



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

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

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

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

USGS Gaging Station 02053800 (S.F. Roanoke R. near Shawsville)- There are no additional data beyond the 2010 IR. 2010 assessment reveals two of 12 temperature measurements exceed the Class V 21°C criterion. Measurements in excess of the criterion occur on 8/07/2007 at 24.5°C and 8/29/2007 at 22°C. 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) The 2012, 2014 and 2016 assessments find three temp measurements from 12 observations exceed the 21°C criterion at 23.1°C (8/13/2009); 22°C (6/10/2010) and 23.2°C (8/31/2010).

4ARSF011.73- (Rt. 637 Bridge) There are no additional data beyond the 2008 IR. 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 21°C criterion from 12 observations. 2008 data resulted in the partial de-list of temperature for 6.43 miles. The 2004 IR reported two of 12 temperature measurements in excess of the criterion. Each exceedance is 22°C occurring on 7/22/99 and 6/06/01. The 2004 Category 5C assessment remains. Low stream flows and drought conditions were observed during both 1999 and 2001.

4ARSF002.20- (above the old Green Hill industrial site near Rt. 11/460) There are no additional data beyond the 2004 IR. The 2004 IR records two of 18 temperature measurements exceed the WQS criterion. Each 2004 exceedance is 22°C 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) Two of 12 temperature measurements exceed the WQS Class V 21°C criterion at 21.8 °C (6/9/2014) and 21.9 °C (7/1/2014) within the 2016 data window.

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

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L01R-02-TEMP **Bottom Creek**

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

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

4ABTM000.04 (Rt. 637 Bridge)-Temperature measurements within the 2016, 2014 and 2012 data windows result in three exceeding values from 12 observations with no additional data beyond the 2012 IR. Measurements in excess of the Class VI criterion occur on 8/13/2009 at 22.9, 6/10/2010 at 23.0 and 8/31/2010 at 24.0 °C. The 2012 data window reports five of 20 measurements exceeding the 20°C criterion. Exceeding values range from 20.5 to 24°C. Temperature measurements within the 2010 data window find two of nine measurements exceeding the WQS Class VI 20°C criterion. Exceeding values occur on 7/7/2005 at 21 and 7/25/2006 at 20.5 °C. The 2008 IR finds three of 10 temperature measurements exceed the Class VI criterion on 06/04/02 at 24.4 °C; 7/7/2005 at 21 and 7/25/2006 at 20.5 °C.

Bottom Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			4.49

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L02R-01-PH **Bradshaw Creek**

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

City / County: Montgomery Co. Roanoke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5C

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. The range of exceeding values are 6.1 to 6.3 SU. There are no additional data beyond the 2010 Integrated Report (IR).

Bradshaw Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			10.36

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L03R-01-TEMP **Roanoke River**

Location: Roanoke River mainstem from Spring Hollow Reservoir extending downstream to the Rt. 419 Bridge crossing.

City / County: Roanoke Co. Salem City

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The waters remain impaired for the Aquatic Life Use. Station 4AROA227.42 is located within the Water Quality Standards 'hh' special standard [9VAC25-260-310] establishing a maximum temperature of 31°C May 1 through October 31 for these seasonally stockable trout waters. Temperature data from 4AROA227.42 (located at the Rt. 773 Bridge in Lafayette) now meets the temperature criterion and 1.28 miles of the Roanoke are delisted with the 2012 Integrated Report (IR). Station 4AROA227.42 is no longer a Listing station for the temperature impairment.

4AROA212.17- (Rt. 11 Bridge - below Eaton, Inc.) The 2016 data window produces one exceedance at 22.8°C (6/8/2010) from four observations. One temperature excursion from six observations exceeds the stockable trout water criterion at 22.8°C (6/08/2010) within the 2014 data window. This same excursion occurs within the 2012 data window from a total of 8 measurements. Two of 17 temperature measurements exceed the criterion within the 2010 data window. Measurements in excess of the criterion are 21.3 on 7/15/2003 and 25.4 on 7/13/2004. These same exceedances occur within the 2008 data window where two of 21 temperature measurements exceed the 21°C criterion. Temperature data within the 2006 data window finds exceedances in six of 32 measurements ranging from 21 to 25°C. The 2004 assessment finds temperature exceeds the stockable trout water criterion in eight of 42 measurements. Exceedances range from 22 to 25°C. Eleven of 67 temperature measurements exceed the criterion within the 2002 assessment.

Roanoke River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			13.09
Temperature, water - Total Impaired Size by Water Type:			13.09

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L04R-01-HG **Roanoke River**

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

City / County: Roanoke City Roanoke Co. Salem City

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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.

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. There are no additional data.

Roanoke River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			10.28

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L04R-03-BEN **Roanoke River**

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

City / County: Bedford Co. Roanoke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic impairment is extended downstream with the 2008 Integrated Report (IR) for 3.16 miles from Niagara Dam downstream to the mouth of Back Creek. The 2008 and 2010 Integrated Reports assigned a Cause Group Code of L04R-01-BEN incorporating the entire 14.45 mile benthic impairment. This 3.14 mile portion is Category 5A as the TMDL Study did not address these waters. Thus a new Cause Group Code of L04R-03-BEN is assigned with the 2012 Integrated Report. The impairment does not include the impounded waters of Niagara Dam.

4AROA198.08- (Explore Park near the Shenandoah Pavilion) Bio 'IM' The 2016 data window finds impairment from four spring and fall VSCI surveys (2010 & 2014) with an average score of 46.4. Previous surveys yielded benthic communities dominated by net-spinning caddisfly larvae (Hydropsychidae) and the fourth was dominated by midges (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 and stoneflies.

Instream habitat, riparian zone vegetation, and bank stability were all optimal providing conditions favorable for a healthy benthic community. However, filamentous algae and periphyton growth was thick on stream substrates indicating that nutrients may be excessive in this reach of the Roanoke River.

There were no additional within the 2014 data window. The 2012 assessment reports four VSCI surveys (fall 2005 & fall 2009 & 2010 spring & fall) with an average score of 51.5. 2010 and 2008 data windows contain two VSCI surveys 2005 and 2006 both fall scores are 56.3 and 55.0.

Roanoke River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.16

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)			



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L05R-01-BEN **Tinker Creek**

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

City / County: Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic community is impaired for 5.37 miles based on a 2008 Virginia Stream Condition Index survey (VSCI).

4ATKR000.69 (Rt. 24 Bridge - Vinton) One 2008 VSCI survey scoring 50.9. There have been no additional surveys within the 2012, 2014 or 2016 data windows. The score indicates a stressed community with low taxonomic diversity and low abundance of pollution-sensitive organisms. A visual assessment indicates that more than 70% of the stream substrate was covered with a thick mat of algae which may limit habitat available for macroinvertebrates that require clean substrates.

Tinker Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.37

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L05R-01-TEMP **Tinker Creek**

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

City / County: Botetourt Co. Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The waters remain impaired for the Aquatic Life Use.

4ATKR009.30- (Rt. 11 Bridge - near Hollins) There are no additional temperature data beyond the 2008 IR. No exceedances are found in the remaining three measurements within the 2012 data window. 2010 data find one temperature measurement exceeding the 21°C criterion from 15 measurements. 2008 temperature data exceeds the stockable trout water criterion in three of 23 measurements at 23°C (6/04/2002); 25 °C (8/08/2001) and 21.2°C (7/06/2004). Temperature exceeds the criterion in three of 20 measurements in 2006 with the same exceeding measurements as in 2008. Temperature exceeds the 21°C criterion in two of eight measurements within the 2004 data window. Temperature exceedances are 23°C (6/04/2002) and 25 °C (8/08/2001).

4ATKR000.69- (Rt. 24 Bridge in Vinton) A 1999 Consent Decree Attachment A station. WQS Class V temperature excursions are four of 36 within the 2016 data window. Excursions range from 21.4 to 24.6°C. Five of 37 temperature observations exceed the Stockable Trout Water criterion of 21°C in 2014. Values in excess of the criterion range from 21.3 to 24.6°C. The 2012 assessment reports five of 38 measurements exceed the Class V temperature criterion (21°C). Exceedances range from 21.3 to 22.1°C. Seven of 41 measurements exceed the Class V criterion with the 2010 data window. Exceedances range from 21.3 to 22.2°C. Ten of 48 measurements exceed the 21°C criterion within the 2006 & 2008 data windows. Exceedances range from 21.1°C to 23.4°C for both assessments. The 2004 assessment reports three of 56 measurements exceed the 21°C Class V criterion although Fully Supporting from assessed data. Exceedances occur on 7/22/1999 (23°C), 6/13/2000 (22°C) and 8/08/2001 (23°C). The 2002 data window shows seven of 59 temperature measurements in excess of the criterion.

Tinker Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			11.87

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L05R-02-BEN Deer Branch

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

City / County: Roanoke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2014 assessment reports the Deer Branch Aquatic Life Use (General Standard - Benthic) is impaired for 1.38 miles.

4ADEE000.06 (Brookside Park, Roanoke City)- No additional data beyond the 2014 IR. Bio 'IM' Two 2012 surveys score spring 45.1 and fall 61.8 for an average score of 53.4 indicating a benthic community dominated by pollution-tolerant taxa in the spring. Midges (Chironomidae) dominated the spring sample; whereas, the fall sample 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 in this stream that results in bank erosion, sediment deposition, and runoff. Riparian buffers are impacted on both banks.

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

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L06R-01-BEN **Back Creek**

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.

City / County: Roanoke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4ABAA023.07 (Along Rt. 221 Roanoke County) The 2014 initial 303(d) Listing finds the benthic community impaired from a total of six Virginia Stream Condition Index (VSCI) surveys conducted in 2005, 2008, 2009 and 2012. The average score is 57.8 resulting in this Listing.

