Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with an unnamed tributary to North Fork Catoctin Creek, approximately 0.2 rivermile downstream from the Route 287 bridge, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2008, and one biological monitoring event in 2006, 2007, 2009, and 2010 at station 1aNOC000.42 each resulted in a VSCI score which indicates an impaired macroinvertebrate community.

North Fork Catoctin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.18**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

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

Location: Begins at the northwest corner of the town of Purcellville, approximately 0.48 rivermiles upstream from the Route 690 bridge, and continues downstream until the confluence with another unnamed tributary, approximately 0.55 rivermile upstream from the Route 9 bridge.

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2005, one biological monitoring event in 2007, two biological monitoring events in 2008, and one biological monitoring event in 2009 at station 1aSOC010.09, as well as two biological monitoring events in 2005 and one biological monitoring event in 2007, 2008, and 2009 at station 1aSOC007.06 each resulted in VSCI scores which indicate an impaired macroinvertebrate community.

South Fork Catoctin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.38**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with an unnamed tributary to Clarks Run, at rivermile 4.62, and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (7 of 18 samples - 38.9%) from station 1aCLK002.40, at Route 658.

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

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with an unnamed tributary to Clarks Run, at rivermile 4.62, and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One biological monitoring event in 2010 at station 1aCLK002.40, at Route 658, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Clarks Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.92**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

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

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

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2002 at station 1aWAC003.31 (Route 50) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Wancopin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.19**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2010 at station 1aJEE002.22, at Route 743, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Jeffries Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.89**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with an unnamed tributary to North Fork Goose Creek, approximately 0.25 rivermile upstream from Route 725, and continues downstream until the confluence with Crooked Run, 0.35 rivermile upstream from Route 729.

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One biological monitoring event in 2008 at station 1aNOG005.69 (Route 722) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

North Fork Goose Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.29**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the headwaters of North Fork Beaverdam Creek and continues downstream until the confluence with Butchers Branch.

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: One of two biological monitoring events in 2001 at station 1aNOB007.97 (Route 831) resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these two samples.

North Fork Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.58**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Includes the following tributaries between the Virginia/Maryland state line near the Route 340 bridge (Loudoun County) to the I-395 bridge in Arlington County (above the Woodrow Wilson Bridge): Goose Creek up to the Dulles Greenway Road Bridge, Broad Run up to the Route 625 bridge, Difficult Run up to the Route 7 bridge, and Pimmit Run up to the Route 309 bridge.

City / County: Arlington Co Fairfax Co Loudoun Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

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

Broad Run, Difficult Run, Goose Creek, Pimmit Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**39.63**	**18.92**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A08R-03-BEN** **Little River**

Location: Begins at the confluence with Bartons Creek and continues downstream until the confluence with an unnamed tributary.

City / County: Fauquier Co Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One biological monitoring event in 2008 at station 1aLIV012.12 (Route 776) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

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

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Loudoun Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) from station 1aXLE001.62, at Algonkian Parkway.

Unnamed tributary to the Potomac River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.86**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2005, 2007, 2008, and 2009 at station 1aBRB002.15, at Route 7, and two biological monitoring events in each of the following years, 2005, 2007, 2008 and 2009 at station 1aBRB006.97 (upstream from Waxpool Road) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Broad Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.22**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with Beaverdam Run, approximately 0.8 rivermile upstream from Route 7, and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co

Use(s): Fish Consumption

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

Excursions above the water quality criterion based tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in two specie of fish; smallmouth bass (2004) and yellow bullhead catfish (2004) at monitoring station 1aBRB002.15.

Broad Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**2.86**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with Horsepen Run , and continues downstream until the confluence with Cabin Branch, at rivermile 5.35.

City / County: Loudoun Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 17 samples - 17.6%) from station 1aBRB006.33, at Route 625 (Waxpool Rd).

Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.13**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2005, one biological monitoring event in 2007, and two biological events in 2009 at station 1aBRB015.43, upstream of Route 621) each resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Broad Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.33**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Loudoun Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) from station 1aBRB015.38, at Route 621.

