2020: Spring 46.9 and Fall 49.4. Biologist notes: Substrate mostly consists of broken up bedrock. Good riffles, but some sediment deposition occurring. Most rocks have obvious periphyton on surfaces.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_DEV01A14 / Devils Branch / Devils Branch from its headwaters to its mouth	5A	Benthic Macroinvertebrates Bioassessments	2022	L	3.57

Devils Branch

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			3.57

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L77R-04-BEN Popes Creek

Cause Location: Popes Creek at Route 698 Middle School Road.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The 2024 Impaired Waters Listing for Popes Creek is defined by benthic macroinvertebrate community collections.

4APOP000.85 (Rt. 698 / Middle School Road) Benthic macroinvertebrate community data shows impairment from the following Virginia Stream Condition Index scores: 29.9 (Spring 2021) and 57.9 (Spring 2017) and 56.9 (Fall 2017). Biologist notes: This stream is very small and incised with occasional shallow, low-quality riffles. Substrate mostly consists of broken up bedrock. Good riffles, but some sediment deposition occurring. Most rocks have obvious periphyton on surfaces.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L77R_POP01A14 / Popes Creek / Popes Creek from its headwaters to the mouth	5A	Benthic Macroinvertebrates Bioassessments	2024	L	2.65

Popes Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			2.65

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L78R-02-BAC Unnamed Tributary to Allen Creek

Cause Location: Entire tributary located just south of the intersection of Redlawn and Baskerville Roads in Mecklenburg County.

Cause City/County: Mecklenburg County

Use(s): Recreation

Causes(s)/VA Category: Fecal Coliform/4A

Cause Description: Station ID:

4AXUQ000.00 (Hog Farm SS)

Total Fecal Coliform - 2/4 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_XUQ01A04 / Allen Creek, Unnamed Tributary / Entire tributary located just south of the intersection of Redlawn and Baskerville Roads in Mecklenburg County (RL11).	4A	Fecal Coliform	2004	L	1.27

Unnamed Tributary to Allen Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			1.27

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L78R-03-BAC Allen Creek

Cause Location: Allen Creek from its headwaters to Cox Creek.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:

4AALN009.12 (Ambient)(2018)

E. coli - 7/36 Exceedance Rate

4AALN016.38 (Ambient)(2018)

E. coli - 3/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_ALN03A04 / Allen Creek / Layton Creek downstream to Cox Creek (RL11).	4A	Escherichia coli (E. coli)	2006	L	8.97
VAW-L78R_ALN04A06 / Allen Creek / From its headwaters to Layton Creek (RL10).	4A	Escherichia coli (E. coli)	2012	L	15.28

Allen Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			24.25

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L78R-03-BEN Allen Creek

Cause Location: Allen Creek from its headwaters to Layton Creek.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The 2016 303(d)/305(b) Water Quality Monitoring and Assessment Integrated Report finds the initial Aquatic Life Use impairment on Allen Creek.

4AALN016.38 (Rt. 660 Bridge) The benthic macroinvertebrate community is found to be impaired based on two 2021 Virginia Stream Condition Index (VSCI) scores of 42.4 (spring) and 59.6 (fall) with an overall average of 51. Biologist notes: The stream channel is incised, with some scoured bank areas contributing a sediment load to the stream.

4AALN020.60 (Rt. 671 Bridge) Benthic macroinvertebrate community collections from 2013 find the initial impairment. Biologist notes: Sedimentation is a probable stressor to the benthic community. Silviculture is taking place within the nearby watershed.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_ALN04A06 / Allen Creek / From its headwaters to Layton Creek (RL10).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	15.28

Allen Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			15.28

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L78R-04-BAC Cox Creek

Cause Location: Cox Creek from its headwaters to its confluence with Allen Creek

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: The 2020 IR finds the Recreational Use impaired on Cox Creek. These waters are included in the Kerr Reservoir Tributaries Bacteria TMDLs, EPA approved 1/26/2017 and SWCB approved 12/7/2017.

4ACOX007.73 - The 2020 IR finds four of 12 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_COX01A04 / Cox Creek / Cox Creek from its headwaters to its confluence with Allen Creek (RL11).	4A	Escherichia coli (E. coli)	2020	L	10.81

Cox Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			10.81

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L78R-04-BEN Cox Creek

Cause Location: Cox Creek from its headwaters to its confluence with Allen Creek.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The Cox Creek Aquatic Life Use initial 303(d) listing occurred during the 2008 data window and was based on benthic macroinvertebrate community data collected at DEQ station 4ACOX007.73.