Initially a fall 2005 sediment discharge from a construction site prompted sampling of this site. The 2005 fall score of 61.3 and 2006 scores spring of 50.9 and fall 60.9 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 spring 52.5 and fall 2012 at 64.9. The abundance of macroinvertebrates that feed by scraping algae and periphyton (%Scrapers) has always 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. This would indicate continued sources of fines beyond the initial 2005 release.

Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			6.92

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L07L-01-PH **Beaverdam Reservoir**

Location: Beaverdam Reservoir, Bedford County

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5C

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. Four values in excess of the criterion are at 5.7 and one at 5.8 during one sampling event on 4/22/2010 from a total of 13 sampling events in 2005 and 2010.

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

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L07R-01-BEN **Beaverdam Creek**

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).

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2010 Virginia Stream Condition Index (VSCI) surveys find the Aquatic Life Use is impaired for 10.33 miles. There are no additional data beyond the 2010 Integrated Report (IR).

4ABDA006.72 (Rt. 24 Crossing)- Two 2008 Virginia Stream Condition Index (VSCI) surveys with an average score of 45.0 find the benthic community impaired. 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.

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.33

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

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

Location: Merriman Run, UT (XUO) mainstem from the backwaters of Smith Mtn. Lake upstream to its headwaters.

City / County: Bedford Co. Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AXUO000.49 (Free flowing to Smith Mtn. Lake backwaters)- Previous assessments DEQ reserved judgment for this initial 2004 probabilistic site (VAEQ99-456) from four Virginia Stream Condition Index (VSCI) surveys (2004 - 2005). The station is located on a small second order stream upstream of Smith Mountain Lake backwaters in a watershed influenced by agricultural land use. More information was desired before a conclusive assessment could be made on this station's benthic community. The average Virginia Stream Condition Index (VSCI) score was 54.2 from six surveys (2010 IR) conducted in the spring and fall seasons of both 2004, 2005 and 2008.

There are no additional data beyond the 2010 IR and no new data within the 2016 data window. Two 2008 VSCI surveys remain within the 2014 data window averaging 47.9. Four VSCI Surveys (2005-2008) within the 2012 data window score an average of 46.6. The 2010 Listing is based on six VSCI surveys (2004 - 2008) with an average score of 54.2. This station is located just upstream of a cove on Smith Mountain Lake. The impounded waters do not appear to impact this stream reach. Sediment deposition scores were low for all samples. Water flow, velocity, and bank erosion scores worsened during 2004-2005. Relative Bed Stability habitat analyses from 2004 and 2005 determined that approximately 40-50% of the stream substrate consisted of sand and fine sediments. The land cover for this watershed is 44 % agriculture consisting mostly of pasture. During the 2005 samples, it appeared that there had been a change in flow and velocity so that fine sediments deposition had increased in the sampled reach. Contributing factors possibly include low rainfall and subsequent low flow levels. Also, a recently (2004-2005) constructed pond may contribute to reduced flows during specific periods and or seasons.

Merriman Run, UT (XUO)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.88

Sources:

- Agriculture
- Loss of Riparian Habitat
- Wet Weather Discharges
(Non-Point Source)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L08R-01-TEMP **Green Creek**

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

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) There are 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.

Green Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			4.09

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

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

Location: South Fork Blackwater River mainstem from Algoma, Green Creek mouth, downstream to the South Fork's confluence with the North Fork Blackwater River (RU21).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The Temperature impairment on the South Fork Blackwater River returns with the 2016 Integrated Report (IR). The temperature impairment was last de-listed in 2014 after the impairment returned with the 2012 IR. The temperature impairment has previously been de-listed in 2004 and 2010.

The Aquatic Life Use is impaired due to excursions of the WQS Class V temperature criterion of 21°C.

4ABSF001.15 (Rt. 641 Bridge east of Callaway) The 2016 data window finds four of 36 temperature measurements in excess of the WQS Class V Stockable Trout Water criterion of 21°C. Values in excess of the criterion occur in the summer months on 6/22/2010 at 23.3°C; 8/9/2010 at 22.9°C; 7/7/2011 at 23.7°C and 6/10/2014 at 21.1°C. Three of 36 temperature measurements exceed the Class V criterion of 21°C in 2014; an exceedance rate of 8.3%. The waters were delisted with the 2014 Integrated Report (IR) where temperature measurements in excess of the Class V criterion are 23.3°C (6/22/2010), 22.9°C (8/9/2010) and 23.7°C (7/7/2011). Five of 36 temperature measurements exceed the Class V criterion of 21 °C in 2012. Exceedances occur in the summer months of June and August and range from 22.4 to 24.1°C. The South Fork Blackwater River was delisted in 2004 for temperature but returned with the 2008 assessment. 2008 data report three excessive measurements from a total of 26.

Blackwater River, South Fork

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Temperature, water - Total Impaired Size by Water Type:

6.20

Sources:

- Natural Conditions - Water Quality Standards Use Attainability Analyses Needed



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L08R-05-BEN **Little Creek**

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).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is not supported for 7.85 miles 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) There are no additional data beyond the 2014 Integrated Report (IR) where four (2010-2011) Virginia Stream Condition Index (VSCI) scores yield an average score of 45.2. Two VSCI surveys (2010) produce an average score of 48.98 within the 2012 data window. Previous assessments (2008 and 2010) found impairment from two spring VSCI surveys (2001 & 2002) producing an average score of 32.2. The assemblages collected at this site indicate excessive organic matter, excessive nutrients, and embedded substrates. Habitat surveys also indicate impacts from sediment deposition removal of riparian buffers. Ambient chemical data indicates NPS impacts from bacteria and nutrients. A TMDL study indicating sediment and phosphorus as the stressors in the Upper Blackwater and North Fork Blackwater Rivers was approved by the EPA in 2004. Currently, the Soil and Water Conservation District is implementing agricultural best management practices in the watershed.

Little Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			7.85

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L08R-06-BEN **Teels Creek**

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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) Bio 'IM' There are no additional data beyond the 2014 Integrated Report (IR) where four (2010-2011) Virginia Stream Condition Index (VSCI) surveys yield an average score of 58.3. The 2012 assessment reports two 2010 VSCI surveys with an average score of 57.33. The instream habitat (substrate) at this site has been impacted by fine sediment. The riparian zone vegetation is reduced and stream banks are eroded as a result. Currently, the Soil and Water Conservation District is implementing agricultural best management practices in the watershed for the Implementation Plan of the 2004 Bacteria TMDL. The 2008 and 2010 assessments report a single 2002 VSCI survey scoring 60.2. Although the VSCI score in 2002 was above the 60.0 threshold score for non-impairment, previous surveys indicated impairment. The community in spring 2002 had approximately 50% pollution tolerant organisms. The assemblages collected at this site indicated excessive organic matter, and embedded substrates. Habitat surveys also indicate impacts from sediment deposition, eroded banks and removal of riparian buffers.

Teels Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate 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) | | | |



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L08R-07-BEN **Buck Run**

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic community is impaired for 3.77 miles for this 2008 303(d) Listing.

4ABCE001.32 (Above Rt. 731 Bridge) Bio 'IM' There are no additional data beyond the 2014 Integrated Report (IR) where four (2010-2011) Virginia Stream Condition Index (VSCI) surveys yield an average score of 35.2. 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.

4ABCE000.87- (Downstream of Rt. 731; end of Twin Hollow Lane) Bio 'IM' There are no additional data beyond the 2010 IR. Four 2006-2007 VSCI surveys with an average score of 35.0. Two remaining 2007 VSCI surveys score 29.8 on average within the 2014 data window. 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 indicate elevated nutrients relative to other Probabilistic stations in the region.

Buck Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate 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)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L09R-01-BEN Maggodee Creek

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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

4AMEE002.38- Bio 'IM' There are no additional data beyond the 2014 Integrated Report (IR). The 2014 data window yields four (2010-2011) VSCI surveys with an average score of 57.4. Two 2010 VSCI surveys with an average score of 52.1 for the 2012 assessment. 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) Bio 'IM' There are no additional data beyond the 2008 IR. One 2002 Virginia Stream Condition Index (VSCI) survey scoring 47.2. 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. Two surveys in the spring result in scores of 30.43 (2000) and 52.17 (2002). The fall 2000 survey score is 52.17.

Maggodee Creek

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

7.47

Sources:

Livestock (Grazing or
Feeding Operations)

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L09R-01-TEMP **Maggodee Creek**

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.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

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) There are no additional data beyond the 2014 IR where seven of 36 temperature measurements exceed the stockable trout water criterion of 21°C within the 2014 data window. Temperature exceedances range from 21.2 to 25.2°C and occur in the summer months. Five of 23 measurements exceed within the 2016 data window. The 2012 assessment reports six of 27 temperature measurements exceed the stockable trout water criterion ranging from 21.4 to 25.2°C. Four of 24 temperature measurements exceed the criterion in 2010. Temperature exceedances occur at 21.1°C on 8/5/2004; 21.4°C on 6/30/2005; 25.2°C on 8/01/2007; and 23.4°C on 6/11/2008. The 2008 assessment reports one temperature exceedance at 21.1°C on 8/5/2004 and a second at 21.4°C on 6/30/2005 from 12 measurements. These excursions are in excess of the 21°C stockable trout water criterion causing the initial Listing of these waters in 2008.

Maggodee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			4.43

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L09R-02-BEN **Maggodee Creek**

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2016 initial 5.42 mile General Standard - Benthic impairment of the Aquatic Life Use is the result of macroinvertebrate surveys resulting in an impaired status.

4AMEE017.24 (Upstream of Rt. 220 near Boones Mill) Bio 'IM' Two 2014 Virginia Stream Condition Index (VSCI) surveys scoring spring 46.8 and fall 57.9. The average VSCI score was 52.4 indicating 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.