Broad Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.33**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with an unnamed tributary to Horsepen Run, approximately 0.7 rivermile upstream from Route 657, and continues downstream until the confluence with an unnamed tributary to Horsepen Run, approx. 1.0 rivermile downstream from Rt 28.

City / County: Fairfax Co Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2010 at station 1aHPR003.93 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Horsepen Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.33**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with Folly Lick Branch, at approximately rivermile 5.75, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co Loudoun Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 29 samples - 17.2%) from station 1aSUG004.42, at Route 7.

Sugarland Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.72**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co Loudoun Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2009 and in 2010 at station 1aSUG006.28 at Wiehle Avenue resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Sugarland Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.20**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the confluence with Captain Hickory Run, approximately 0.6 rivermile upstream from Route 683, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Heptachlor epoxide / 5A

2008 Assessment: Excursions above of the water quality criterion based tissue screening value (TV) of 12 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in one specie of fish samples (2 total samples) in American eel (2001 and 2004), collected at monitoring station 1aDIF000.86.

Difficult Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Heptachlor epoxide - Total Impaired Size by Water Type:			**2.94**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) from station 1aMNR000.72, at Route 603.

Mine Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.93**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2001 at station 1aCAH001.82 (upstream from Route 681) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Captain Hickory Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.00**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2006 and two biological monitoring events in 2007 at station 1aDIF005.06 (Route 675) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, as well as two biological monitoring events in 2006 and two biological monitoring events in 2007 at station 1aDIF010.48 (Route 672) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Difficult Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.85**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2007 at station 1aCOV003.32 (Wiehle Ave) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Colvin Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.98**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2007 at station 1aSNA000.21, at Route 677 (Hunter Station Road) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Snakeden Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.79**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of two biological monitoring events in 2007 at station 1aLID000.64, at Route 669, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Little Difficult Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.61**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2007 at station 1aOCS000.43, at Laurel Hill Rd, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Old Courthouse Spring Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.22**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) from station 1aNIC002.10, at Route 603.

Nichols Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.69**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of 2 biological monitoring events in 2009 at station 1aTUY000.26, upstream of the G.W. Parkway, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Turkey Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.37**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

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

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2009 at station 1aDED000.29, upstream of G.W. Parkway, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Dead Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.81**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A12E-01-CDANE** **Fourmile Run**

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

City / County: Alexandria City Arlington Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Chlordane / 5A

Excursions above the water quality criterion based fish tissue value (TV) of 110 parts per billion (ppb) for total chlordane in fish tissue were recorded in 2 species of fish (3 total samples); carp (2008, 2008) and channel catfish (2008), collected at monitoring station 1aFOU000.45.

Fourmile Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:	**0.052**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the Route 309 bridge crossing, at rivermile 4.16, and continues downstream until the confluence with Little Pimmit Run, approximately 0.1 rivermile downstream from Route 695.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2009 at station 1aPIM001.89, at Ranleigh Road, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Pimmit Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.46**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

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

Location: Begins at the headwaters of Pimmit Run, approximately 0.12 rivermile upstream from Route 7, and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (10 of 27 samples - 38.5%) from station 1aPIM000.15, at Route 120 (Glebe Road); E. coli bacteria criterion excursions (3 of 14 samples - 21.4%) from station 1aPIM001.89, at Ranleigh Road; and E. coli bacteria criterion excursions (7 of 19 samples - 36.8%) from station 1aPIM004.16, at Route 309.

Pimmit Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.37**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A12R-03-CDANE** **Pimmit Run**

Location: Begins at the confluence with Little Pimmit Run, approximately 0.1 rivermile downstream from Route 695, and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co Fairfax Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Chlordane / 5A

2008 Assessment: Excursions above the water quality criterion based tissue value (TV) of 310 ppb for chlordane in fish tissue were recorded in tissue from one specie (American eel) of fish sampled in 2001 and 2004 at monitoring station 1aPIM000.15.

Pimmit Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			**1.62**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A12R-03-HEPOXID** **Pimmit Run**

Location: Begins at the confluence with Little Pimmit Run, approximately 0.1 rivermile downstream from Route 695, and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co Fairfax Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Heptachlor epoxide / 5A

Excursions above the water quality criterion based tissue value (TV) of 4.4 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in two species of fish samples (3 total samples); American eel (2004, 2004) and white sucker (2004) at monitoring station 1aPIM000.15.

