



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L55R-01-BAC - Marrowbone Creek**

Location:	The bacteria impairment begins at the former Henry County PSA Water Treatment Plant on Marrowbone Creek and extends downstream to Marrowbone Creek's mouth on the Smith River (Northwest Eden Quad).
City/County	Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Marrowbone Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

Station 4AMRR000.02 is a 1999 Federal Consent Decree Attachment B station. The 2002 impairment remains for the Recreational Use.

4AMRR000.02 (Rt. 642 Bridge) There are no additional data beyond the 2010 Integrated Report (IR). The 2010 data window produces eight of 23 Escherichia coli (E.coli) samples in excess of the 235 cfu/100 ml instantaneous criterion. The eight exceeding values range from 250 to 1410 cfu/100 ml. The 2008 assessment finds three of 11 E.coli exceedances ranging from 270 cfu/100 ml to 1410 cause non-support of the Recreational Use.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L55R_MRR01A00	Marrowbone Creek	Marrowbone Creek mainstem from its mouth on the Smith River upstream to the Henry County PSA Water Treatment Plant.	4A	Escherichia coli	2008	2010	4.33

Marrowbone Creek

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Escherichia coli / 4A

Total impaired size by water type:

4.33

Recreation

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L56R-01-BAC - Leatherwood Creek and Headwater Tributaries**

Location:	This bacteria impairment begins in the headwater tributaries and mainstem of Leatherwood Creek, excluding the West Fork of Leatherwood Creek, on downstream to its mouth on the Smith River (Martinsville East and Northwest Eden Quads).
City/County	Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Leatherwood Creek as it lies within the TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

Station 4ALWD002.54 is a 1999 Federal Consent Decree Attachment B station. The waters are 2002 303(d) Listed for fecal coliform bacteria where three of 23 samples exceed the former 1000 cfu/100 ml instantaneous criterion (1996 to 2000 data window). The 2002 original 8.31 mile 303(d) Listing is extended 15.95 miles with the 2006 Integrated Report (IR) based on results from station 4ALWD011.03. Bacteria impaired waters now total 24.26 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ALWD011.03 (Rt. 648 Bridge) There are no additional data beyond the 2008 assessment where eight of 21 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml criterion. Values in excess of the criterion range from 250 to 1600 cfu/100 ml. Two of five geometric mean calculations exceed the former (2 samples / calendar month) 126 cfu/100 ml criterion at 188 and 704 cfu/100 ml. 2006 E.coli results extended the bacteria impairment on the mainstem of Leatherwood upstream to include headwater tributaries (excluding the West Fork) for a total of 15.95 miles.

4ALWD002.54 (Rt. 650 Bridge) There are no additional data beyond the 2008 assessment where eight of 31 E.coli samples exceed the 235 cfu/100 ml criterion. Values in excess of the criterion range from 250 to 1600 cfu/100 ml. Two of five geometric mean calculations exceed the former (2 samples / calendar month) 126 cfu/100 ml criterion at 188 and 704 cfu/100 ml

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L56R_LWD01A00	Leatherwood Creek	Leatherwood Creek mainstem from its mouth on the Smith River upstream to an unnamed tributary's confluence with Leatherwood approximately 0.1 miles upstream of the Rt. 620 crossing.	4A	Escherichia coli	2008	2010	5.43
VAW-L56R_LWD02A00	Leatherwood Creek	Leatherwood Creek mainstem from an unnamed tributary's confluence with Leatherwood approximately 0.1 miles upstream of the Rt. 620 crossing on upstream to the Martinsville City water intake.	4A	Escherichia coli	2008	2010	2.88
VAW-L56R_LWD03A00	Leatherwood Creek	Leatherwood Creek mainstem and tributaries, excluding the West Fork of Leatherwood Creek, from the Martinsville City water intake upstream to its headwaters.	4A	Escherichia coli	2006	2010	15.97

Leatherwood Creek and Headwater Tributaries

Estuary (sq. miles) Reservoir (acres) River (miles)

Impaired area ID: VAW-L54R-01Escherichia coli / 4A
Total impaired size by water type:

24.28

Recreation

Sources:

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

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L56R-02-BAC - West Fork Leatherwood Creek**

Location:	West Fork of Leatherwood Creek mainstem and tributaries from its mouth on Leatherwood Creek upstream to the end of WQS PWS section waters.
City/County	Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35752] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the West Fork Leatherwood Creek as it lies within the TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at <http://www.deq.virginia.gov>. The 2012 assessment initially finds the Recreational Use impaired due to Escherichia coli (E.coli) exceedances.