Maggodee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.42

Sources:

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L10L-01-HG Blackwater River

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.

City / County: Franklin Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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.

Blackwater River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:		524.78	8.21

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

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

Location: Crazy Horse Camp Ground Beach and Marina area.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

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-L12L-05 & L12L-05-BAC). There are no additional data.

Smith Mountain Lake - Crazy Horse Camp Ground	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		30.27	

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L10R-01-BEN Blackwater River

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.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

An upstream portion of the Blackwater River General Standard - Benthic impairment is delisted based on Virginia Stream Condition Index (VSCI) survey data from station 4ABWR029.51 for 5.99 miles. 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 assessments find benthic impairment from two 2004 Virginia Stream Condition Index (VSCI) surveys scoring 60.7 spring and 50.1 fall. The average VSCI score is 55.4. 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 scores are: spring 69.4; fall 73.6. And 2012 scores are: spring 58.6; fall 74.8.

Blackwater River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.21

Sources:

Livestock (Grazing or Feeding Operations)

Loss of Riparian Habitat

Sediment Resuspension (Clean Sediment)

Wet Weather Discharges (Non-Point Source)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L11R-01-BEN North Fork Gills Creek, UT (XML)

Location: North Fork Gills Creek, UT (XML) from its mouth on Gills Creek upstream to its headwaters.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AXML000.56- (Off of Rt. 684 near Red Valley) Bio 'IM' There are no additional information beyond the 2006 Integrated Report (IR). Two 2003 Virginia Stream Condition Index (VSCI) surveys find impairment at this site where the average score is 23.3 (spring 17.5 / fall 29.0). This stream has a small watershed (<1.0 sq. mi) which is dominated by agricultural land. The stream channel is impacted by heavy deposits of fine sediment and many areas of eroded stream bank. One side of the stream has a good riparian buffer while the other side is impacted by a pasture.

North Fork Gills Creek, UT (XML)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.43

Sources:

Livestock (Grazing or Feeding Operations)

Loss of Riparian Habitat

Sediment Resuspension (Clean Sediment)

Wet Weather Discharges (Non-Point Source)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L12L-01-HG **Smith Mountain Lake**

Location: Smith Mtn. Lake from the backwaters of the Roanoke River (elevation 795 ft.) downstream to a point 37°04'39" / 79°37'15"; downstream of the State Park.

City / County: Bedford Co. Franklin Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2006 fish tissue collections and new 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/info/mercury.html> for more information about mercury contamination and <http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/> for VDH Advisories or Bans.

4AROA175.63 (Hales Ford Bridge)- Mercury (Hg) fish tissue exceedances of the DEQ WQS based 0.3 ppm TV are found in two species from 2006 collections; largemouth bass from four individual fish (49.2 cm) at 0.691, (47.3 cm) at 0.484, (44.5 cm) at 0.376 and (40.9 cm) at 0.305 ppm; and flathead catfish (83.4 cm) at 0.406 ppm.

2002 Data from station 4AROA196.05 (McVeigh Ford)- records one species, an individual flathead catfish (91.3 cm) at 0.34 ppm.

Smith Mountain Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			6,480.10

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

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

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

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

4ACCK004.26 (Surry Drive Bridge) There are no additional data beyond the 2012 IR where three of 11 escherichia coli (E.coli) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. Exceedances range from 320 to 980 cfu/100 ml.

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

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)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L14R-01-BEN **Pigg River**

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired with this initial 2012 General Standard- Benthic Listing for 4.43 miles.

4APGG077.15 (Ferrum Mtn. Rd. (Rt. 602) Bridge) Bio 'IM' Three Virginia Stream Condition Index (VSCI) surveys (fall 2013 and 2014 spring/fall) with an average 2016 score of 58.8. This station surveyed as a follow up to an initial 303(d) listing at 4APGG076.93. The average Stream Condition Index (SCI) score was 58.8 indicating a stressed benthic community. The two metrics that vary most are % Scrapers and %Chiro. The metric % 2Dom averaged 57% indicating that 2 taxa of benthic macroinvertebrates made up >50% of the samples. Total Habitat scores averaged 98, yielding a marginal score. Stream bank and riparian zone scores were poor and sediment deposition scores were all marginal

4APGG076.93 (~ 1 mile upstream of the South Prong Pigg River confluence) Bio 'IM' A 2009 Probabilistic site. Two 2009 VSCI surveys with an average score of 50.5. There are no additional data beyond the 2012 Integrated Report. A stressed benthic community. A high number of mayflies were in this sample; however, the 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.

Pigg River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			4.43
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			

Sources:

Crop Production (Crop Land or Dry Land)

Dairies (Outside Milk Parlor Areas)

Livestock (Grazing or Feeding Operations)

Wet Weather Discharges (Non-Point Source)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L14R-02-BEN **Storey Creek**

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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)) Bio 'IM' Two 2013 VSCI surveys with an average score of 51.7 indicating a benthic community lacking in diversity and pollution-sensitive organisms. 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.

Storey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.82

Sources:

Crop Production (Crop Land or Dry Land)

Dairies (Outside Milk Parlor Areas)

Livestock (Grazing or Feeding Operations)

Wet Weather Discharges (Non-Point Source)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L17R-01-BEN Poplar Branch

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

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired for 2.53 miles with the 2008 303(d) Listing of these waters from data at station 4APAA000.24.

4APAA000.71- Bio 'IM' Four VSCI (2013-2014) surveys with an average score of 58.2. 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)- Bio 'IM' There are no additional data beyond the 2008 assessment where two Virginia Stream Condition Index (VSCI) surveys score spring 54.0 and fall 55.5. 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.

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

Sources:

Sediment Resuspension
(Clean Sediment)

Wet Weather Discharges
(Non-Point Source)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L18R-01-BEN Fryingpan Creek

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

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The waters of Fryingpan Creek are impaired for the Aquatic Life Use due to contravention of the WQS General Standard (Benthic). The 2006 303(d) 2.56 mile 303(d) Listing is a result of benthic impairments found at station 4AFRY006.08 (Rt. 40 Bridge) where two 2003 Virginia Stream Condition Index (VSCI) scores are spring 42.4 and fall 32.8. Four additional 2011 and 2013 VSCI surveys find continued impairment with an average score of 44.4.

The stream has a small watershed (5.2 mi²) which is approximately 46% agricultural land. The stream channel is impacted by deposits of fine sediment and some areas of eroded stream bank. Both sides of the stream are protected by a good riparian buffer. The benthic community has low diversity of pollution sensitive families and is dominated by those tolerant of excessive sediment.

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

Sources:

Livestock (Grazing or
Feeding Operations)

Sediment Resuspension
(Clean Sediment)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L19R-01-HG

Roanoke (Staunton) River, Cub Creek, Kerr Reservoir

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.

City / County: Campbell Co. Charlotte Co. Halifax Co. Mecklenburg Co. Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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.

VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.

Eat fewer or smaller servings of fish.

Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).

Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:

Remove the skin, the fat from the belly and top and internal organs before cooking the fish.

Bake, broil or grill on an open rack to allow fats to drain away from the meat.

Discard the fats that cook out of the fish.

Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.

Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.

For more information about fish consumption advisories, including frequently asked questions go to www.vdh.virginia.gov.

Mercury Fish Tissue Sampling Results

Near Route 29 - Altavista

4AROA129.55 (2006 FT/Sediment) - 2 species exceed Mercury VDH level of concern

Near Brookneal

4AROA097.07 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern

Near Route 746 - Randolph

4AROA067.91 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern

Near Route 360 - Clover

4AROA059.12 (2006 FT/Sediment) - 4 species exceed Mercury VDH level of concern

Near Clarksville

4AROA036.59 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern

Kerr Reservoir near Ivy Hill

4AROA028.04 (2006 FT/Sediment) - 2 species exceed Mercury VDH level of concern

Lake Gaston near State Line

4AROA004.54 (2006 FT/Sediment) - 1 species exceeded Mercury VDH level of concern

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:

31,884.59

102.09

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L19R-02-BEN **Lynch Creek**

Location: Lynch Creek from its headwaters to the mouth on the Roanoke (Staunton) River.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ALYH000.50 (Ambient, Bio)

2008 Bio

IM - Located in a City Park with significant impervious surface coverage in the riparian zone.

Lynch Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.90

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L19R-03-BEN Reed Creek

Location: Reed Creek mainstem from its mouth on the Roanoke (Staunton) River upstream to its perennial headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ARAB000.52 (Bio)

2008 & 2012 Bio

IM - 4ARAB000.52 exhibited high seasonal variability, with one score approaching the impairment cutoff of 60. Sedimentation and elevated nutrients may be negatively affecting the stream community. Further sampling is needed to accurately assess the benthic community.

Reed Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.90

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L19R-04-BEN Roanoke (Staunton) River, Unnamed tributary

Location: An unnamed tributary to the Roanoke (Staunton) River downstream of Frazier Creek from its mouth on the Roanoke River upstream to its headwaters.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AXCN000.31 (2008 Bio)

IM - appears to be negatively affected by high nutrient levels and suburban storm flows.

Roanoke (Staunton) River, Unnamed tributary

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Aquatic Life

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

4.10

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L21R-01-BEN Wolf Creek

Location: Wolf Creek from its headwaters downstream to the Wolf Creek confluence on Goose Creek.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired with this 2012 303(d) Listing for contravention of the General Standard (Benthic). There are no additional data within the 2016 data window.

4AWLF001.20- (Upstream of Joppa Mill) Bio 'IM' There are no additional data beyond the 2012 Integrated Report (IR). Two 2010 VSCI surveys with an average score of 51.5. 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.

Wolf Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate 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)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L21R-02-BEN Bore Auger Creek

Location: Bore Auger Creek from near it's headwaters downstream to it's confluence with Goose Creek.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

These waters are initially listed with the 2014 Integrated Report (IR).