Pimmit Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Heptachlor epoxide - Total Impaired Size by Water Type:			**1.62**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A12R-04-BAC** **Little Pimmit Run**

Location: Begins at the headwaters of Little Pimmit Run and continues downstream until its confluence with Pimmit Run.

City / County: Arlington Co Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) from station 1aLIO000.15, at Route 695 (Kirby Road), and E. coli bacteria criterion excursions (1aLIO001.50) at Route 691 (Franklin Park Road) bridge crossing.

Little Pimmit Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.22**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A13R-01-PCB** **Indian Run**

Location: Includes the entire portion of Indian Run, from the headwaters until the confluence with Backlick Run.

City / County: Fairfax Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 7/27/05, limits consumption of creek chub to no more than two meals per month.

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

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A13R-03-BEN** **Holmes Run**

Location: Begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One biological monitoring event in 2007, two biological monitoring events in 2008, and two biological monitoring events in 2010 at station 1aHOR005.48, at Route 613, each resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Holmes Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.78**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A13R-04-BEN** **Tripps Run**

Location: Begins at the headwaters of Tripps Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One biological monitoring event in 2007, two biological monitoring events in 2008, and two biological monitoring events in 2010 at station 1aTRI001.50, at Route 613, each resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Tripps Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.66**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A14R-01-BAC** **Paul Springs Branch**

Location: Begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) at station 1aPAU001.17, at Route 626.

Paul Springs Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.12**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A14R-01-BEN** **Paul Springs Branch**

Location: Begins at the headwaters of Paul Spring Branch and continues downstream until the confluence with North Branch.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2007 at station 1aPAU001.17 (Route 626) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Paul Springs Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.12**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A15E-01-PH** **Pohick Bay**

Location: Segment includes tidal waters of Pohick Creek, from the boundary of watershed A15, and extends until rivermile 1.31 in Gunston Cove.
Portion of CBP segment POTTF.

City / County: Fairfax Co

Use(s): Aquatic Life

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

Sufficient excursions above the upper limit of the pH criterion range at station 1aPOH002.10 at the end of the dock at Pohick Regional Park (89 of 595 observations, 14.9%).

Pohick Bay **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.609**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A15L-01-HG** **Lake Accotink**

Location: Includes all of Lake Accotink.

City / County: Fairfax Co

Use(s): Fish Consumption

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

Excursions above the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded in two species of fish (3 total samples): largemouth bass (2007, 2007) and bluegill sunfish (2007) collected at monitoring station 1aACO012.78.

Lake Accotink **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**75.73**	

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A15L-01-PCB** **Lake Accotink**

Location: Includes all of Lake Accotink.

City / County: Fairfax Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

Excursions above the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in two species of fish (3 total samples): carp (2007, 2007) and gizzard shad (2007) collected at monitoring station 1aACO012.78.

Lake Accotink **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**75.73**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

Cause Group Code: **A15R-01-BEN** **Accotink Creek**

Location: Begins at the outlet of Lake Accotink and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2006 and two biological monitoring events in 2007, at station 1aACO002.50, at Route 1, each resulted in a VSCI score which indicates an impaired macroinvertebrate community. Two biological monitoring events in 2006, two biological monitoring events in 2007, and two biological monitoring events in 2008, at station 1aACO006.10, at Route 790, each resulted in a VSCI score which indicates an impaired macroinvertebrate community. Two biological monitoring events in 2008, at station 1aACO009.14, at Routes 636 and 7100, each resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Accotink Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.92**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A15R-01-PCB** **Accotink Creek**

Location: Segment begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in three species of fish (3 total samples): American eel (2004), redbreast sunfish (2004), and rainbow trout (2004) collected at monitoring station 1aACO004.86.

Accotink Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**7.34**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A15R-04-BEN** **Accotink Creek**

Location: Begins at the headwaters of Accotink Creek and continues downstream until the start of Lake Accotink.