4ACOX007.73 (Upstream / North of Rt. 668) 2005 benthic macroinvertebrate community collections result in impaired Virginia Stream Condition Index (VSCI) scores. Biologist notes: Lack of suitable habitat is negatively affecting the stream community. Beaver activity has made the reach unwadeable. Accurate assessment depends on locating a suitably accessible site. This station was part of the 2005 Probabilistic Monitoring network and will not be revisited.

4COX007.50 (Rt. 668 Bridge) Benthic macroinvertebrate community collections show impairment from eight 2017, 2020, 2021, and 2022 VSCI scores: 2017 average 44.9 (spring 32.6 and fall 57.2); 2020 average 36 (spring 30, fall 42); 2021 average 36.1 (spring 24.4, fall 47.9); and 2022 average 31.2 (spring 30.0, fall 32.4). Biologist notes: A lack of stable habitat and heavy sedimentation have negatively impacted aquatic life.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_COX01A04 / Cox Creek / Cox Creek from its headwaters to its confluence with Allen Creek (RL11).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	10.81

Cox Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			10.81

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L78R-04-DO Cox Creek

Cause Location: Cox Creek from its headwaters to its confluence with Allen Creek

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Station ID:

4ACOX000.38 (Ambient) No new data since 2006 data window:

Dissolved Oxygen - 3/11 Violation Rate

4ACOX003.23 (Ambient) No new data since 2010 data window:

Dissolved Oxygen - 4/12 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_COX01A04 / Cox Creek / Cox Creek from its headwaters to its confluence with Allen Creek (RL11).	5A	Dissolved Oxygen	2004	L	10.81

Cox Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:			10.81

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L78R-04-PH Cox Creek

Cause Location: Cox Creek from its headwaters to its confluence with Allen Creek

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: Station ID:

4ACOX000.38 (Ambient) No new data since 2006 data window:

pH - 2/11 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_COX01A04 / Cox Creek / Cox Creek from its headwaters to its confluence with Allen Creek (RL11).	5A	pH	2006	L	10.81

Cox Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			10.81

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L78R-05-BAC Cotton Creek

Cause Location: Cotton Creek from its headwaters to its mouth on the Roanoke River

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:

4ACTT000.70 (Ambient)(2018)

E. coli - 8/24 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_CTT01A08 / Cotton Creek / Cotton Creek from its headwaters to its mouth on the Roanoke River (RL12).	4A	Escherichia coli (E. coli)	2008	L	4.4

Cotton Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.4

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L78R-06-BAC Layton Creek

Cause Location: Form its headwaters to its confluence with Allen Creek

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:

4ALYT003.77 (Ambient)(2018)

E. coli - 11/36 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_LYT01A06 / Layton Creek / From its headwaters to its confluence with Allen Creek (RL10).	4A	Escherichia coli (E. coli)	2012	L	8.65

Layton Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.65

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L78R-06-BEN Layton Creek

Cause Location: Form its headwaters to its confluence with Allen Creek

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The Layton Creek Aquatic Life Use was initially 303(d) listed in 2012 due to contravention of the General Standard based on benthic macroinvertebrate community collections.

4ALYT003.77 (Rt. 671 Bridge) Benthic macroinvertebrate community data was collected in 2005-12 and 2014. Virginia Stream Condition Index (VSCI) scores are: 43.7 (spring) and 52.2 (fall) 2010; 64.5 (spring) and 62.2 (fall) 2012; 30.4 (spring) and 53.4 (fall) 2014. Biologist notes: 4ALYT003.77 was negatively affected by drought in 2007-08, with periods of very low flow. Logging in the up gradient watershed appears to have negatively affected the benthic community with sedimentation. More recent results confirm impairment from six VSCI scores averaging 47 (2017-18, 2020). Sedimentation and minimal stable habitat availability are negatively affecting the benthic community.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_LYT01A06 / Layton Creek / From its headwaters to its confluence with Allen Creek (RL10).	5A	Benthic Macroinvertebrates Bioassessments	2012	H	8.65

Layton Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			8.65

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L78R-07-BAC Kettles Creek

Cause Location: Kettles Creek from its headwaters to the mouth

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:

4AKTT001.15 (Ambient)(2018)