4ABOE005.27 (Rt. 806 Bridge) Bio 'IM' Two 2012 VSCI surveys scoring spring 48.7 and fall 59.6. 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.

Bore Auger Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.56

Sources:

Loss of Riparian Habitat

Non-Point Source

Wet Weather Discharges
(Non-Point Source)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L26R-01-BEN Little Otter River

Location: Little Otter River mainstem from the Bedford City POTW downstream to mouth to its confluence with the Big Otter River.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The original 2002 303(d) Listed 5.90 mile General Standard (Benthic) impairment is extended upstream in 2008 with an additional 7.44 miles showing benthic impairment at station 4ALOR014.75 for an additional impaired length of 13.34 miles. The 2010 assessment extends the impairment downstream 8.71 miles based on impaired benthic conditions at stations 4ALOR012.20, 4ALOR008.64 and 4ALOR007.20. Total impaired miles are 22.05 miles.

4ALOR014.75- (Rt. 718 Bridge - above Bedford STP) Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2011-2012) report an average score of 57.9 within the 2016 data window. The 2014 IR reports six VSCI surveys (2008, 2011-2012) with an average score of 59.9. The 2010 and 2012 assessments record three Virginia Stream Condition Index (VSCI) surveys (2006 and 2008) scoring fall 2006 58.7; and spring 56.7 and fall 67.8 in 2008. The 2008 IR reports the fall 2006 VSCI survey as noted previously. Habitat impacts include stream substrates that are embedded by fine sediment, eroded stream banks and riparian zone vegetation removal. Application of the VSCI to previous RBP II surveys (1994-2006 outside the 2008 data window) reveals an average VSCI score of 54.0. As a result the benthic community is assessed as impaired and is a 2008 7.30 mile extension upstream from the 2002 303(d) Benthic Listing.

4ALOR014.33- (Below Bedford STP) Bio 'IM'. The 2014 and 2016 Integrated Reports (IR) find four (2011-2012) VSCI surveys with an average score of 49.2. The preliminary stressor identification determined sediment and nutrients to be the cause of the impairment. There are no additional data between the 2004 and 2014 IRs where three 2004 RBP II surveys Fall 1999 score 45; Spring '99 and '00 average score 53.95. 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 is a 2002 original 303(d) Listing.

4ALOR012.20 (Passed the end of Dowdy Rock Rd.) Bio 'IM' Two 2008 VSCI surveys with an average score of 58.2. 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)- Bio 'IM' Both the 2014 and 2016 IRs report two 2012 VSCI surveys scoring spring 48.9 and fall 27.2. Habitat surveys indicated a stream section with marginal bank stability, sediment impacts and lack of instream habitat. Preliminary stressor identification determined sediment and nutrients to be the cause of the impairment.

4ALOR008.64 (Nicopolis Dr., Rt. 784 Bridge) Bio 'IM' One 2008 VSCI survey scoring 56.5. 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) Bio 'IM'- A 2007 probabilistic site. Two 2007 VSCI surveys with an average score of 52.7. 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 impacted by excessive fine sediments.

Little Otter River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			22.05



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Sources:

Loss of Riparian Habitat

Municipal (Urbanized High
Density Area)

Municipal Point Source
Discharges

Sediment Resuspension
(Clean Sediment)

Streambank

Wet Weather Discharges
(Non-Point Source)

Modifications/destabilization



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L26R-01-HG **Little Otter River**

Location: Little Otter River mainstem from the Bedford City POTW downstream to the Little Otter River confluence with the Big Otter River.

City / County: Bedford Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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/Epidemiology/dee/PublicHealthToxicology/Advisories/> for VDH Advisories or Bans.

4ALOR007.94 (Below Bedford)- There are no additional data within the 2016 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.

Little Otter River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			14.61

Sources:

Urban Runoff/Storm Sewers



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L26R-02-BEN **Johns Creek**

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).

City / County: Bedford City Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AJHN000.01- (near the Johns Creek confluence with the Little Otter River) Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2011-2012) with an average score of 49.4 show an impaired condition within the 2016 data window. The 2014 data window contains six VSCI (2008-2012). The 2014 average score is 48.5 indicating continued impairment of the biota. The benthic community was dominated by midges (Chironomidae) and net-spinning caddisflies (Hydropsychidae). These organisms typically dominate streams that have high amounts of organic matter. Two surveys had low taxa richness and diversity and all had low numbers of pollution-sensitive taxa such as mayflies and stoneflies. There were no additional data within the 2012 data window. The 2010 assessment finds the benthic community impaired from three VSCI surveys (2006-2008) with an average score of 44.20. This stream is affected by urban and agricultural NPS pollution. Flashy flows appear to cause severe erosion of stream banks. The original 2002 2.13 mile General Standard (Benthic) 303(d) Listing remains. The 2008 assessment reports one 2006 fall Virginia Stream Condition Index (VSCI) survey scoring 40.7.

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. BPJ used in spring 1999 because the number of total taxa and total individuals were low, and pollution tolerant taxa were dominant.

Johns Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.24

Sources:

- Municipal (Urbanized High Density Area)
- Sediment Resuspension (Clean Sediment)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L26R-03-BEN **Wells Creek**

Location: Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 initial 303(d) Listing finds the Aquatic Life Use impaired for 3.93 miles based on results from benthic surveys at station 4AWEL000.59.

4AWEL001.14- (Rt. 722 Bridge, Old Country Rd.) Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2011-2012) with an average score of 50.2. 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) Bio 'IM' Both the 2010 and 2008 assessments find two 2005 VSCI surveys scoring spring 45.6 and fall 59.6. There are no additional data within the 2012, 2014 or 2016 data windows. 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.

Wells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.93

Sources:

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)

Streambank
Modifications/destabilization



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L29R-01-BEN **Flat Creek**

Location: Flat Creek from the confluence of Yellow Branch to its headwaters.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

2007/2012/2014 Bio

IM - 4AFCA010.95 was listed as impaired in the 2008 IR. Sediment and scour are listed as probable stressors. It exhibits slight seasonal variability and moderate variability near the assessment threshold of 60. Recent sampling has indicated an improvement in VSCI scores, although sediment and scour are still affecting the community. Additional monitoring is required to accurately assess the waterbody.

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.21

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L31R-01-BEN East Little Seneca Creek, Unnamed Tributary

Location: East Little Seneca Creek, Unnamed Tributary from the headwaters to the mouth

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AXUP000.06 (2004 FPM)

IM - seems to be negatively affected by flow regime and sedimentation.

2011/2013 Bio - IM - Sediment and nutrients are primary stressors to this reach. VSCI scores exhibit seasonal variability over several years.

East Little Seneca Creek, Unnamed Tributary

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

1.50

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L34R-04-PH **Entry Creek**

Location: Entry Creek from its headwaters to its mouth on Little Falling River

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

Station ID:

4AENT001.64 (Ambient)

pH - 2/12 violation rate - below 6.0

Entry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.73

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L34R-07-BEN **Entry Creek, Unnamed Tributary**

Location: From its headwaters to the mouth on Entry Creek

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AXVK001.44 (2009-2010 FPM)

IM - very small intermittent stream within the PROBMON program. 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.

Entry Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.69

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L35R-01-BEN **Mollys Creek**

Location: Mollys Creek mainstem from its perennial headwaters downstream to the reservoir backwaters.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AMEY016.00 (2007-2008 Bio)

IM - Agriculture watershed influences in addition to a small POTW several miles upstream.

Mollys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.99

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L36R-04-BEN Armistead Branch

Location: Armistead Branch from the second unnamed tributary upstream of Route 627 to its mouth on Catawba Creek

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AATD002.66 (Ambient/2012 Bio)

IM - 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 Probmon station (4AATD003.36). The probmon 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 TMDL study.

Armistead Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.20

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L38L-01-DO **Conner Lake**

Location: Conner Lake

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4AHTA003.26 (2013-2014 Lake Station)

Dissolved Oxygen - 6/40 Violation Rate

Insufficient Nutrient Data to Assess

Conner Lake

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Oxygen, Dissolved - Total Impaired Size by Water Type:

101.92

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L38L-01-HG **Conner Lake**

Location: Conner Lake

City / County: Halifax Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

Station ID:

4AHTA003.26 (2006 FT/Sediment)

Hg 2 Species

Conner Lake

Fish Consumption

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

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

101.92

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L39R-03-BEN **Horsepen Creek**

Location: Horsepen Creek from Route 47 downstream to Little Horsepen Creek

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AHEN004.74 (2001 FPM)

IM - Potential sediment impacts and lack of instream habitat.

Horsepen Creek

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Aquatic Life

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

5.32

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L39R-05-HG **Roanoke Creek**

Location: Roanoke Creek from Wards Fork Creek to its mouth on the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

Station ID:

4AROC005.35 (2006 FT/Sed)

Hg 2 Species

Roanoke Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			10.50

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L39R-07-BEN Little Roanoke Creek

Location: Little Roanoke Creek from its headwaters to its confluence with Dunnivant Creek.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ALRO010.68 (2007 FPM)

IM - 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).

Little Roanoke Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.15

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L39R-08-BEN Bush Ford Branch

Location: Bush Ford Branch from its headwaters to the mouth.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABWB000.32 (2008 FPM)
IM Benthic Assessment

Bush Ford Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.09

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L39R-09-BEN **UT, Spencer Creek**

Location: An unnamed tributary to Spencer Creek from its headwaters to its mouth

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AXVO000.50 (2012 FPM)

IM - This stream was incised and had a sedimentation problem. The habitat was marginal and the banks were unstable.