City / County: Fairfax City Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

EPA biological monitoring events in 2005 and 2006 each resulted in a VSCI score which indicates an impaired macroinvertebrate community. A total of two biological monitoring events in 2007 at station 1aACO014.57, at Route 620, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Accotink Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.17**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A15R-05-BEN** **Long Branch**

Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, at rivermile 14.32 just below Braddock Road.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2006 at station 1aLOE001.99 (downstream from Route 651/Guinea Road) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

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

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A16E-01-BZOKFL** **Pohick Creek**

Location: Includes tidal waters of Pohick Creek upstream from the boundary of watershed A16.

City / County: Fairfax Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Benzo[k]fluoranthene / 5A

2002 Assessment: Excursions above the water quality criterion based tissue value (TV) of 15 ppb for benzo(k) fluoranthene in fish tissue (bullhead catfish, white perch, and sunfish) at station 1aPOH003.56 in 1996.

Pohick Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo[k]fluoranthene - Total Impaired Size by Water Type:	**0.292**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A16R-01-BAC** **Pohick Creek**

Location: Begins at the confluence with South Run, approximately 0.25 rivermile upstream from I-95, and continues downstream until the end of the free-flowing portion of Pohick Creek.

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (9 of 28 samples - 32.1%) from station 1aPOH005.36, at Route 1.

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

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A16R-02-BAC** **Pohick Creek**

Location: Begins at the confluence with Sideburn Branch and continues downstream until the confluence with Middle Run.

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) from station 1aPOH015.09, at Route 645 (2010 Assessment); and excursions (2 of 11 samples - 18.27%) from station 1aPOH013.12, at Route 644.

Pohick Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.46**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A18R-02-BEN** **Lucky Run**

Location: Begins at the headwaters of Lucky Run and continues downstream until the confluence with Cedar Run.

City / County: Prince William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2001 at station 1aLUC000.95 (off Route 611) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Lucky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.33**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A21R-01-BEN** **Catharpin Creek**

Location: Begins at the Route 601 crossing and continues downstream until the confluence with Little Bull Run.

City / County: Prince William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2009 at station 1aCAA001.18, at Route 676, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Catharpin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.26**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A21R-01-PCB** **Bull Run**

Location: Includes Bull Run near Manassas Park from the I-66 bridge downstream approximately fourteen miles to the Route 612 (Yates Ford Road) bridge.

City / County: Fairfax Co Manassas Park City Prince William Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04 and modified 07/27/05, limits consumption of carp and channel catfish to no more than two meals per month.

Bull Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**62.78**	**11.31**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A22R-01-BEN** **Flatlick Branch**

Location: Begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2001 at station 1aFLL000.62 (downstream of Route 620) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Flatlick Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.02**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A22R-02-BEN** **Big Rocky Run**

Location: Begins at the confluence with an unnamed tributary to Big Rocky Run, at approximately rivermile 4.03, and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2007, at station 1aBIR003.02 (Route 657), resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Big Rocky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.02**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A22R-03-BEN** **Cub Run**

Location: Begins at the confluence with Elklick Run and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2009 and one biological monitoring event in 2010 at station 1aCUB004.63, upstream of Route 28, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Cub Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.73**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A23R-03-BEN** **Little Rocky Run**

Location: Begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2007, at station 1aLIP001.00 (Route 658, Compton Road), resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Little Rocky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.78**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A24R-01-BAC** **Wolf Run**

Location: Begins at the confluence with Maple Branch and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 27 samples - 11.1%) from station 1aWOL001.26, at Route 643.

Wolf Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.11**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A24R-01-BEN** **Wolf Run**

Location: Begins at the confluence with Maple Branch and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2010 at station 1aWOL001.26, at Route 643, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Wolf Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.11**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A24R-02-BAC** **Sandy Run**

Location: Begins at the headwaters of Sandy Run and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 5 samples - 40.0%) from station 1aSAD001.76, at Cathedral Forest Drive.

Sandy Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.37**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A24R-03-BAC** **Hooes Run**

Location: Begins at the outlet from Lake Omiscol and continues downstream until the beginning of the inundated waters of the Occoquan Reservoir.

City / County: Prince William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 14 samples - 35.7%) from station 1aHOO000.34, at Route 641 (Old Bridge Road).