4ALWF004.32 (Rt. 57 Bridge) Escherichia coli (E.coli) exceed the WQS 235 cfu/100 ml instantaneous criterion in six of 12 samples. Values in excess of the criterion range from 380 to 550 cfu/100 ml.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L56R_LWF01A00	West Fork Leatherwood Creek	West Fork of Leatherwood Creek mainstem and tributaries from its mouth on Leatherwood Creek upstream to the end of WQS PWS section waters.	4A	Escherichia coli	2012	2024	13.83

West Fork Leatherwood Creek

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Escherichia coli / 4A
Total impaired size by water type: 13.83

Recreation

Sources:

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

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L52R-01-BAC - Smith River**

Location:	The bacteria impairment begins at the Blackberry Creek mouth on Smith River VAW-L52R (Bassett Quad) and extends downstream to the backwaters of the Martinsville power pool (Martinsville West Quad).
City/County	Henry Co., Martinsville City
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The original 2002 Assessment basis for 303(d) Listing the waters is exceedance of the former fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml and the former geometric mean (WQS frequency of 2 samples/calendar month of 200 cfu/100 ml causing the waters to not support the recreational use. Special monitoring on Blackberry Creek (L52R) and the Smith River (L53R) reported and 303(d) Listed these exceedances in 2002.

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Smith River is encompassed by the overall Dan River Bacteria TMDL Watershed and allocations. Portions of the Smith River are nested within the TMDL Watershed. The TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

A portion of the bacteria impaired waters were delisted in 2004 for the area between the Blackberry Creek mouth on the Smith River (L52R Bassett Quad) extending downstream to the Reed Creek confluence on the Smith River L53R- Martinsville West Quad), 2.29 miles. The de-listing of these waters was based on an exceedance rate of less than 10.5%. This portion returned to 303(d) Listing status with the 2006 Integrated Report (IR) based on stations 2000W0034A and 4ASRE036.55. The total bacteria impairment size is 10.18 miles.

4ASRE036.55- There are no additional data beyond the 2008 assessment where Escherichia coli (E.coli) are found to exceed the 235 cfu/100 ml instantaneous criterion in three of 21 samples. Exceeding values range from 250 to 720 cfu/100 ml. 2006 exceedances are 250 and 350 cfu/100 ml from two of nine samples.

4ASRE033.19- Ten of 46 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion within the 2012 data window. The range of exceedance is from 250 cfu/100 ml to greater than 2000. The 2010 assessment finds E.coli exceed the instantaneous criterion in nine of 43 observations with the same range of exceedance as 2012. E.coli exceed the instantaneous criterion in four of 31 samples in 2008. Exceeding values range from 280 to 1000 cfu/100 ml.

Special Study Stations:

2008 E. coli exceedances / total observations; range 2008 / 2006 & 2004 exceedances / total observations; range 2004.

2000W0034B- (downstream of Blackberry Creek confluence)- SS data ends 6/06/02- 1 of 10 at 270 / 2006 & 2004- 2 of 20; 270 to >800.

2000W0034A- (located downstream in VAW-L53R)- SS data ends 6/06/02- 1 of 11 exceeds at >800 / 2006 & 2004- 2 of 21; at >800.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L52R_SRE01A00	Smith River	The Smith River mainstem from the Blackberry Creek mouth downstream to Rock Run mouth (Watershed Boundary).	4A	Escherichia coli	2006	2008	0.96
VAW-L53R_SRE01B06	Smith River	Smith River mainstem from the former E. I. duPont outfall upstream to the E. I. duPont water intake on the Smith River.	4A	Escherichia coli	2008	2008	0.49
VAW-L53R_SRE02A00	Smith River	Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall.	4A	Escherichia coli	2008	2008	4.26

VAW-L53R_SRE03A00	Smith River	Smith River mainstem from the Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek.	4A	Escherichia coli	2008	2008	2.18
VAW-L53R_SRE04A00	Smith River	Smith River mainstem from the mouth of Reed Creek upstream to an unnamed tributary. The unnamed tributary is approximately 0.70 miles downstream of the Alt. 57 Bridge.	4A	Escherichia coli	2006	2008	0.81
VAW-L53R_SRE05A00	Smith River	Smith River mainstem from an unnamed tributary located approximately 0.70 miles downstream of the Alt. 57 Bridge, upstream to the watershed boundary at the mouth of Rock Run.	4A	Escherichia coli	2006	2008	1.48