E. coli - 1/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_KTT01A12 / Kettles Creek / Kettles Creek from its headwaters to the mouth (RL11).	4A	Escherichia coli (E. coli)	2012	L	5.48

Kettles Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.48

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L78R-07-DO Kettles Creek

Cause Location: Kettles Creek from its headwaters to the mouth

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Station ID:

4AKTT001.15 (Ambient) No new data beyond 2016 data window:

DO - 9/22 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_KTT01A12 / Kettles Creek / Kettles Creek from its headwaters to the mouth (RL11).	5A	Dissolved Oxygen	2012	L	5.48

Kettles Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:			5.48

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L79L-02-CHLA Lake Gordon

Cause Location: Lake Gordon

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

Causes(s)/VA Category: Chlorophyll-a/5A

Cause Description: Station ID:
4AMES007.54
2022: Only one year of monitoring during this IR window, Impairment carries. 2020: Chlorophyll a - 2/2 Samples (90% Calculated over 1 Sample Yr) Note: The 2020 IR was based on 2/2 Samples .

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79L_MES01L00 / Lake Gordon / On Miles Creek.	5A	Chlorophyll-a	2016	L	107.48

Lake Gordon

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		107.48	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L79L-02-HG Lake Gordon

Cause Location: Lake Gordon

Cause City/County: Mecklenburg County

Use(s): Fish Consumption

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

Cause Description: Station ID:

4AMES007.54 (2006 FT/Sed)

Hg 2 Species

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79L_MES01L00 / Lake Gordon / On Miles Creek.	5A	Mercury in Fish Tissue	2010	L	107.48

Lake Gordon

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		107.48	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L79R-01-BAC Flat Creek

Cause Location: Flat Creek from its headwaters to its mouth on the Roanoke River.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID: 4AFLT002.60 (Ambient)(2024) E. coli -3/12 Exceedance Rate of STV (410 CFU/100ml) 4AFLT009.17 (Benthic & 2004 Flat Creek TMDL) E. coli - 3/7 Exceedance Rate 4AFLT008.80 (2004 Flat Creek TMDL) E. coli - 3/6 Exceedance Rate 4AFLT008.79 (Ambient, Benthic, 2002 FT/Sed, Flat Creek TMDL Station) E. coli - 1/7 Exceedance Rate (No New Bacteria Data for 2010)

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_FLT01A00 / Flat Creek / Upstream of the South Hill STP discharge to its headwaters (RL14).	4A	Escherichia coli (E. coli)	2006	L	1.69
VAW-L79R_FLT02A96 / Flat Creek / From the South Hill STP discharge to the Belfield Road crossing (RL14).	4A	Escherichia coli (E. coli)	2006	L	6.24
VAW-L79R_FLT03A08 / Flat Creek / From the Belfield Road crossing to its mouth on the Roanoke River (RL14).	4A	Escherichia coli (E. coli)	2016	L	1.42

Flat Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.35

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

Roanoke and Yadkin River Basins

Cause Group Code: L79R-01-BEN Flat Creek

Cause Location: Flat Creek from its headwaters to its mouth on the Roanoke River.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: Flat Creek was originally listed in 2008 for the Aquatic Life Use. The Total Maximum Daily Loads (TMDLs) for the aquatic life (benthic) and primary contact use impairments on Flat Creek were EPA approved 8/5/04 and SWCB approved 12/2/04. The benthic TMDL concluded that sediment is the primary stressor causing benthic macroinvertebrate community impairment.

4AFLT009.17 (Above South Hill WWTP) Benthic macroinvertebrate community impairment was documented in previous 303(d) Impaired Waters Lists. Biologist notes: 4AFLT009.17 is in the headwater segment of Flat Creek with several small channels. Flow regime related sedimentation seems to be negatively affecting the stream community.

4AFLT008.79 (Rt. 642) Benthic macroinvertebrate community collections find impairment from two 2011 Virginia Stream Condition Index (VSCI) scores of 23.3 (spring) and 43.4 (fall). Biologist notes: 4AFLT008.79 has sparse habitat, effluent affected flow, and is subject to occasionally significant storm flows.