UT, Spencer Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.90

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L40R-01-BEN **Berles Creek**

Location: Berles Creek from its headwaters to Sandy Creek.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

NESTED 2014: 23316, 06/20/2006

Station ID:

4ABLE001.21 (Ambient, 2010/2014 Bio)

E. coli - 3/6 Violation Rate

IM - Heavy to moderate embeddedness observed in 2014 samples. Sedimentation is a likely stressor

Berles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.28

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L40R-06-BEN Buffalo Creek

Location: Buffalo Creek from an unnamed tributary at river mile 2.3 to the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABNN002.17 (2012 Bio)

IM - 4ABNN002.17 exhibits seasonal variability below the impairment threshold. Habitat scores and Taxa lists indicate bank scour and sedimentation to be likely stressors within this reach.

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.35

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L42L-01-HG **Talbott Reservoir**

Location: Talbott Reservoir

City / County: Patrick Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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).

Talbott Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			140.51

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L42R-01-TEMP **Dan River**

Location: The Dan River from the Pinnacles Power House downstream to the VA-NC State Line in Patrick County.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

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.)) There are no additional data beyond the 2014 Integrated Report (IR). Temperature exceedances of the 21°C Class V criterion are found in three of 12 measurements in 2014. The three excursions occur on 6/29/2011 (21.2°C), 8/25/2011 (21.4°C) and 7/31/2012 (21.7°C). There are no additional temperature data within the 2010 and 2012 data windows. The 2008 assessment records two of nine temperature measurements exceed the 21°C Class V stockable trout water criterion. These exceedances occur on 8/24/2005 at 21.8°C and 22.3°C on 8/30/2006 within both the 2008 and 2010 data windows.

4ADAN169.57- (Rt. 645 Bridge, VA-NC Stateline) There are no additional temperature data beyond the 2008 assessment where exceedances of the 21°C Class V criterion are found in two of nine measurements within the 2008 and 2010 data windows. The two excursions occur on the same days as at 4ADAN181.10; 8/24/2005 at 21.6°C and 8/30/2006 at 22.5°C. Previous assessment cycles have found temperature exceeds the criterion in one of 11 measurements taken within the 2004 assessment window (1998 - 2002- Station last sampled in May 2000). There were no additional data within the 2006 data window. The 2002 assessment and the original 303(d) Listing Cycle found three of 19 excursions of the criterion. The exceedances are 21.5 °C (1996), 21.2 °C (1997) and 23.6 °C (1998), all occurring in the month of July.

Dan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			15.47

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L43R-01-TEMP **South Mayo River**

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.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

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)- There are no additional data beyond the 2010 Integrated Report (IR). 2010 data find the Aquatic Life Use is impaired where temperature measurements exceed the Class VI 20°C criterion in three of 15 samples. Excursions range from 20.6 to 20.8°C.

South Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			4.73

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L45R-01-HG **South Mayo River**

Location: South Mayo River mainstem from the confluence of Spoon Creek downstream to the Virginia / North Carolina State Line.

City / County: Henry Co. Patrick Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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) redbreast sunfish at 0.419 ppm.

South Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			10.97

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L47R-01-BEN **Horse Pasture Creek**

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).

City / County: Henry Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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) Bio 'IM' 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 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 Virginia Stream Condition Index (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.

Horse Pasture Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			7.44

Sources:

- | | | |
|---|---|--|
| Sediment Resuspension
(Clean Sediment) | Streambank
Modifications/destabilization | Wet Weather Discharges
(Non-Point Source) |
|---|---|--|



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L50R-01-TEMP **Smith River**

Location: The temperature impaired waters begin at the mouth of Rich Run on the Smith River and extend downstream to the mouth of Widegon Creek on the Smith River spanning the Woolwine and Charity Quads.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

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.

4ASRE075.69- (Rt. 708 Bridge) 2014 and 2016 temperature data records nine of 36 measurements in excess of the 20°C natural trout water criterion. Both the 2014 and 2016 range of exceedance is from 20.3 to 25.2°C all occurring in the summer months. Temperature exceeds the natural trout criterion in ten of 35 measurements within the 2012 data window. The range of exceedance is from 20.5 to 25.2°C all occurring in the summer months. 2010 data find nine of 37 temperature measurements exceeding the 20°C criterion in the summer months. Excursions range from 20.4° to 22.7°C. Temperature exceeds the 20°C natural trout criterion in 12 of 41 measurements with the 2008 assessment. The range of exceedance is from 20.4 to 24.3°C all occurring in the summer months. 2006 records nine of 33 measurements exceeding the criterion and ranging from 21 to 24°C. 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.

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.

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			9.48

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L51L-01-HG **Philpott Reservoir**

Location: Philpott Reservoir

City / County: Franklin Co. Henry Co. Patrick Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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)- 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. There are no additional data within the 2016 data window.

Philpott Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:		2,813.52	

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L51R-01-HG **Goblintown Creek**

Location: Goblintown Creek from its headwaters downstream to the backwaters of Fairystone Lake

City / County: Patrick Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

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.

4AGOB005.18 (Rt. 623 Bridge)- 2007 fish tissue analysis finds exceedances of the WQS based tissue value (TV) for mercury (Hg) of 0.3 ppm in five individual largemouth bass 33.5 cm at 0.306; 37.1 at 0.472; 39.2 cm at 0.420; 47.1 cm at 0.926 and 48.9 cm at 0.734 ppm. There are no additional data within the 2012 data window.

Goblintown Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			6.80

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L51R-01-TEMP Rennet Bag Creek

Location: Rennet Bag Creek from its headwaters downstream to its inundation at Philpott Reservoir. The impairment spans the Endicott, Charity and Philpott Reservoir Quads.

City / County: Floyd Co. Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

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 WQS 9.41 mile natural trout water section. And is just upstream of the Class V stockable trout waters that are 2.13 miles in length. Both WQS Classes are assessed by this station. The 2002 temperature impairment remains from the initial 303(d) Listing.

4ARBC005.44- (Rt. 43 west of Endicott) The 2016 assessment reveals three of 12 temperature measurements exceed the Class VI Natural Trout criterion of 20°C. Excessive values occur in July August and September with a range of 20.2°C to 21.9°C. Only one excursion of the Class V Stockable Trout waters occurs. There are no additional data beyond the 2008 Integrated Report (IR). The natural trout water (Class VI) criterion of 20°C is exceeded in three of eight measurements taken within the 2010 and 2008 data windows. These excursions are 20.6 (8/25/05), 21.9 (6/22/06) and 21.6°C (8/29/06). Based on these results two of eight temperature measurements exceed the downstream stockable trout water (Class V) criterion of 21°C in both the 2010 and 2008. In the 2002 and 2004 assessments two temperature exceedances from six measurements are found. Temperature excursions of the WQS Class V (stockable trout) 21°C and Class VI (natural trout) 20°C criteria occurred in the summer months of August 1999 at 26.4 °C and June 2000 at 23.3 °C. Both excursions occur during the 1999-2002 drought years.

Rennet Bag Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			11.54

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L51R-02-TEMP Shooting Creek

Location: Shooting Creek from its mouth on the Smith River upstream to its headwaters.

City / County: Floyd Co. Franklin Co. Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

4ASOT000.99- (Rt. 622 Bridge) Five of 24 temperature measurements exceed the Class VI 20°C within the 2016 data window. Values in excess range from 20.4°C to 22.2°C. Each excursion occurs within the summer months. 2014 temperature excursions are found in three of 12 measurements. The three excursions are 21.8°C (6/29/2011), 21.5°C (8/25/2011) and 22.2°C (7/31/2012). There are no additional data within the 2012 data window. Three of eight temperature measurements exceed the 20°C Class VI natural trout water criterion within both 2008 and 2010 data windows. Temperature excursions are 20.6 (8/25/05 & 6/22/06) and 21.2°C (8/29/06). 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.

Shooting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			7.32
Temperature, water - Total Impaired Size by Water Type:			

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L51R-03-TEMP **Smith River**

Location: Smith River mainstem from the mouth of Small Creek upstream (WQS Class V waters) to Rt. 704.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The 2016 Integrated Report (IR) produces the initial 303(d) Listing for temperature excursions of the Stockable Trout water criterion and results in impairment of the Aquatic Life Use.

4ASRE063.69 (Upstream of Shooting Cr.) Two of 15 temperature measurements exceed the Class V Stockable Trout water criterion of 21°C. Both excursions occur in warmer months: 21.6°C (7/7/14) and 22.0°C (9/3/14).

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			8.98

Sources:

Natural Sources

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L53R-01-TEMP **Smith River**

Location: Smith River mainstem from the mouth of Reed Creek downstream to the E.I. DuPont Intake (RD24).

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

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 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.

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			6.50
Temperature, water - Total Impaired Size by Water Type:			

Sources:

Dam or Impoundment



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L53R-03-BEN **Beaver Creek**

Location: Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir.

City / County: Franklin Co. Henry Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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) The 2016 assessment records four VSCI surveys (2011, 2013) with an average score of 37.5. Two 2011 Virginia Stream Condition Index (VSCI) surveys within the 2014 data window find continued impairment with an average score of 38.8. Taxa richness is higher in the fall and the abundance of midges (Chironomidae) higher in the spring. 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 benthic community is dominated by pollution tolerant organisms and appears to be affected by habitat impacts. There are no additional data within the 2010 or 2012 data windows. The 2008 Integrated Report (IR) finds the benthic community impaired from two 2004 VSCI surveys with an average score of 51.2.

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			6.97

Sources:

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)

Streambank
Modifications/destabilization



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L53R-04-BEN Jones Creek, UT (XMP)

Location: Unnamed tributary (XMP) to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek.

City / County: Franklin Co. Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2006 303(d) Listed 2.04 mile Aquatic Life Use impairment remains due to contravention of the General Standard. There are no additional data beyond the 2008 assessment.

4AXMP001.85- (directly below Henry County Landfill) Bio 'IM' A single 2003 Virginia Stream Condition Index (VSCI) survey scoring spring 2003 47.1. 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. EPT represents the 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).