Smith River

Estuary (sq. miles)	Reservoir (acres)	River (miles)
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Impaired area ID: **VAW-L54R-01**

Escherichia coli / 4A

Total impaired size by water type:

10.18

Recreation**Sources:**

- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)
- Wildlife Other than Waterfowl

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L52R-02-BAC - Blackberry Creek and Blackberry, UTs**

Location:	The impairment begins at the headwaters of Blackberry Creek (~RM 13.63) and extends downstream to Blackberry Creek's mouth on the Smith River. The impaired waters include an unnamed tributary from the north (XMI). The mouth of the unnamed tributary is at 36° 44' 38" / 80° 03' 07". The bacteria impairment spans the Charity, Sanville, Martinsville West and Bassett Quads.
City/County	Henry Co., Patrick Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Blackberry Creek as it lies within the TMDL Watershed. An unnamed tributary (XMI) is nested within the Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

Exceedance of the former fecal coliform (FC) instantaneous criterion of 1000 cfu/100 ml and the geometric mean of 200 cfu/100 ml caused the waters to not support the recreational use in 2002. Ambient station 4ABRY000.05, a 1999 Federal Consent Decree Attachment B station is 2002 303(d) Listed with a 2010 TMDL schedule date. The 2002 fecal coliform exceedance rate of 15 percent from three of 20 samples at 4ABRY000.05 resulted in the original 303(d) Listing. Exceedance of the Escherichia coli 235 cfu/100 ml instantaneous criterion and the former (2 samples/calendar month) geometric mean in 2004 continue to show nonsupport with the 2010 Integrated Report (IR).

The Recreation Use is impaired for a total of 14.84 miles in the Blackberry Creek drainage. An unnamed tributary comprises 1.20 miles of the overall impairment.

Special monitoring of Blackberry Creek began in the fall of 1999 after complaints from local residents regarding sewer service in the Blackberry Creek drainage. Listed below are stream coded sites having data within the 2008 data window and 2000 Special Study (SS) sites and instantaneous results from the 2004 IR. All values are in cfu/100 ml.

4ABRY011.44 formerly 2000W0034L- (at Microfilm Road) There are no additional data beyond the 2008 assessment where Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 10 of 22 samples. The E.coli range of exceedance is 250 to 20,000 cfu/100 ml. The former geometric mean (WQS frequency of 2 samples/calendar month) exceeds in three of six calculations in excess of the 126 cfu/100 ml criterion. E.coli data within the 2010 data window exceed the instantaneous criterion in six of 12 samples.

4ABRY010.27 formerly 2000W0034J- (Rt. 687 Bridge) 2008 E.coli exceedances range from 350 to 1100 cfu/100 ml in excess of the 235 cfu/100 ml criterion from five of 17 samples. E.coli data within the 2010 and 2012 data windows exceed the instantaneous criterion in four of 12 samples

4ABRY000.05 formerly 2000W0034E- (American Legion Bridge) There are no additional data beyond the 2008 assessment. The 2008 IR finds E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 11 of 31 samples. Exceeding values range from 260 to 1200 cfu/100 ml. Three of seven geometric mean calculations exceed the former (WQS frequency of 2 samples/calendar month) 126 cfu/100 ml criterion.

Special Study Stations (no additional data beyond 2008 assessment):
2008 E. coli exceedances / total observations; range 2008 / 2004 exceedances / total observations; range 2004.

2000W0034C- (Rt. 57A) SS data ends 6/06/02 - 2 of 11 / range 500 to >800 / 2004 - 5 of 21 range 340 to >800.

2000W0034E- (American Legion Bridge) SS data ends 6/06/02 - 2004 - 7 of 20 / range 250 to >800.

4ABRY000.05- 2004 FC exceeds the 400 cfu/100 ml instantaneous criterion in four of 20 samples with exceeding values ranging from 500 cfu/100 ml to greater than 8000.

2000W0034F- (upstream of Rt. 698 Bridge) SS data ends 6/06/02 - 5 of 11; range 280 to >800 / 2004 - 10 of 21 range 280 to

>800.

2000W0034G- (Rt. 676 Bridge) SS data ends 6/06/02 - 1 of 10 / 620 / 2004 - 2 of 20; range 330 to 620.

2000W0034H- (Rt. 677 end) SS data ends 6/06/02 - 2 of 10; 280 and >800 / 2004 - 3 of 20; 280 and >800.

2000W0034I- (Rt. 882 Bridge) SS data ends 6/06/02 - 4 of 11; range 400 to greater than 800 / 2004 - 7 of 21; range 330 to >800.