4AFLT002.60 (Rt. 630 Bridge / Belfield Road) Two 2017 VSCI scores of 50.1 (Spring) and 72.1 (Fall) result in overall impairment at this station. Biologist notes: Flat Creek is a very slow moving stream at river mile 2.60. Habitat was adequate with abundant leaf packs. Field measurements indicate a slight depression of dissolved oxygen in the warmest summer months. This is a sandy stream with good leaf packs and streambanks. There is logging and agriculture throughout the watershed.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_FLT01A00 / Flat Creek / Upstream of the South Hill STP discharge to its headwaters (RL14).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	1.69
VAW-L79R_FLT02A96 / Flat Creek / From the South Hill STP discharge to the Belfield Road crossing (RL14).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	6.24
VAW-L79R_FLT03A08 / Flat Creek / From the Belfield Road crossing to its mouth on the Roanoke River (RL14).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.42

Flat Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			9.35

Sources: Clean Sediments; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L79R-01-DO Flat Creek

Cause Location: Flat Creek from upstream of the South Hill STP discharge to its headwaters.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: The original 2006 IDs, VAC-L79R-01 303(d) Listed dissolved oxygen (DO) impairment was for 1.69 miles.

4AFLT009.17 (Benthic & 2004 Flat Creek TMDL) Dissolved Oxygen - 2/8 Violation Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_FLT01A00 / Flat Creek / Upstream of the South Hill STP discharge to its headwaters (RL14).	5A	Dissolved Oxygen	2006	L	1.69

Flat Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:			1.69

Sources: Clean Sediments; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L79R-02-BAC Smith Creek

Cause Location: Smith Creek from the VA/NC state line to its mouth on Kerr Reservoir

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:

4ASMI003.58 (Ambient)(2018)

E. coli - 4/24 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_SMI01A08 / Smith Creek / Smith Creek from the VA/NC state line to its mouth (RL16)	4A	Escherichia coli (E. coli)	2008	L	1.91

Smith Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			1.91

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L79R-03-BAC Miles Creek

Cause Location: Lake Gordon to the Roanoke River.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: Station ID:

4AMES004.78 (Ambient)(2018)

E coli - 2/11 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79R_MES01A98 / Miles Creek / Lake Gordon to the Roanoke River (RL13).	5A	Escherichia coli (E. coli)	2016	L	5.98

Miles Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			5.98

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L80L-01-HG Lake Gaston

Cause Location: Roanoke River from the John H. Kerr Dam into Lake Gaston within Virginia.

Cause City/County: Brunswick County; Mecklenburg County

Use(s): Fish Consumption

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

Cause Description: Fish tissue data are reviewed by the VDH in making an advisory determination. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov. 4AROA004.54 (Lake Gaston, off Point (Mecklenburg County) - 2021- Exceedance of the Mercury (Hg) WQS based tissue value (TV) of 0.30 ppm is found in two species. Largemouth Bass (2 fish composite) @ 0.52 ppm, (2 fish composite) @ 0.45 ppm, (2 fish composite) @ 0.37 ppm, (2 fish composite) @ 0.37 ppm and Redear Sunfish (5 fish composite) @ 0.42 ppm. 2019 (Hg) Collections: two species exceed the Mercury (Hg) WQS based tissue value (TV) of 0.3ppm; Largemouth Bass (2 fish) at .55ppm, (3 fish) at .32ppm and Redear Sunfish (5 fish) at .31ppm, one of the species (largemouth bass) was above the VDH level of concern (.50 ppm). 2018 (Hg) collections: one species exceeds (Hg) WQS (TV) of 0.3 ppm and the VDH screening value of 0.5 ppm; largemouth Bass (5 Fish) at 0.52ppm.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_ROA06A98 / Roanoke River / Kerr Dam to Route 1 bridge (RL12).	5A	Mercury in Fish Tissue	2022	L	5.69
VAW-L79L_ROA07A98 / Lake Gaston / Upper portion of Lake Gaston - Route 1 to the confluence of Smith Creek.	5A	Mercury in Fish Tissue	2022	L	1369.25
VAW-L80L_ROA08A04 / Lake Gaston / Lower Portion of Lake Gaston on the Roanoke River-Smith Creek confluence downstream to the VA/NC State Line, including coves that enter the mainstem within VA.	5A	Mercury in Fish Tissue	2022	L	3071.70
VAW-L81L_ZZZ01A04 / Lake Gaston / Poplar Creek Cove of Lake Gaston to the VA/NC State Line, including tributaries within state of Virginia (L81)	5A	Mercury in Fish Tissue	2024	L	622.73
VAW-L82L_ZZZ01A04 / Lake Gaston / Pea Hill Creek Cove of Lake Gaston to the VA/NC State Line RL23	5A	Mercury in Fish Tissue	2024	L	753.40

Lake Gaston

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		5817.08	5.69

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L80L-01-PCB Lake Gaston

Cause Location: Roanoke River from the John H. Kerr Dam into Lake Gaston within Virginia.