Hooes Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.93**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A25E-02-BAC** **Neabsco Creek**

Location: Includes the tidal waters of Neabsco Bay downstream until the confluence with Occoquan Bay.

City / County: Prince William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (9 of 48 samples - 18.8%) from station 1aNEA000.57.

Neabsco Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.543**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A25E-03-BAC** **Occoquan River**

Location: Extends from the end of the free-flowing waters to 0.5 rivermile downstream of monitoring station 1aOCC006.64.

City / County: Fairfax Co Prince William Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (2 of 13 samples - 15.4%) from station 1aOCC006.71, at Route 123.

Occoquan River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.068**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

Cause Group Code: **A25E-04-BAC** **Marumsco Creek**

Location: Includes all the tidal waters of Marumsco Creek from the end of the free-flowing stream to the open Occoquan Bay.

City / County: Fairfax Co Prince William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) from station 1aMAU001.16, at the Featherstone Drive bridge crossing.

Marumsco Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.025**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A25E-04-EBEN** **Occoquan River**

Location: Extends 0.5 mile around Coastal 2000 monitoring station 1aOCC002.62.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

2008 Assessment: Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment, from station 1aOCC002.62, were the primary factor for this determination.

Occoquan River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.286**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A25R-01-BEN** **Giles Run**

Location: Begins at the headwaters of Giles Run and continues downstream until the end of the free-flowing waters of Giles Run, at Massey Creek.

City / County: Fairfax Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2010 at station 1aGIL003.10, at Route 642 (Lorton Road), resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Giles Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.92**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A25R-02-BAC** **Mills Branch**

Location: Begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River.

City / County: Fairfax Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Although the data obtained during the 2006 assessment window shows exceedances of the instantaneous fecal coliform bacteria criterion (1 of 8 samples - 14.3%) is categorized as having insufficient information, very little data has been collected from the DEQ's ambient water quality monitoring station (1aWLB000.06) since the previous assessment window. The segment shall remain categorized as impaired.

Mills Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.72**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26E-01-BZOKFL** **Powells Creek**

Location: Extends to a 0.5 mile radius around the ACB station 1aPOW-765-ALL.

City / County: Prince William Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Benzo[k]fluoranthene / 5A

2002 Assessment: Excursions above the water quality criterion based tissue value (TV) of 15 ppb for benzo(k) fluoranthene in fish tissue (largemouth bass and sunfish) at station 1aPOW001.20 in 1996.

Powells Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo[k]fluoranthene - Total Impaired Size by Water Type:	**0.398**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26E-03-EBEN** **Quantico Creek**

Location: Extends to a 0.5-mile radius around station 1aQUA001.09.

City / County: Prince William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

2008 Assessment: Based on the Coastal 2000 weight of evidence analysis in 2001 at station 1aQUA001.09, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions. Conclusions noted that organic enrichment, as well as chemical contamination, may be responsible for the impairment. The survey revealed low diversity of benthic faunal taxa.

Quantico Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.426**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26E-03-EBTOX** **Quantico Creek**

Location: Extends to a 0.5-mile radius around station 1aQUA001.09.

City / County: Prince William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Sediment Bioassays for Estuarine and Marine Water / 5A

2008 Assessment: Based on the Coastal 2000 weight of evidence analysis in 2001 at station 1aQUA001.09, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions. Conclusions noted that organic enrichment, as well as chemical contamination, may be responsible for the impairment. The acute bioassay revealed slight, yet significant, toxicity.

Quantico Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sediment Bioassays for Estuarine and Marine Water - Total Impaired Size by Water Type:	**0.426**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26L-01-HG** **Lake Montclair**

Location: Includes all of Lake Montclair.

City / County: Prince William Co

Use(s): Fish Consumption

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

Excursions above the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded in three species of fish (9 total samples): largemouth bass (2006), channel catfish (2006) and black crappie (2006) collected at monitoring station 1aPOW009.08.

Lake Montclair **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**98.03**	

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26R-02-BAC** **Powells Creek**

Location: Begins approximately 0.2 rivermiles below Lake Montclair and continues downstream until the end of the free-flowing waters of Powells Creek.