2000W0034J- (Rt. 687 Bridge) SS data ends 6/06/02 - 2004 - 5 of 15; range 290 to >800.

2000W0034L- (at Microfilm Road) SS data ends 6/06/02 - 2004 - 8 of 19 / range 250 to >800.

2000W0034R- (along Rt. 799) SS data ends 6/06/02 - 4 of 10; range 400 to >800 / 2004 - 8 of 20; range 380 to greater than 800.

Unnamed Tributary (UT) stations - No NHD stream trace. (No additional data beyond 208 assessment):

2000W0034M (above confluence w/Blackberry Cr.) SS data ends 6/06/02 - 0 of 10 / 2004 - 1 of 20; 280.

2000W0034S (above Rt. 832 Bridge) SS data ends 4/23/01 - 0 of 4 / 2004 - 1 of 11; >800.

2000W0034T (above Westwood Rt. 1226) SS data ends 12/17/01 - 1 of 5; 710 / 2004 - 6 of 15 / range 490 to >800.

Unnamed Tributary (XMI):

2000W0034O (below Westwood Lagoon) SS data ends 6/06/02 - 6 of 10; range 300 to 630 / 2004 - 12 of 19; range 250 to >800.

2000W0034P (immediately above Westwood Lagoon) SS data ends 6/06/02 - 3 of 10; range 280 to >800 / 2004 - 7 of 20 / range 290 to >800.

2000W0034U (below Westwood Lagoon) SS data ends 6/06/02 - 5 of 10; range 250 to 510 / 2004 - 9 of 19 / range 250 to >800.

2000W0034V (below Westwood Lagoon) SS data ends 6/06/02 - 3 of 10; range 270 to 410 / 2004 - 8 of 19 / range 250 to 780.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L52R_BRY01A00	Blackberry Creek	Blackberry Creek mainstem from the upper end of the WQS designated public water supply (PWS) section near the American Legion Bridge downstream to the Blackberry Creek mouth on the Smith River.	4A	Escherichia coli	2004	2010	0.50
VAW-L52R_BRY02A00	Blackberry Creek	The Blackberry Creek mainstem from the confluence of Whitt Branch downstream to the end of the WQS public water supply designation near the American Legion Bridge.	4A	Escherichia coli	2004	2010	3.58
VAW-L52R_BRY03A00	Blackberry Creek	Blackberry Creek mainstem from the Sanville Utilities Fairway Acres outfall downstream to Whitt Branch.	4A	Escherichia coli	2004	2008	5.36
VAW-L52R_BRY04A02	Blackberry Creek	Blackberry Creek mainstem from its headwaters downstream to the Sanville Utilities Fairway Acres outfall.	4A	Escherichia coli	2004	2010	4.20
VAW-L52R_XMI01A02	Blackberry Creek, UT (XMI)	An unnamed tributary to Blackberry Creek from its mouth upstream to its headwaters. The mouth of the tributary is located at 36° 44' 38" / 80° 03' 07".	4A	Escherichia coli	2004	2008	1.20

Blackberry Creek and Blackberry, UTs

Estuary **Reservoir** **River**
(sq. miles) (acres) (miles)

Impaired area ID: **VAW-L54R-01**

Escherichia coli / 4A

Total impaired size by water type:

14.84

Recreation

Sources:

- Municipal (Urbanized High Density Area)
- Municipal Point Source Discharges
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L52R-03-BAC - Town Creek**

Location:	Town Creek from it's confluence on the Smith River upstream to the mouth of Grassy Fork.
City/County	Franklin Co., Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Town Creek Recreational Use impairment is a result of the 2012 assessment. Town Creek is nested within the overall Dan River Bacteria TMDL Watershed U.S. EPA approved on 12/8/2008, Fed ID: 35756 and SWCB approved on 4/28/2009.

4ATWN000.22- (Philpott Drive - Rt. 674 Bridge) Escherichia coli (E.coli) exceed the WQS 235 cfu/100 ml instantaneous criterion in four of 12 samples. Values in excess of the criterion range from 280 cfu/10 ml to 1300.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L52R_TWN01A12	Town Creek	Town Creek from it's confluence on the Smith River upstream to the mouth of Grassy Fork.	4A	Escherichia coli	2012	2024	1.83

Town Creek

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Escherichia coli / 4A
Total impaired size by water type: 1.83

Recreation

Sources:

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

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L53L-01-BAC - Martinsville (Beaver Creek) Reservoir**

Location:	Martinsville Reservoir
City/County	Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. This bacteria impairment is nested within the overall Dan River Bacteria TMDL Watershed. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