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. 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 4AXMP000.44 (Dwnstr. of Henry Co. Landfill off Rt. 663; Clearview Dr.) Bio 'J' Four VSCI surveys (2013-2014) with an average score of 52.3. 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.

This new station was sampled to determine the status of the benthic community at a location well beyond the landfill boundary and above the confluence with Jones Creek as well as to validate the assessment of upstream station (4AXMP001.26) sampled in the fall of 2006. The VSCI scores from 2014 were much better than those from 2013 but the two year average is below 60. DEQ is going to reserve judgment at this time and plans to sample this site in 2016.

Jones Creek, UT (XMP)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.00

Sources:

Landfills



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L53R-05-BEN **Beaver Creek**

Location: The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir (RD24).

City / County: Henry Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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.) Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2013-2014) with an average score of 36.30. 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.

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.30

Sources:

Clean Sediments

Sediment Resuspension
(Clean Sediment)

Unspecified Urban
Stormwater



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L53R-06-BEN Daniels Creek

Location: Daniels Creek from its headwaters downstream to its confluence with the Smith River Class III PWS (RD24).

City / County: Henry Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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 Virginia Stream Condition Index (VSCI) surveys with an average score of 18.6. 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.

Daniels Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate 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)



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L53R-07-BEN Jones Creek

Location: Jones Creek mainstem upstream to XMP confluence (RD24).

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

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) Bio 'IM' The benthic community is impaired based on four Virginia Stream Condition Index (VSCI) (2013-2014) with an average score of 29.2.

Jones Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.36

Sources:

- | | | |
|---|------------------------------|---|
| Municipal (Urbanized High Density Area) | Unspecified Urban Stormwater | Wet Weather Discharges (Non-Point Source) |
|---|------------------------------|---|



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L54R-02-BEN **Machine Branch**

Location: Machine Branch from its mouth on the Smith River upstream to its headwaters.

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AMCH000.53 (Clover Rd - Rt. 976 Bridge) Bio 'IM' The 2016 Integrated Report (IR) finds continued impaired benthic community impairment. Five Virginia Stream Condition Index (VSCI) surveys (2009-2014) report an average score of 21.9. The 2014 (IR) finds Aquatic Life Use impairment from three VSCI (2008-2009) surveys. The average score is 24.0. 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.

Machine Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.68

Sources:

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)

Streambank
Modifications/destabilization



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L54R-03-BEN Mulberry Creek

Location: Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36°40'03"/79°50'00").

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired as determined by the 2010 assessment.

4AMBY001.51 (Sam Lions Trail/Country Club Dr. Crossing) Bio 'IM' The 2016 Integrated Report (IR) finds impairment from four Virginia Stream Condition Index (VSCI) surveys (2013-2014). The average score is 45.9. 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- Bio 'IM' A 2008 probabilistic site. Two 2008 Virginia Stream Condition Index (VSCI) surveys with an average score of 46.8 find a stressed benthic community dominated by pollution tolerant organisms. Habitat surveys indicate the stream is impacted by eroded banks, sediment deposition and a riparian zone that has almost no vegetation. There are no additional data within the 2012 or 2014 data windows.

Mulberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.60

Sources:

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)

Streambank
Modifications/destabilization



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L60R-01-HG **Dan River, Banister River and Hyco River**

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.

City / County: Danville City Halifax Co. Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

- Station ID:
- 4ADAN054.03 (2007 FT Sampling)
- PCB 4 Species
- Hg 4 Species
- 4ABAN000.50 (2007 FT/Sed)
- PCB 3 Species
- Hg 2 Species
- 4ABAN008.30 (2007 FT/Sed)
- PCB 3 Species
- Hg 2 Species
- 4ADAN001.18 (2007 FT/Sed)
- PCB 3 Species
- Hg 3 Species
- 4AHYC002.70 (2007 FT/Sed)
- PCB 3 Species
- Hg 3 Species

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 bridge and Banister River up to the Banister Dam. These river segments comprise ~67 miles.

VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.

Eat fewer or smaller servings of fish.

Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).

Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:

Remove the skin, the fat from the belly and top and internal organs before cooking the fish.

Bake, broil or grill on an open rack to allow fats to drain away from the meat.

Discard the fats that cook out of the fish.

Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.

Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.

For more information about fish consumption advisories, including frequently asked questions go to www.vdh.virginia.gov.

Dan River, Banister River and Hyco River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:		1,655.18	62.85

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: **L60R-01-PCB**

Dan River, Banister River and Hyco River

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.

City / County: Danville City Halifax Co. Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

Station ID:

4ADAN054.03 (FT/Sed)

2007 - PCB 4 Species

Hg 4 Species

2013 - PCB 4 Species

4ADAN028.90 (FT/Sed)

2013 - PCB 4 Species

4ADAN015.30 (2013 FT/Sed)

PCB 3 Species

4ABAN000.50 (FT/Sed)

2007 - PCB 3 Species

Hg 2 Species

2013 - PCB 3 Species

4ABAN008.30 (FT/Sed)

2007 - PCB 3 Species

Hg 2 Species

2013 - No exceedances

4ADAN009.93 (FT/Sed)

2013 - PCB 4 Species

4ADAN001.18 (2007 FT/Sed)

PCB 3 Species

Hg 3 Species

4AHYC002.70 (FT/Sed)

2007 - PCB 3 Species

Hg 3 Species

2013 - PCB 2 Species

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 bridge and Banister River up to the Banister Dam. These river segments comprise ~67 miles.

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Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Dan River, Banister River and Hyco River

Fish Consumption

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		1,655.18	62.85

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L60R-02-BEN **Pumpkin Creek**

Location: From the VA/NC line to the mouth on the Dan River

City / County: Danville City Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4APKP002.46 (2009 Bio)

IM - is in an urban watershed with abundant impervious surfaces. Flow regime and sedimentation seem to be affecting the benthic community negatively.

Pumpkin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.28

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L60R-03-BEN Cane Creek

Location: Cane Creek mainstem from its headwaters downstream to the VA/NC State Line.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ACAN000.80 (2009 Bio)

IM - Bank scour and sedimentation are negatively affecting the site.

Cane Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			12.25

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L60R-04-BEN **Rutledge Creek**

Location: Rutledge Creek from its headwaters to the mouth on Pumpkin Creek

City / County: Danville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ARUT000.45 (2009 & 2011 Bio)

IM - 4ARUT000.45 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.

4ARUT002.04 (2009 Bio)

J - 4ARUT002.04 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

Rutledge Creek

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

4.37

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L61R-01-BEN Fall Creek

Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AFAL000.92 (2007-2008, 2011-2012 Bio)

IM - AFAL000.92 exhibits significant seasonal variation. Additional data must be collected to accurately characterize the status of the stream community. 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.

4AFAL006.61 (2014 Probmon)

IM - Bank scour and slight sedimentation were observed. Originally a PROBMON station, accessible from Rt 29 in Danville.

Fall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			11.97

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L61R-01-HG **Fall Creek**

Location: Fall Creek mainstem from its mouth on the Dan River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

Station ID:

4AFAL000.92 (2007 FT Sampling)

Hg 2 Species

Fall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			11.97

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L62R-07-BEN **Wolfe Creek**

Location: Wolfe Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AWFE000.60 (2012 Bio)

J - This stream had marginal bank stability and increased sedimentation as well as marginal habitat.

4AWFE001.57 (2006-2007 FPM)

IM - scored close to the VSCI impairment cutoff score of 60. 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.

Wolfe Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.86

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L62R-10-BEN **Sandy Creek, Unnamed Tributary**

Location: Unnamed Tributary of Sandy Creek from its headwaters to the mouth.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AXVQ000.77 (2013 FPM)

IM - 4AXVQ000.77 is a small stream within the PROBMON program. Access to the site is limited by private landowners and additional sampling will not be possible.

Sandy Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.29

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L63R-01-BEN **Birch Creek**

Location: Birch Creek from its headwaters to the mouth on the Dan River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABIR011.55 (2013 Bio)

IM - 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.

Birch Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			20.15

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L64R-01-DO Lawsons Creek

Location: Lawsons Creek from its headwaters to its confluence with Jerimy Creek.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4ALSN007.45 (Ambient)

DO - 2/12 Violation Rate

Lawsons Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			8.26

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L64R-03-BEN **Grassy Creek**

Location: Grassy Creek from its headwaters to the Route 744 crossing

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AGSY004.98 (2006 FPM)

IM - 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 (2010/2014 Bio)

IM - Significant seasonal variability and a VSCI score close to the impairment cutoff of 60. Very low flows are characteristic of this waterbody. Further sampling is required to accurately assess this waterbody. 4AGSY004.60 was sampled in response to a J assessment of an upstream PROBMON station (4AGSY004.98).

Grassy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.83

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L64R-04-BEN Poplar Creek

Location: Poplar Creek from its headwaters to its mouth on the Dan River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4APDA000.35 (2008/2012 Bio)

IM - Flow regime related sedimentation seems to be negatively affecting the stream community. 4APDA000.35 is located in a highly urban/industrial watershed.

Poplar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.04

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L64R-05-BEN **Reedy Creek**

Location: Reedy Creek from its headwaters to the confluence of Woods Creek.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ARAC000.92 (2008/2012 Bio)

IM - 4ARAC000.92 is located in an older suburban watershed with abundant impervious surfaces which negatively affects flows and sedimentation. There is also an unlined municipal landfill in the watershed which has historical leachate issues.

Reedy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.92

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L65R-02-BEN Bearskin Creek

Location: Bearskin Creek from its mouth on the Banister River upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABKN000.52 (Ambient, Bio)

2008/2011/2012/2014 Bio

IM - 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.

Bearskin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.57

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L65R-04-BEN **Strawberry Creek**

Location: Strawberry Creek from its headwaters to its mouth on the Banister River.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ASRW002.32 (2011 Bio)

IM - Habitat scores and taxa lists indicate sedimentation as a stressor causing an unbalanced community.

Strawberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.96

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L66L-01-DO **Cherrystone Reservoir**

Location: Cherrystone Reservoir

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4ACRR008.32 (Lake Station)

Dissolved Oxygen - 11/51 Violation Rate

Chlorophyll a - 0/2 Samples (90% Calculated over 1 Sample Yr)

No Total Phos assessed since lake has not been treated with algaecide

Cherrystone Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		104.27	

Sources:

Dam or Impoundment



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L66L-02-DO **Roaring Fork Reservoir**

Location: Roaring Fork Reservoir

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4ARFK000.20 (Lake Station)

Dissolve Oxygen - 5/35 Violation Rate

Chlorophyll a - 0/2 Samples (90% Calculated over 1 Sample Yr)

No Total Phos assessed since no algaecide used in lake.

Roaring Fork Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		19.58	

Sources:

Dam or Impoundment



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L66L-02-PH

Roaring Fork Reservoir

Location: Roaring Fork Reservoir

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

Station ID:

4ARFK000.20 (Lake Station)

pH - 9/63 Violation Rate

Roaring Fork Reservoir

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

pH - Total Impaired Size by Water Type:

19.58

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L67R-03-BEN **Elkhorn Creek**

Location: Elkhorn Creek from its headwaters to its mouth.

City / County: Halifax Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AEKH003.18 (2001 Probabilistic Monitoring)

4AEKH003.68 (Bio)

2008/2012 Bio - IM

4AEKH003.68 was sampled to replace 4AEKH003.18.

4AEKH003.18 was a probabilistic monitoring station located on private property. The final assessment of 4AEKH003.18 was "J", meaning more information was needed for an accurate assessment. The remoteness of this site makes future sampling at 4AEKH003.18 unlikely.

The proximity of station 4AEKH003.68 to 4AEKH003.18 makes it a suitable surrogate for the assessment of both stations.

Elkhorn Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			12.90

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L67R-04-BEN **Bradley Creek**

Location: Bradley Creek from its headwaters to its mouth on the Banister River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABDB000.75 (2010/2014 Bio)

IM - VSCI scores continually close to the impairment cutoff score of 60. Additional sampling yielded lower scores. Loose, soft sand/sediment dominated stream bottom and banks.

Bradley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			6.46

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L68R-01-BEN **Whitehorn Creek**

Location: Whitehorn Creek mainstem from its confluence with Georges Creek upstream to its headwaters.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AWRN005.50 (2009/2013 Bio)

IM - 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.

Whitehorn Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			15.10

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L70R-02-BEN **Sweden Fork**

Location: Sweden Fork from its headwaters to the mouth.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ASED002.18 (2012 FPM)

IM - 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 (2010 FPM)

J - VSCI scores close to the impairment cutoff of 60. Further sampling is required to accurately assess this waterbody.

Sweden Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.63

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L70R-03-BEN **Bar Branch**

Location: Bar Branch from its headwaters to its mouth.

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABAR000.32 (2012/2014 Bio)

IM - 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.

Bar Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.03

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L71R-05-BEN Polecat Creek

Location: Polecat Creek from its headwaters to the mouth at the Banister River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4APEC002.42 (2009 & 2013 Bio)

IM - 4APEC002.42 exhibits seasonal variability. Spring scores are very low. Sedimentation is a likely stressor due to high embeddedness scores.

4APEC006.49 (2009 & 2013 Bio)

IM - 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.

Polecat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.70

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L71R-07-DO **Gibson Creek**

Location: Gibson Creek from its headwaters to its mouth on the Banister River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4AGIB000.66 (Ambient)

Dissolved Oxygen - 1/6 Violation Rate

Gibson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			5.38

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L72R-01-BAC **Terrible Creek**

Location: Terrible Creek from Little Terrible Creek to its mouth on Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ATTR001.92 (Ambient/Bio)

E. coli - 4/12 Violation Rate

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

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L72R-01-BEN **Terrible Creek**

Location: Terrible Creek from Little Terrible Creek to its mouth on Banister River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ATRR001.92 (Ambient/Bio)

2005-2006/2011-2012 Bio

IM - 4ATRR001.92 exhibits some seasonal variability near the assessment threshold. The community depends greatly on snag habitat due to scoured banks and sandy bottoms.

Terrible Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.82

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L73R-03-DO **Peter Creek**

Location: Peter Creek from its headwaters to its confluence with the Dan River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4APET004.35 (Ambient)

Dissolved Oxygen - 3/12 Violation Rate

Peter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			6.61

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L74R-03-DO **Coleman Creek**

Location: Coleman Creek from its headwaters to its mouth on the Hyco River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station IDs:

4ACLB001.90 (FPM/TMDL)

DO - 5/12 Violation Rate

Coleman Creek

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Oxygen, Dissolved - Total Impaired Size by Water Type:

8.48

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L74R-04-DO **Big Bluewing Creek**

Location: Big Bluewing Creek from the VA/NC state line to its mouth on the Hyco River

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4ABLU002.02 (Ambient)

Dissolved Oxygen - 2/11 Violation Rate

Big Bluewing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			11.23

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L74R-05-BEN Bowes Branch

Location: Bowes Branch from the VA/NC State Line to its confluence with the Hyco River.

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABOS000.13 (2004 FPM)

IM - Segment affected by beaver activity. Suitable habitat was limited for the maintenance of an adequate stream community.

Bowes Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.44

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L75L-01-PCB **Kerr Reservoir**

Location: Kerr Reservoir from the John H. Kerr dam to its backwaters, excluding the Dan River portion.

City / County: Halifax Co. Mecklenburg Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

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.

VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.

Eat fewer or smaller servings of fish.

Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).

Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:

Remove the skin, the fat from the belly and top and internal organs before cooking the fish.

Bake, broil or grill on an open rack to allow fats to drain away from the meat.

Discard the fats that cook out of the fish.

Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.

Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.

For more information about fish consumption advisories, including frequently asked questions go to www.vdh.virginia.gov.

PCB Fish Tissue Sampling Results

Near Route 29 - Altavista

4AROA129.55 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

Near Long Island

4AROA108.09 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

Near Brookneal

4AROA097.07 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

Near Route 746 - Randolph

4AROA067.91 (2006 FT/Sediment) - 2 species exceed VDH upper level of concern

Near Route 360 - Clover

4AROA059.12 (2006 FT/Sediment) - 2 species exceed VDH upper level of concern

Near Clarksville

4AROA036.59 (2006 FT/Sediment) - 2 species exceeded VDH lower level of concern

Kerr Reservoir near Ivy Hill

4AROA028.04 (2006 FT/Sediment) - 2 species exceed VDH lower level of concern

Lake Gaston near State Line

4AROA004.54 (2006 FT/Sediment) - 1 species exceeded VDH lower level of concern

Cub Creek near Route 40 Gaging Station

4ACUB010.96 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

Kerr Reservoir

Fish Consumption

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

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

31,884.59

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L75R-03-BEN Beech Creek

Location: Beech Creek from its headwaters to the VA/NC state line.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABEE000.80 (Ambient)

2010/2014 Bio - IM - Site exhibits seasonal variability. Further sampling indicates an unbalanced benthos community.

Sedimentation and nutrient enrichment are probable stressors.

Beech Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.69

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L76R-01-BAC **Little Buffalo Creek**

Location: Little Buffalo Creek from its headwaters to its mouth on Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ALFF001.85 (Ambient)

E. Coli - 5/12 Violation Rate

Little Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia 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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L76R-01-BEN **Little Buffalo Creek**

Location: Little Buffalo Creek from its headwaters to its mouth on Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ALFF001.85 (Bio)

2010 Bio - IM - Sedimentation and STP effluent have negatively affected the benthic community.

Little Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.51

Sources:

Municipal Point Source
Discharges



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L77R-01-BAC Little Bluestone Creek

Location: Little Bluestone Creek from a fork upstream of Route 696 to Kerr Reservoir.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ALNE006.56 (Ambient)

E. coli - 9/35 Violation Rate

Little Bluestone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.38

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L77R-02-BAC **Bluestone Creek**

Location: Bluestone Creek from its headwaters to its confluence with Moody Creek.

City / County: Charlotte Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ABST017.09 (Ambient)

E. coli - 4/12 Violation Rate

Bluestone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.25

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L77R-02-BEN Bluestone Creek

Location: Bluestone Creek from its confluence with Moody Creek to the backwaters of Kerr Reservoir.

City / County: Charlotte Co. Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ABST013.64 (2012 Bio)

IM - 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 (2007 FPM)

J Benthic Assessment - 4ABST014.94 exhibits significant seasonal variation. Additional data must be collected to accurately characterize the status of the stream community.

Bluestone Creek

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

13.73

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-02-BAC Unnamed Tributary to Allen Creek

Location: Entire tributary located just south of the intersection of Redlawn and Baskerville Roads in Mecklenburg County.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

Station ID:

4AXUQ000.00 (Hog Farm SS)

Total Fecal Coliform - 2/4 Violation Rate

Unnamed Tributary to Allen Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

1.27

Sources:

Non-Point Source



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-03-BAC **Allen Creek**

Location: Allen Creek from its headwaters to Cox Creek.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4AALN009.12 (Ambient)

E. coli - 9/37 Violation Rate

4AALN016.38 (Ambient)

E. coli - 7/24 Violation Rate

Allen Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

24.24

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-03-BEN Allen Creek

Location: Allen Creek from its headwaters to Layton Creek.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4AALN016.38 (Ambient/2013 Bio)

J - 4AALN016.38 exhibits significant seasonal variability. Sedimentation is a potential stressor. Additional data needed to accurately characterize the benthic community

4AALN020.60 (2013 Bio)

IM - Sedimentation is a probable stressor to the benthic community. Silviculture is taking place within the nearby watershed.