Cause City/County: Mecklenburg County

Use(s): Fish Consumption

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

Cause Description: 4AROA004.54 (near NC-VA State line): 2021 one species exceeds the WQS TV of 18 ppb for PCB - Channel Catfish (3 fish composite) @ 33 ppb. 2020 one species exceeds the WQS TV of 18 ppb for PCB - Channel Catfish (3 fish composite) @ 18 ppb. 2019 one species exceeds the WQS TV of 18 ppb for PCB - Channel Catfish (3 fish composite) @ 43 ppb 2018 one species exceeds the WQS TV of 18 ppb for PCB - Channel Catfish (4 fish composite @ 60 ppb

(2006 FT/Sed) PCB 2 Species

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L78R_ROA06A98 / Roanoke River / Kerr Dam to Route 1 bridge (RL12).	5A	PCBs in Fish Tissue	2004	L	5.69
VAW-L79L_ROA07A98 / Lake Gaston / Upper portion of Lake Gaston - Route 1 to the confluence of Smith Creek.	5A	PCBs in Fish Tissue	2004	L	1369.25
VAW-L80L_ROA08A04 / Lake Gaston / Lower Portion of Lake Gaston on the Roanoke River-Smith Creek confluence downstream to the VA/NC State Line, including coves that enter the mainstem within VA.	5A	PCBs in Fish Tissue	2004	L	3071.70

Lake Gaston

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCBs in Fish Tissue - Total Impaired Size by Water Type:		4440.95	5.69

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L80L-02-DO Lake Gaston

Cause Location: Upper portion of Lake Gaston - Route 1 to the confluence of Smith Creek.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: Station ID: 4AROA008.66 exceeds the WQS of 4.0 mg/l; 33 out of 231 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L79L_ROA07A98 / Lake Gaston / Upper portion of Lake Gaston - Route 1 to the confluence of Smith Creek.	5A	Dissolved Oxygen	2022	L	1369.25

Lake Gaston

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		1369.25	

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L80R-01-BAC Great Creek

Cause Location: Great Creek from its headwaters to Lake Gaston.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: The Great Creek Bacteria TMDL Study received U.S. EPA approval on 9/20/2007 [Fed. ID.33313] and SWCB approval on 7/31/2008 for this 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33313, 9/20/2007

Three stations are located within the 6.69 miles of impaired waters. 4AGRT003.82 (Ambient/Bio)(2018) Three of 12 samples in excess of the instantaneous criterion.

4AGRT004.70 (Great Creek Bacteria TMDL) Seven of 9 samples in excess of the instantaneous criterion.

4AGRT008.49 (Great Creek Bacteria TMDL) Two of 9 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L80R_GRT01A00 / Great Creek / Headwaters to Lake Gaston (RL18).	4A	Escherichia coli (E. coli)	2006	L	6.69

Great Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.69

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

Roanoke and Yadkin River Basins

Cause Group Code: L80R-01-BEN Great Creek

Cause Location: Great Creek from its headwaters to Lake Gaston.

Cause City/County: Mecklenburg County

Use(s): Aquatic Life

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

Cause Description: The 2020 data window finds Aquatic Life Use impairment on Great Creek based on Benthic Macroinvertebrate community collections.

4AGRT003.82 (Rt. 619) Four Virginia Stream Condition Index (VSCI) scores (2014, 2018) averaging 33.2 and 59.4 in spring and fall, respectively. Biologist notes: This station exhibits significant seasonal variation. The water is slow-moving and the stream bottom is very sandy. Habitat consists of good undercut banks and limited snags.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L80R_GRT01A00 / Great Creek / Headwaters to Lake Gaston (RL18).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	6.69

Great Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.69

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L80R-02-BAC Hagood Creek

Cause Location: Hagood Creek from its headwaters to its mouth on Great Creek.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: NESTED 2014: 33313 The Great Creek Bacteria TMDL Study received U.S. EPA approval on 9/20/2007 [Fed. ID.33313] and SWCB approval on 7/31/2008 for this 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33313, 9/20/2007

One station is located within the 6.8 miles of impaired waters.
4AHAG002.95 (TMDL Monitoring) Three of 9 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L80R_HAG01A06 / Hagood Creek / From its headwaters to the mouth on Great Creek	4A	Escherichia coli (E. coli)	2008	L	6.8

Hagood Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.8

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

Roanoke and Yadkin River Basins

Cause Group Code: L80R-03-BAC Long Branch

Cause Location: Long Branch from its headwaters to its mouth on Great Creek.