4ABAU005.34 (Martinsville Reservoir at Dam) The 2010 assessment finds Escherichia coli (E.coli) exceed the WQS instantaneous criterion of 235 cfu/100 ml in two of 13 observations. Values in excess of the criterion are 420 and 450 cfu/100 ml. There are no additional data within the 2012 data window.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L53L_BAU01A02	Martinsville (Beaver Creek) Reservoir	Martinsville Reservoir on Beaver Creek from its impounding structure upstream to its backwaters.	4A	Escherichia coli	2010	2008	181.34

Martinsville (Beaver Creek) Reservoir

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Escherichia coli / 4A

Total impaired size by water type:

181.34

Recreation

Sources:

- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L53R-02-BAC - Jordan Creek**

Location:	The mainstem waters of Jordan Creek from its headwaters to its mouth on the Smith River.
City/County	Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The 2006 303(d) Listed 5.77 mile waters remain impaired for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Jordan Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

4AJOR000.02- (Rt. 682 Bridge) There are no additional data beyond the 2008 assessment where seven of 21 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values are 380 cfu/100 ml.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L53R_JOR01A06	Jordan Creek	The mainstem waters of Jordan Creek.	4A	Escherichia coli	2006	2008	5.77

Jordan Creek

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Escherichia coli / 4A

Total impaired size by water type:

5.77

Recreation

Sources:

- Municipal (Urbanized High Density Area)
- Residential Districts
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

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

Location:	The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir.
City/County	Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Recreational Use remains impaired for these 2006 303(d) Listed 5.09 mile waters. The Dan River Bacteria TMDL is U.S. EPA approved 12/08/2008 [Fed ID 35756] and SWCB approved 4/28/2009. This bacteria impairment is nested within the Dan River Bacteria TMDL. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

4ABAU000.94- (Rt. 220 Business Bridge) Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 10 of 24 samples within the 2012 data window. Exceeding values range from 250 to greater than 2000 cfu/100 ml. The 2008 and 2010 assessments find E.coli exceeds the instantaneous criterion in 13 of 21 samples. Exceeding values range from 380 to greater than 2000 cfu/100 ml.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L53R_BAU01A06	Beaver Creek	The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir.	4A	Escherichia coli	2006	2008	5.09

Beaver Creek

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Escherichia coli / 4A
Total impaired size by water type: 5.09

Recreation

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

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2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

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 6.92 miles due to contravention of the General Standard.

4ABAU011.17- (Off Rt. 922 upstream of Rt. 657 crossing) There are no additional data beyond the 2008 assessment. Bio 'IM' Two 2004 Virginia Stream Condition Index (VSCI) surveys with an average score of 51.2. 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

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L53R_BAU02A06	Beaver Creek	Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir.	5A	Benthic-Macroinvertebrate Bioassessments	2008	2020	6.92

Beaver Creek

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Benthic-Macroinvertebrate Bioassessments / 5A
Total impaired size by water type:

6.92

Aquatic Life

Sources:

- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L53R-04-BAC - Reed Creek**

Location:	Reed Creek mainstem from its mouth on the Smith River upstream approximately one mile above the Rt. 609 crossing.
City/County	Henry Co.
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

This 2008 303(d) Listed water extends 3.95 miles resulting in non-support for the Recreational Use. The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates Reed Creek as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

4AREE000.80 (Rt. 993 Bridge upstream of Rt. 57 Bridge) Four Escherichia coli (E.coli) samples of 21 exceed the 235 cfu/100 ml instantaneous criterion in both the 2008 and 2010 assessments. Exceeding values range from 300 to greater than 2000 cfu/100 ml.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L53R_REE01A00	Reed Creek	Reed Creek mainstem from its mouth on the Smith River upstream approximately one mile above the Rt. 609 crossing.	4A	Escherichia coli	2008	2020	3.95

Reed Creek					Estuary (sq. miles)	Reservoir (acres)	River (miles)
Impaired area ID: VAW-L54R-01		Escherichia coli / 4A					3.95
Recreation		Total impaired size by water type:					

Sources:

- Municipal (Urbanized High Density Area)
- Residential Districts
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

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) 4AXMP001.85- 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.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L53R_XMP01A06	Jones Creek, UT (XMP)	Unnamed tributary to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek.	5A	Benthic-Macroinvertebrate Bioassessments	2006	2018	2.04

Jones Creek, UT (XMP)

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Benthic-Macroinvertebrate Bioassessments / 5A
Total impaired size by water type:

2.04

Aquatic Life

Sources:

- Landfills

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L54R-01-BAC - Smith River**

Location:	The bacteria impairment begins at the Martinsville Dam (Martinsville West Quad) and extends downstream to the VA/NC State Line on the Northwest Eden Quad.
City/County	Henry Co., Martinsville City
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/08/2008 [Fed ID 35757] and SWCB approved 4/28/2009. The Dan River Bacteria TMDL incorporates the Smith River as it lies within the TMDL Watershed. The TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

Station 4ASRE022.71 is a 1999 Federal Consent Decree Attachment B station and was not 2002 listed as impaired. Only four of 59 samples exceeded the former 1000 cfu/100 ml instantaneous criterion for an exceedance rate of 6 percent in 2002. The 2002 303(d) Listing for 10.16 miles has been extended upstream 3.59 miles (2004 Integrated Report (IR)) and downstream 6.30 miles (2006 IR) for a total of 20.05 miles thru the 2008 Assessment.

4ASRE026.27- There are no additional benthic data beyond the 2008 assessment where two E.coli samples exceed the 235 cfu/100 ml instantaneous criterion from 21 total samples. The E.coli data indicate this station would meet delisting guidance however the range of exceeding values is from 600 to 1060 cfu/100 ml. Due to the magnitude of the exceedances and the downstream exceedances the waters remain impaired for the Recreation Use.

4ASRE022.71- (Footbridge above the Martinsville STP) There are no additional data beyond the 2004 IR where eight of 41 FC samples exceed the former 400 cfu/100 ml instantaneous criterion. Exceeding values range from 500 to greater than 8000 cfu/100 ml. The 2004 IR 303(d) Listing extends the 2002 bacteria impairment 3.59 miles upstream from the original 303(d) Listing. Data within the 2006 data window find three of 17 samples in excess of the criterion with exceeding values ranging from 600 to 900 cfu/100 ml.

4ASRE021.58 (Rt. 58 Bypass Bridge, Henry Co.) There are no additional E.coli data beyond the 2008 assessment where E.coli excursions range from 300 to 1400 cfu/100 ml in four of nine samples. Each exceedance is in excess of the 235 cfu/100 ml instantaneous criterion. The 2006 data window produces three of 17 FC samples in excess of the former 400 cfu/100 ml instantaneous criterion ranging from 1100 to greater than 8000 cfu/100 ml. The 2004 IR reports six of 35 FC observations exceed the instantaneous criterion. The exceeding values range from 600 to greater than 8000 cfu/100 ml.

4ASRE019.00- Both the 2010 and 2008 assessments find six of 20 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion within their respective data windows. Exceeding values range from 250 to 1060 cfu/100 ml. Two of six geometric mean calculations exceed the former (2 samples / calendar month) 126 cfu/100 ml criterion at 150 and 235. There are no additional data beyond the 2008 assessment.

4ASRE015.43 (Rt. 636 Bridge) There are no additional E.coli data beyond the 2008 assessment. Both the 2010 and 2008 assessments find E.coli exceed the instantaneous criterion in four of 20 samples. The range of exceedance is from 250 to 990 cfu/100 ml in each respective data window. One of six geometric mean calculations exceeds the former (2 samples / calendar month) 126 cfu/100 ml criterion at 306 in 2008. One excursion of the instantaneous criterion is found from 17 observations within the 2006 data window. The single exceedance is 1100 cfu/100 ml. 2004 IR findings are FC exceeds the former 400 cfu/100 ml criterion in six of 35 samples. Exceeding values range from 500 to 1300 cfu/100 ml.