Allen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			15.27

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-04-BEN **Cox Creek**

Location: Cox Creek from its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ACOX007.73 (2005 Probmon)

IM - 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.

Cox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.80

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-04-DO **Cox Creek**

Location: Cox Creek from its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4ACOX000.38 (Ambient)

Dissolved Oxygen - 3/11 Violation Rate

4ACOX003.23 (Ambient)

Dissolved Oxygen - 4/12 Violation Rate

Cox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			10.80

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-04-PH **Cox Creek**

Location: Cox Creek from its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

Station ID:

4ACOX000.38 (Ambient)

pH - 2/11 Violation Rate

Cox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			10.80

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-05-BAC **Cotton Creek**

Location: Cotton Creek from its headwaters to its mouth on the Roanoke River

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ACTT000.70 (Ambient)

E. coli - 8/24 Violation Rate

Cotton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.39

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-06-BAC **Layton Creek**

Location: From its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ALYT003.77 (Ambient)

E. coli - 11/36 Violation Rate

Layton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.64

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-06-BEN **Layton Creek**

Location: Form its headwaters to its confluence with Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:

4ALYT003.77 (Bio)

IM - 2005-2012/2014 Bio

4ALYT003.77 was negatively affected by drought in 2007-2008, with periods of very low flow. Logging in the up gradient watershed appears to have negatively affected the benthic community with sedimentation. Current monitoring (2014) has yielded similar results.

Layton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.64

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-07-BAC **Kettles Creek**

Location: Kettles Creek from its headwaters to the mouth

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4AKTT001.15 (Ambient)

E. coli - 3/23 Violation Rate

Kettles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.48

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L78R-07-DO Kettles Creek

Location: Kettles Creek from its headwaters to the mouth

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4AKTT001.15 (Ambient)

DO - 9/22 Violation Rate

Kettles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			5.48

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L79L-02-CHLA **Lake Gordon**

Location: Lake Gordon

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Chlorophyll-a / 5A

Station ID:

4AMES007.54 (2013-2014 Lake Gordon)

Dissolved Oxygen - 8/41 Violation Rate

Chlorophyll a - 2/2 Samples (90% Calculated over 1 Sample Yr)

No Total Phos assessed since lake has not been treated with algaecide

Lake Gordon

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Chlorophyll-a - Total Impaired Size by Water Type:

107.48

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L79L-02-HG **Lake Gordon**

Location: Lake Gordon

City / County: Mecklenburg Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

Station ID:

4AMES007.54 (2006 FT/Sed)

Hg 2 Species

Lake Gordon	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			107.48

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L79R-01-DO **Flat Creek**

Location: Flat Creek from upstream of the South Hill STP discharge to its headwaters.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID:

4AFLT009.17 (Benthic & 2004 Flat Creek TMDL)

Dissolved Oxygen - 2/8 Violation Rate

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			1.69

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L79R-02-BAC **Smith Creek**

Location: Smith Creek from the VA/NC state line to its mouth on Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ASMI003.58 (Ambient)

E. coli - 4/24 Violation Rate

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.90

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L79R-03-BAC **Miles Creek**

Location: Lake Gordon to the Roanoke River.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4AMES004.78 (Ambient)

E coli - 2/11 Violation Rate

Miles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.97

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L80L-01-PCB Lake Gaston

Location: Roanoke River from the John H. Kerr Dam into Lake Gaston within Virginia.

City / County: Mecklenburg Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

Station ID:

4AROA004.54 (2006 FT/Sed)

PCB 2 Species

Lake Gaston	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		4,440.93	5.69

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L81R-02-BAC Lizard Creek

Location: Lizard Creek from its headwaters to Lake Gaston.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ALIZ003.42 (Ambient)

E. coli - 4/12 Violation Rate

*Segment was shortened in 2014 to only include VA Portion of Lizard Creek

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

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L81R-03-BAC **Little Poplar Creek**

Location: Little Poplar Creek from its headwaters to its mouth on Poplar Creek.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4ALPP002.66 (ProbAmbient)

E coli - 2/12 Violation Rate

4ALPP004.46 (2013 Probambient)

E coli - 2/12 Violation Rate

Little Poplar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.51

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: L82R-01-BAC **Pea Hill Creek**

Location: Pea Hill Creek from its headwaters to Lake Gaston.

City / County: Brunswick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID:

4APHC006.38 (Ambient)

E coli - 4/12 Violation Rate

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Pea Hill Creek Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.86

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02L-01-DDD Lovills Creek Lake

Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: DDD / 5A

Fish tissue samples collected on 8/8/2007 at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value.

Lovills Creek Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDD - Total Impaired Size by Water Type:			42.46

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02L-01-DDE Lovills Creek Lake

Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: DDE / 5A

Fish tissue samples collected on 8/8/2007 at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value.

Lovills Creek Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDE - Total Impaired Size by Water Type:			42.46

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02L-01-DDT Lovills Creek Lake

Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: DDT in Fish Tissue / 5A

Fish tissue samples collected on 8/8/2007 at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value.

Lovills Creek Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDT in Fish Tissue - Total Impaired Size by Water Type:			42.46

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02L-01-HG Lovills Creek Lake

Location: The Lovills Creek flood control impoundment east of Cana.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

Fish tissue samples collected at station 4BLOV008.45 exceeded the Department of Environmental Quality screening value. The Virginia Department of Health recommends no more than two meals per month of largemouth bass.

Lovills Creek Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			42.46

Sources:

Atmospheric Deposition - Source Unknown
Toxics



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02R-01-BAC **Lovills Creek**

Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing. This segment also includes Stewarts Creek from the North Carolina state line upstream near Route 696 at Lambsburg.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The ambient water quality monitoring station 4BLOV007.92 had a 58% exceedance of the E.coli water quality standard. Station 4BSTE007.99 had a 22% exceedance of the E. coli water quality standard.

Lovills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.15

Sources:

Source Unknown

Unrestricted Cattle Access



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02R-01-DDE **Lovills Creek**

Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: DDE / 5A

Fish tissue samples at station 4BLOV007.92 exceeded DEQ's screening value for DDE.

Lovills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDE - Total Impaired Size by Water Type:			2.15

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02R-01-DDT Lovills Creek

Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing.

City / County: Carroll Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: DDT in Fish Tissue / 5A

Fish tissue samples at station 4BLOV007.92 exceeded DEQ's screening value for DDT.

Lovills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDT in Fish Tissue - Total Impaired Size by Water Type:			2.15

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M02R-01-TEMP Lovills Creek and Stewarts Creek

Location: Lovills Creek mainstem from the North Carolina state line upstream to just above the Route 686 crossing. This segment also includes Stewarts Creek from the North Carolina state line upstream near Route 696 at Lamsburg.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

The ambient water quality monitoring station 4BLOV007.99 had a 33% exceedance of the Class V, 21°C stockable trout water criterion. Exceeding temperature values up to 25°C occurred from August 2005 to August 2006. In addition, 4BSTE007.99 had a 33% exceedance of temperature values.

Lovills Creek and Stewarts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			4.20

Sources:

Grazing in Riparian or
Shoreline Zones

Unrestricted Cattle Access



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M03R-01-BAC Ararat River

Location: Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

4BARA035.13 (Rt. 739 Bridge, near VA/NC State Line)- The 2008 and 2010 assessments find escherichia coli (E.coli) exceeds the WQS instantaneous criterion of 235 cfu/100 ml in three of nine samples. Exceeding values range from 250 to 950 cfu/100 ml. There are no additional data within the 2012 or 2014 data windows.

Ararat River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.13

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



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M03R-01-HG **Ararat River**

Location: Ararat River mainstem from the VA/NC State Line upstream to the Rt. 823 crossing.

City / County: Patrick Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

This initial 2010 303(d) Listing is based on 2007 fish tissue collections and new 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/info/mercury.html> for more information about mercury contamination and <http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/> for VDH Advisories or Bans.

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 27.7 cm) at 0.495 ppm; white sucker (4 fish composite 31.0-39.1 cm) at 0.369 ppm; and two groups of redhorse sucker (6 fish composite 36.5 - 38.6 cm) at 0.535 ppm and (7 fish composite 28.5 - 34.6 cm) at 0.412 ppm. A 2002 golden redhorse sucker collection (4 fish 25.7-34.3 cm) exceeds the WQS TV at 0.35 ppm.

Ararat River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			6.13

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M03R-01-TEMP Johnson Creek

Location: Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V.

City / County: Carroll Co. Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

4BJOH004.45 (Rt. 672 Bridge, Johnson Creek Rd.) There are no new data within the 2016 data window. The 2014 assessment finds two of 12 temperature measurements exceed the Class V stockable trout criterion of 21°C. Exceedances occur on 6/29/2011 at 21.5°C and 7/31/2012 at 22.3°C. There are no additional data within the 2012 data window. Both the 2008 and 2010 assessments find two of nine temperature measurements exceed the Class V stockable trout criterion of 21°C. Exceedances occur on 8/24/2005 at 21.6°C and 8/30/2006 at 22.8°C.

Johnson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			9.15

Sources:

Source Unknown



Fact Sheets for Impaired (Category 5) Waters in 2016

Roanoke and Yadkin River Basins

Cause Group Code: M03R-02-BAC Johnson Creek

Location: Johnson Creek mainstem from the VA / NC State Line upstream to its headwaters Class V.

City / County: Carroll Co. Patrick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

This 2014 initial 303(d) Listing results in impairment of the Recreational Use.

4BJOH004.45 (Rt. 672 Bridge, Johnson Creek Rd.) There is no additional data within the 2016 data window. The 2014 assessment finds two escherichia coli (E.coli) observations exceed the WQS 235 cfu/100 ml instantaneous criterion from 12 observations at 350 and 475 cfu/100 ml.

Johnson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.15

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