City / County: Prince William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 17 samples - 23.5%) from station 1aPOW006.11, at Northgate Drive, and E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) from station 1aPOW003.11, at Route 1.

Powells Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.62**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26R-03-BAC** **Quantico Creek**

Location: Begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay.

City / County: Prince William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 29 samples - 20.7%) from station 1aQUA004.46, at Route 1 Business.

Quantico Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.45**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26R-04-BAC** **North Branch Chopawamsic Creek**

Location: Begins at the headwaters of North Branch Chopawamsic Creek and continues downstream until the confluence with Middle Branch.

City / County: Prince William Co Stafford Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 10 samples - 30.0%) from station 1aNOR009.87, at the MCB-1 bridge crossing.

North Branch Chopawamsic Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.90**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26R-05-BAC** **South Fork Quantico Creek**

Location: Begins at the headwaters of the South Fork Quantico Creek and continues downstream until the start of the impounded waters, adjacent to what is labeled as Mawavi Camp No 2 on the Joplin quad.

City / County: Prince William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 48 samples - 12.5%) from USGS station 01658500.

South Fork Quantico Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.63**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A26R-07-BAC** **Unnamed tributary to Potomac River**

Location: Begins at the headwaters of the unnamed tributary and continues downstream until its confluence with the Potomac River

City / County: Stafford Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) at station 1aXLF000.13, at Route 633 (Arkendale Road).

Unnamed tributary to Potomac River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.90**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A27R-01-DO** **Unnamed tributary to Aquia Creek**

Location: Begins at the headwaters of the unnamed tributary and continues downstream until its confluence with Aquia Creek.

City / County: Stafford Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Excursions below the instantaneous dissolved oxygen criterion (4 of 16 samples - 25.0%) at station 1aXLN-SCVDOT-ALL.

Unnamed tributary to Aquia Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.08**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A27R-02-BAC** **Aquia Creek**

Location: Begins at the headwaters of Aquia Creek and continues downstream until the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610.

City / County: Fauquier Co Stafford Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) from station 1aAUA023.09, at Route 644.

Aquia Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.17**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A28R-01-BAC** **Austin Run**

Location: Begins at the confluence with an unnamed tributary to Austin Run (streamcode XGQ) and continues downstream until the confluence with Aquia Creek.

City / County: Stafford Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) from station 1aAUS000.49, at the end of Aquia Drive.

Austin Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.79**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A29E-02-BAC** **Fairview Beach (Potomac River)**

Location: Includes all of Fairview Beach on the Potomac River.

City / County: King George Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

VDH issued a total of 39 new and/or continued public beach closure advisories for Fairview Beach from 2005 to 2010. Enterococci bacteria geometric mean criterion excursions (13 of 17 samples - 76.5%) and excursions from the maximum enterococci bacteria criterion (8 of 32 samples - 25.0%) from VDH station VA351214, at Fairview Beach.

Fairview Beach (Potomac River) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.012**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A29E-03-BAC** **Chotank Creek**

Location: Includes the tidal portion of Chotank Creek, from its headwaters until the fire road crossing inside of Caledon State Park.

City / County: King George Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

Enterococci bacteria criterion excursions (3 of 19 samples - 15.8%) at station (1aCHN002.97) at the fire road in Caledon State Park.

Chotank Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.072**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A29R-01-BAC** **Accokeek Creek**

Location: Begins at the confluence with an unnamed tributary to Accokeek Creek, approximately 0.33 rivermile downstream from Route 1 at rivermile 8.62, and continues downstream until the end of the free-flowing waters.

City / County: Stafford Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 26 samples - 11.5%) from station 1aACC006.13, at Route 608.

Accokeek Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.21**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A29R-02-BAC** **Potomac Creek**

Location: Begins at the railroad crossing at the west end of swamp, upstream from Route 608, and continues downstream until the east end of swamp.

City / County: Stafford Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) at station 1aPOM006.72, at Route 608.

Potomac Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.18**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A29R-03-BAC** **Potomac Run**

Location: Begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch.

City / County: Stafford Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (18 of 23 samples - 78.3%) from station 1aPOR000.40, at Route 648.