4ASRE007.90- Escherichia coli (E.coli) exceedances of the WQS 235 cfu/100 ml instantaneous criterion range from 250 to 1500 cfu/100 ml from seven of 36 samples within the 2012 data window. The 2010 data window finds eight of 33 E.coli samples exceed the instantaneous criterion. Values in excess of the criterion range from 250 to 1700 cfu/100 ml. 2008 E.coli exceedances of the instantaneous criterion range from 250 to 600 cfu/100 ml from six of 21 samples. The 2006 IR found six of 48 FC samples exceed the 400 cfu/100 ml instantaneous criterion with exceedances ranging from 600 to 950 cfu/100 ml within the 2006 data window.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L54R_SRE01A00	Smith River	Smith River mainstem from the Home Creek mouth downstream to VA/NC State Line.	4A	Escherichia coli	2008	2018	3.22
VAW-L54R_SRE02A00	Smith River	The mainstem Smith River located between the Turkey Pen Creek mouth downstream to the Home Creek mouth.	4A	Escherichia coli	2008	2018	3.08
VAW-L54R_SRE03A00	Smith River	Smith River mainstem from the Leatherwood Creek mouth downstream to the confluence of Turkeypen Creek.	4A	Escherichia coli	2008	2010	4.75
VAW-L54R_SRE03A02	Smith River	Smith River mainstem from the Marrowbone Creek mouth downstream to the confluence of Leatherwood Creek.	4A	Escherichia coli	2008	2010	1.72
VAW-L54R_SRE04A00	Smith River	The mainstem Smith River located between the HCPSA Lower Smith River STP and the confluence of Marrowbone Creek.	4A	Escherichia coli	2008	2010	0.38
VAW-L54R_SRE05A00	Smith River	The mainstem Smith River located between the Martinsville City STP outfall downstream to the Henry County PSA Lower Smith STP outfall.	4A	Escherichia coli	2008	2010	3.31
VAW-L54R_SRE06A00	Smith River	The mainstem Smith River located between the Martinsville Dam downstream to Martinsville City STP outfall.	4A	Escherichia coli	2008	2008	3.59

Smith River

Estuary (sq. miles)	Reservoir (acres)	River (miles)
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Impaired area ID: **VAW-L54R-01**

Escherichia coli / 4A

Total impaired size by water type:

20.05

Recreation**Sources:**

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L54R-01-BEN - Smith River**

Location:	The benthic impairment begins near the Martinsville WWTP outfall and extends downstream to the mouth of Turkeypen Creek.
City/County	Henry Co., Martinsville City
Use(s):	Aquatic Life
Cause(s) / VA Category:	Benthic-Macroinvertebrate Bioassessments / 4A

The Smith River General Standard - Benthic TMDL received U.S. EPA approval on 1/13/2011 for a phased approach. Federal IDs are 39703, 39705, 39706 and 39707. Phase I seeks to define and identify stressors to the benthic community beyond general identification. The benthic impairment for 3.59 miles (Assessment Unit VAW-L54R_SRE06A00 / Fed ID 39705) is delisted with the 2012 assessment leaving 10.16 miles remaining impaired.

The 1998 Aquatic Life Use impairment remains for these 10.16 mile waters. Two municipal facilities have closed as a result of industrial plant closings in the Martinsville / Henry County area. Greatly reduced influent chloride levels from industrial inputs to the Martinsville STP are a result. An earlier 1998 Corbicula study indicates chlorides may have impacted the benthos. However the benthic community impairment remains.

4ASRE026.04 (below Martinsville Dam formerly coded 4ASRE026.38) This station has been abandoned for benthic collections due to safety concerns.

Bio 'IM' [EDAS coded 4ASRE026.38] There are no additional benthic data beyond the 2008 assessment where two Virginia Stream Condition Index (VSCI) surveys (2003 & 2004) score an average of 49.2. The Martinsville Dam affects the river by periodically causing the stream substrate to become dewatered, reducing the amount of habitat available for benthic macro invertebrate production. The Dam also affects water quality from releases of water higher in temperature and lower in oxygen than it would be without the impoundment. Improvements by the closing of the former Upper Smith River Wastewater Treatment Plant may be responsible for increased assessment scores since 2000. However, improvements in the community may be negated by the Martinsville Dam effect.

4ASRE022.30 (below the Martinsville STP) Bio 'IM' 2012 benthic collections find impairment from nine VSCI surveys (2005 thru 2010) with an average six year score of 53.52 and 2 year score of 56.47. Bio 'IM' Seven VSCI surveys (2003 thru 2008 - 2010 data window) score an average of 52.0 and 2001 thru 2006 - 2008 data window) of 51.3.

The historical data show a slight improvement in VSCI scores. Historical data also show that the benthic community at this site typically consisted of more pollution tolerant taxa in the spring. This station and 4ASRE033.19 show the least improvement of the stations sampled for the Smith River TMDL. The 2008 samples show an improvement in the community from the sample collected in 2007. The fall 2005 survey indicated a community dominated by the moderately tolerant caddisfly Hydropsychidae (an indication of organic and nutrient pollution). Improvement in the operation of the Martinsville WWTP may be responsible for the increasing assessment scores since 2001.

4ASRE019.00 (above the Marrowbone Creek mouth) Bio 'IM' Nine VSCI surveys (2005-2010; 2012 data window) with an average six year score of 49.58 and two year score of 49.71. Seven VSCI surveys score an average (2003 thru 2008 - 2010 data window) of 46.8 and (2001 thru 2006 five surveys 2008 data window) score 42.4.