Cause City/County: Mecklenburg County

Use(s): Recreation

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

Cause Description: NESTED 2014: 33313 The Great Creek Bacteria TMDL Study received U.S. EPA approval on 9/20/2007 [Fed. ID.33313] and SWCB approval on 7/31/2008 for this 2004 303(d) Listed waters for fecal coliform. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 33313, 9/20/2007

One station is located within the 2.08 miles of impaired waters.
4ALYA000.60 (TMDL Monitoring) Five of 9 samples in excess of the instantaneous criterion.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L80R_LYA01A06 / Long Branch / From its headwaters to the mouth on Great Creek	4A	Escherichia coli (E. coli)	2008	L	2.08

Long Branch

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			2.08

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

Roanoke and Yadkin River Basins

Cause Group Code: L81R-02-BAC Lizard Creek

Cause Location: Lizard Creek from its headwaters to Lake Gaston.

Cause City/County: Brunswick County

Use(s): Recreation

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

Cause Description: Station ID:

4ALIZ003.42 (Ambient)(2018)

E. coli - 4/12 Exceedance Rate

*Segment was shortened in 2014 to only include VA Portion of Lizard Creek

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L81R_LIZ01A10 / Lizard Creek / Lizard Creek from its headwaters to Lake Gaston (RL22).	4A	Escherichia coli (E. coli)	2010	L	2.73

Lizard Creek

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

Sources: Crop Production (Crop Land or Dry Land); Livestock (Grazing or Feeding Operations); On-site Treatment Systems (Septic Systems and Similar Decentralized Systems); Unspecified Domestic Waste; Unspecified Urban Stormwater

Roanoke and Yadkin River Basins

Cause Group Code: L81R-02-DO Lizard Creek

Cause Location: Lizard Creek from its headwaters to Lake Gaston.

Cause City/County: Brunswick County

Use(s): Aquatic Life

Causes(s)/VA Category: Dissolved Oxygen/5A

Cause Description: The 2022 data window finds the initial dissolved oxygen (DO) 303(d) listing for the entire length of Lizard Creek. 4ALIZ003.42 (Rt. 667 Br.) - The 2022 data window finds two DO observations exceed the 4.0 mg/L WQS out of 10 total samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L81R_LIZ01A10 / Lizard Creek / Lizard Creek from its headwaters to Lake Gaston (RL22).	5A	Dissolved Oxygen	2022	L	2.73

Lizard Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:			2.73

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L81R-03-BAC Little Poplar Creek

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

Cause City/County: Brunswick County

Use(s): Recreation

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

Cause Description: Station ID:

4ALPP002.66 (ProbAmbient)

E coli - 2/12 Exceedance Rate

4ALPP004.46 (2013 Probambient)(2018)

E coli - 2/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L81R_LPP01A16 / Little Poplar Creek / Little Poplar Creek from its headwaters to its mouth on Poplar Creek (RL20).	5A	Escherichia coli (E. coli)	2016	L	6.51

Little Poplar Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.51

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: L81R-03-BEN Little Poplar Creek

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

Cause City/County: Brunswick County

Use(s): Aquatic Life

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

Cause Description: The 2020 data window finds the initial Aquatic Life Use impairment on Little Poplar Creek based on Virginia Stream Condition Index (VSCI) information.

4ALPP004.46 (Dr. Purdy Rd) One 2017 VSCI score of 30.8 (Spring) defines the initial benthic macroinvertebrate community impairment. Biologist notes: This site serves as a follow-up to the probabilistic monitoring site 4ALPP004.52, which is on private property and could not be revisited. This stream has gravelly, embedded riffles and incised clay banks. Habitat measures indicate a high probability of stress to aquatic life.

Additional Information:
4ALPP004.52 (East of Route 659) Benthic macroinvertebrate community collections are inconclusive (e.g. Biologist Reserved Judgement) based on 2016 data window VSCI Scores of 46 (Spring 2013) and 66.1 (Fall 2013). Biologist notes: This station exhibits significant seasonal variation. 4ALPP004.52 is on private property and was sampled as part of the Probabilistic Monitoring program; therefore it will not be revisited.