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

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A30R-01-DO** **Pepper Mill Creek**

Location: Begins at the headwaters of Pepper Mill Creek and continues downstream until its confluence with Upper Machodoc Creek.

City / County: King George Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Excursions below the instantaneous dissolved oxygen criterion (2 of 7 samples - 28.6%) at station 1aPEP001.58, at Route 206.

Pepper Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.64**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A30R-01-PH** **Pepper Mill Creek**

Location: Begins at the headwaters of Pepper Mill Creek and continues downstream until its confluence with Upper Machodoc Creek.

City / County: King George Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (2 of 7 samples - 28.6%) at station 1aPEP001.58, at Route 206.

Pepper Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.64**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A31E-01-BAC** **Rosier Creek**

Location: The portion of VDH Shellfish Condemnation 001-088A 1/21/2010 which was not included in the Rosier Creek Shellfish TMDL.

City / County: Westmoreland Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

During the 2010 cycle, the portion of Rosier Creek around station 1AROS001.05, which is located off of the Route 205 boat ramp, was assessed as impaired of the Recreation Use due to an enterococci exceedance rate of 3/12.

Rosier Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.141**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A31E-01-SF2** **Rosier Creek**

Location: The portion of VDH Shellfish Condemnation 001-088A 1/21/2010 which was not included in the Rosier Creek Shellfish TMDL.

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation 001-088A, 1/21/2010

The Shellfish TMDL for the portion of the Rosier Creek that was impaired in the 1998 cycle was developed during the 2008 cycle. The TMDL was approved by the EPA on 6/8/2006 and by the SWCB on 4/28/2009. The lower portion of the current cycle's condemnation (001-088A 1/21/2010) was not included in the TMDL.

Segment was expanded during the 2010 cycle.

Rosier Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.141**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A31E-04-PH** **Monroe Creek**

Location: As described in VDH condemnation 002001D, 8/30/2010

City / County: Westmoreland Co

Use(s): Aquatic Life

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

During the 2012 cycle, the upper portion of Monroe Creek is impaired of the Aquatic Life Use due to a pH violation rate of 10/16 at 1AMRC002.81, which is located at Rt. 658.

Monroe Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.176**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A31E-11-BAC** **Bridges Creek**

Location: The tidal portion of Bridges Creek

City / County: Westmoreland Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

Bridges Creek was assessed as not supporting of the Recreation Use support goal during the 2004 cycle based on a fecal coliform violation rate of 2/2 at 01660860, a USGS station located near the mouth of Bridges Creek. The impairment converted to Enterococci during the 2012 cycle based on a violation rate of 15/23 at 1ABRG000.15.

Bridges Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.182**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A31R-03-DO** **Popes Creek Watershed**

Location: The Popes Creek watershed above the tidal limit.

City / County: Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Popes Creek was initially assessed as not supporting the Aquatic Life Use in 2006 based on dissolved oxygen exceedances at 1APOP003.92, which is located off the George Washington National Birthplace's picnic area. During the 2008 cycle, the exceedance rate was 2/13 for DO. There was no additional data collected during the 2010 cycle.

Additional monitoring was conducted throughout the watershed during the 2012 cycle. The segment remained impaired for DO due to a violation rate of 2/12 at 1AFOX000.23; the remaining stations had acceptable violation rates.

Popes Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**25.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A31R-03-PH** **Popes Creek Watershed**

Location: The Popes Creek watershed above the tidal limit.

City / County: Westmoreland Co

Use(s): Aquatic Life

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

Popes Creek was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on pH exceedances at 1APOP003.92, which is located off the George Washington National Birthplace's picnic area.

Popes Creek was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on dissolved oxygen and pH exceedances at 1APOP003.92, which is located off the George Washington National Birthplace's picnic area.

Additional monitoring was conducted throughout the watershed during the 2012 cycle. The pH impairment was confirmed due to widespread exceedances (see below).