The dominant family observed has typically been the moderately tolerant caddisfly Hydropsychidae (an indication of organic and nutrient pollution). In the most recent surveys, Hydropsychidae and Simuliidae dominated the samples. The numbers of these individuals per sample appears to be declining. The Fall 2009 non-impaired sample had the largest percentage (27.84%) of mayflies during the assessment period (VSCI=62.08). The second highest VSCI score (58.22) had 13.22% mayflies. In the fall 2001 survey, the numbers of sensitive insects in the orders Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies) decreased and the number of pollution tolerant organisms increased relative to earlier surveys. The 2010 data window found from the two most recent surveys (2007-2008), Hydropsychidae and other nutrient/organic pollution tolerant families dominated the samples. This station is downstream of the Martinsville and former Lower Smith River (Henry County PSA) WWTPs. Non-point source urban runoff and sediment from land use conversion throughout the watershed also affect the river. The closure of the Lower Smith River Wastewater Treatment Plant (just upstream of this station) in November

2005 did not appear to have a significant affect on the benthic community.

4ASRE015.43 (Rt. 636 Bridge) Bio 'IM' Benthic collections within the 2012 data window report Nine VSCI surveys (2005-2010) with an average six year score of 54.9 and two year score (2009-2010) of 55.57.

Seven VSCI surveys (2003 thru 2008 are within the 2010 data window) score an average of 57.4 and (2001 thru 2006 five surveys 2008 data window) score 52.1.

This station is the furthest downstream biological monitoring site and the first site where the benthic community historically showed signs of recovery. This site has shown improvement in the Fall scores since Fall 2006, but a decline in the Fall 2010 sample. Non-point source urban runoff and sediment appear to affect the river. The station is located downstream of Leatherwood Creek which may be a significant source of sediment. Recent surveys show that the benthic community is dominated by the moderately tolerant caddisfly Hydropsychidae as well as Chironomidae and Simuliidae, an indication of organic and nutrient pollution. There was some improvement in the benthic community between Fall 2006 and 2009. The same affect was found with improvement in the benthic community scores between 1999 and 2001 as well (2008 data window). Improved water quality may have been the result of operational improvements at the Martinsville WWTP. However, the decline in benthic community scores in spring 2008-2010 and Fall 2008 and 2010 indicates that water quality at this site is still degraded.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L54R_SRE03A00	Smith River	Smith River mainstem from the Leatherwood Creek mouth downstream to the confluence of Turkeypen Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	2010	4.75
VAW-L54R_SRE03A02	Smith River	Smith River mainstem from the Marrowbone Creek mouth downstream to the confluence of Leatherwood Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	2010	1.72
VAW-L54R_SRE04A00	Smith River	The mainstem Smith River located between the HCPSA Lower Smith River STP and the confluence of Marrowbone Creek.	4A	Benthic-Macroinvertebrate Bioassessments	1998	2010	0.38
VAW-L54R_SRE05A00	Smith River	The mainstem Smith River located between the Martinsville City STP outfall downstream to the Henry County PSA Lower Smith STP outfall.	4A	Benthic-Macroinvertebrate Bioassessments	1998	2010	3.31

Smith River

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01 Benthic-Macroinvertebrate Bioassessments / 4A 10.16
Total impaired size by water type:

Aquatic Life

Sources:

- Dam or Impoundment
- Municipal (Urbanized High Density Area)
- Sediment Resuspension (Clean Sediment)
- Silviculture Harvesting

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

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 2010 assessment finds the Aquatic Life Use impaired. One fall 2008 Virginia Stream Condition Index (VSCI) survey scoring 30.7 finds 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.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L54R_MCH01A10	Machine Branch	Machine Branch from its mouth on the Smith River upstream to its headwaters.	5A	Benthic-Macroinvertebrate Bioassessments	2010	2022	1.01

Machine Branch

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Benthic-Macroinvertebrate Bioassessments / 5A
Total impaired size by water type:

1.01

Aquatic Life

Sources:

- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

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.

4AMBY001.33- 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 data window.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L54R_MBY01A10	Mulberry Creek	Mulberry Creek from its confluence with the Smith River upstream to an unnamed tributary (36°40'03"/79°50'00").	5A	Benthic-Macroinvertebrate Bioassessments	2010	2022	2.44

Mulberry Creek

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Benthic-Macroinvertebrate Bioassessments / 5A
Total impaired size by water type:

2.44

Aquatic Life

Sources:

- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/destabilization

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.