A Total Maximum Daily Load (TMDL) or TMDL alternative has not been completed but will determine stressor(s) to the benthic macroinvertebrate community. Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L81R_LPP01A16 / Little Poplar Creek / Little Poplar Creek from its headwaters to its mouth on Poplar Creek (RL20).	5A	Benthic Macroinvertebrates Bioassessments	2020	L	6.51

Little Poplar Creek

Aquatic Life	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			6.51

Sources: Loss of Riparian Habitat; Silviculture Harvesting

Roanoke and Yadkin River Basins

Cause Group Code: L82R-01-BAC Pea Hill Creek

Cause Location: Pea Hill Creek from its headwaters to Lake Gaston.

Cause City/County: Brunswick County

Use(s): Recreation

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

Cause Description: Station ID:

4APHC006.38 (Ambient)(2018)

E coli - 4/12 Exceedance Rate

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-L82R_PHC01A00 / Pea Hill Creek / Headwaters to Lake Gaston (RL23).	5A	Escherichia coli (E. coli)	2016	L	4.86

Pea Hill Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			4.86

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: M02L-01-DDD Lovills Creek Lake

Cause Location: The Lovills Creek flood control impoundment east of Cana.

Cause City/County: Carroll County

Use(s): Fish Consumption

Causes(s)/VA Category: DDD (Dichlorodiphenyldichloroethane)/5A

Cause Description: Exceedances of the WQS based tissue values (TV) for dichlorodiphenyldichloroethane (DDD) and dichlorodophenyldichloroethylene (DDE) were found in carp. Fish tissue collected on 7/29/2021, DDD exceedances: carp (1 fish) at 1573.32 ppb; DDE exceedances: carp (1 fish) at 354.4 ppb.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02L_LOV01B10 / Lovills Creek Lake / Lovills Creek flood control impoundment east of Cana; completed in 1990 and owned by Carroll County.	5A	DDD (Dichlorodiphenyldichloroethane)	2010	L	42.46

Lovills Creek Lake

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDD (Dichlorodiphenyldichloroethane) - Total Impaired Size by Water Type:		42.46	

Sources: Atmospheric Deposition - Toxics; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: M02L-01-DDE Lovills Creek Lake

Cause Location: The Lovills Creek flood control impoundment east of Cana.

Cause City/County: Carroll County

Use(s): Fish Consumption

Causes(s)/VA Category: DDE (Dichlorodiphenyldichloroethylene)/5A

Cause Description: Exceedances of the WQS based tissue values (TV) for dichlorodiphenyldichloroethane (DDD) and dichlorodophenyldichloroethylene (DDE) were found in carp. Fish tissue collected on 7/29/2021, DDD exceedances: carp (1 fish) at 1573.32 ppb; DDE exceedances: carp (1 fish) at 354.4 ppb.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02L_LOV01B10 / Lovills Creek Lake / Lovills Creek flood control impoundment east of Cana; completed in 1990 and owned by Carroll County.	5A	DDE (Dichlorodiphenyldichloroethylene)	2010	L	42.46

Lovills Creek Lake

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDE (Dichlorodiphenyldichloroethylene) - Total Impaired Size by Water Type:		42.46	

Sources: Atmospheric Deposition - Toxics; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: M02L-01-HG Lovills Creek Lake

Cause Location: The Lovills Creek flood control impoundment east of Cana.

Cause City/County: Carroll County

Use(s): Fish Consumption

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

Cause Description: Exceedances of the mercury WQS based tissue value (TV) of 0.30 ppm were found in largemouth bass. Fish tissue collected on 7/29/2021 at 4BLOV009.45, mercury exceedances: largemouth bass (2 fish composite) at 0.75 ppm and largemouth bass (2 fish composite) at 0.47 ppm. Fish tissue collected on 9/16/2020 at 4BLOV009.45, mercury exceedances: 1 largemouth bass (1 fish) at 0.31 ppm and an additional largemouth bass (2 fish composite) at 0.33 ppm.

In 2008, VDH issued a fish consumption advisory limiting consumption of largemouth bass to no more than two meals per month.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02L_LOV01B10 / Lovills Creek Lake / Lovills Creek flood control impoundment east of Cana; completed in 1990 and owned by Carroll County.	5A	Mercury in Fish Tissue	2010	L	42.46

Lovills Creek Lake

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		42.46	

Sources: Atmospheric Deposition - Toxics; Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: M02R-01-BAC Lovills Creek, Stewarts Creek and Pauls Creek

Cause Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing. Stewarts Creek from the North Carolina state line upstream near Route 696 at Lambsburg. Pauls Creek mainstem parallel to Rt. 52 from the VA/NC line upstream to Rt. 691 just downstream of the Garner Creek confluence.

Cause City/County: Carroll County

Use(s): Recreation

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

Cause Description: From 2022 Cycle: The ambient water quality monitoring station 4BPAU007.19 had 2 STV exceedances in one or multiple 90-day periods. Station 4BLOV007.92 had 1 STV exceedance in one or multiple 90-day periods and station 4BSTE007.99 had 0 STV exceedances but insufficient data to analyze a geomean.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-M02R_LOV01A02 / Lovills Creek / Lovills Creek mainstem southeast of Cana, from the NC state line upstream to Lovills Lake dam.	5A	Escherichia coli (E. coli)	2008	L	2.16
VAS-M02R_PAU01A02 / Pauls Creek Lower / Pauls Creek mainstem parallel Rt. 52, from the VA / NC state line upstream to Rt. 691 just downstream of the Garner Creek confluence on Pauls Creek.	5A	Escherichia coli (E. coli)	2020	L	4.27
VAS-M02R_STE01A02 / Stewarts Creek / Stewarts Creek mainstem from the VA / NC state line upstream to near Rt. 696 south of Lambsburg.	5A	Escherichia coli (E. coli)	2010	L	2.06

Lovills Creek, Stewarts Creek and Pauls Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			8.49

Sources: Source Unknown; Unrestricted Cattle Access

Roanoke and Yadkin River Basins

Cause Group Code: M03R-01-BAC Ararat River

Cause Location: Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing.

Cause City/County: Patrick County

Use(s): Recreation

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

Cause Description: The Ararat River is 303(d) listed the Recreational Use due to Escherichia coli (E.coli) data collections.

4BARA035.13 (Rt. 739 Bridge, near VA/NC State Line)- The 2008 and 2010 assessments find escherichia E.coli exceeds the WQS instantaneous criterion of 235 cfu/100 ml in three of nine samples.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-M03R_ARA01A00 / Ararat River / Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing Class IV sec. 1 PWS (YA03).	5A	Escherichia coli (E. coli)	2010	L	6.14

Ararat River

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			6.14

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

Roanoke and Yadkin River Basins

Cause Group Code: M03R-01-HG Ararat River

Cause Location: Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing.

Cause City/County: Patrick County

Use(s): Fish Consumption

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

Cause Description: This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new Water Quality Standards (WQS) effective 2/01/10. Mercury (Hg) exceedances of the DEQ 0.3 parts per million (ppm) tissue value cause impairment of the Fish Consumption Use. No VDH Fish Consumption or Drinking Water Advisories are issued for mercury for these waters. The Virginia Department of Health (VDH) level of concern is 0.5 ppm. Please visit http://www.deq.virginia.gov for more information about mercury contamination and http://www.vdh.virginia.gov

4BARA035.07 (Rt. 739 Bridge near VA/NC State Line)- 2007 fish tissue analysis finds mercury (Hg) exceeds the WQS based tissue value (TV) of 0.30 ppm in three species; yellow bullhead catfish (1 fish) at 0.495 ppm; white sucker (4 fish) at 0.369 ppm; and two groups of redhorse sucker (6 fish) at 0.535 ppm and (7 fish) at 0.412 ppm.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-M03R_ARA01A00 / Ararat River / Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing Class IV sec. 1 PWS (YA03).	5A	Mercury in Fish Tissue	2010	L	6.14

Ararat River

Fish Consumption	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			6.14

Sources: Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: M03R-02-BAC Johnson Creek

Cause Location: Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V.

Cause City/County: Carroll County; Patrick County

Use(s): Recreation

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

Cause Description: This 2014 initial 303(d) Listing results in impairment of the Recreational Use.

4BJOH004.45 (Rt. 672 Bridge, Johnson Creek Rd.) The 2014 assessment finds two escherichia coli (E.coli) observations exceed the WQS 235 cfu/100 ml instantaneous criterion from 12 observations.

Historical information can be found in previous IR Factsheets.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-M03R_JOH01A02 / Johnson Creek / Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V sec. 1 PWS (YA04).	5A	Escherichia coli (E. coli)	2014	L	9.16

Johnson Creek

Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			9.16

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