6/12 at 1ABUP001.19
11/12 at 1AFOX000.23
11/12 at 1AGRU000.02
8/13 at 1APOP003.92
3/12 at 1APOP004.02
5/6 at 1AXHM000.73
3/10 at 1AXLU000.73

Popes Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**25.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A31R-04-DO** **Monroe Creek Watershed**

Location: Nontidal Monroe Creek mainstem and nontidal tributaries of Monroe Creek.

City / County: Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Monroe Creek was assessed as not supporting the Aquatic Life Use based on DO exceedances at 1AMRC003.12, which is located at Route 628.

During the 2008 cycle, the violation rates at 1AMRC003.12 remained unacceptable. Additional monitoring during the 2012 cycle confirmed the impairments with the exceedance rate of 4/13 at 1AMRC003.12.

The segment was adjusted during the 2012 cycle to add in all nontidal tributaries of Monroe Creek.

Monroe Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**11.85**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A31R-04-PH** **Monroe Creek Watershed**

Location: Nontidal Monroe Creek mainstem and nontidal tributaries of Monroe Creek.

City / County: Westmoreland Co

Use(s): Aquatic Life

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

During the 2006 cycle, Monroe Creek was assessed as not supporting the Aquatic Life Use based on pH exceedances at 1AMRC003.12, which is located at Route 628.

During the 2008 cycle, the exceedance rates at 1AMRC003.12 remained unacceptable Additional monitoring during the 2012 cycle confirmed the impairments with the following exceedance rates:

pH 13/13 at 1AMRC003.12
pH 6/6 at 1AMRC004.04

The segment was adjusted during the 2012 cycle to add in all nontidal tributaries of Monroe Creek based on a pH violation rate of 5/5 at 1AXLQ000.73.

Monroe Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**11.85**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A31R-05-DO** **Canal Swamp Watershed**

Location: The Canal Swamp watershed above the tidal limit.

City / County: Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Canal Swamp watershed, which drains to tidal Popes Creek, was impaired of the Aquatic Life Use during the 2012 cycle due to a dissolved oxygen violation rate of 5/12.

Canal Swamp Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**11.26**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A31R-05-PH** **Canal Swamp Watershed**

Location: The Canal Swamp watershed above the tidal limit.

City / County: Westmoreland Co

Use(s): Aquatic Life

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

The Canal Swamp watershed, which drains to tidal Popes Creek, was impaired of the Aquatic Life Use during the 2012 cycle due to a pH exceedance rate of 3/12.

Canal Swamp Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**11.26**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-04-SF2** **Nomini Creek, Peirce Creek**

Location: The portion of VDH Notice and Description of Shellfish Condemnation 004-082D, 1/25/2010 that was not included in the 2007 Nomini Creek watershed TMDL (excluding Davis Creek).

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Condemnation 004-082D, 1/5/2010

Portions of Nomini Creek (0.5404 sq. mi.) and Pierce Creek (0.14 sq. mi.) were assessed as impaired in 1998. During the 2004 cycle, the condemnation was expanded and combined; it is currently a portion of condemnation 004-082, 1/27/2006. However, the Nomini Creek watershed TMDL, which was developed in the 2008 cycle and approved by the EPA on 8/22/2007, only addressed the 1998 portion of the impairment. As the condemnation first expanded on the 2004 list, the TMDL for the downstream portion is due in 2016.

Nomini Creek, Peirce Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.459**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-13-SF** **Currioman Creek**

Location: The portion of VDH Notice and Description of Shellfish Condemnation 004-184B, 1/27/2006 that was not included in the 8/23/2004 condemnation

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish condemnation 004-184B, 1/27/2006

The upstream portion of Currioman Creek has been listed for shellfish condemnations since 1998 due to condemnation 184, 2/10/1997. The condemnation expanded on 1/27/2006, however the 2007 TMDL did not address the expanded portion. The expansion is first listed in 2008, therefore the TMDL will be due in 2020.

Currioman Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.020**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-14-SF** **Poor Jack Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-184C, 1/27/2006

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 004-184C, 1/27/2006

Poor Jack Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.147**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-15-SF** **Davis Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082D, 1/24/2008

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Condemnation Notice 004-082D, 1/25/2010

Davis Creek was initially listed in the 2008 cycle as impaired of the Shellfish Consumption Use due to VDH condemnation 004-082D, 1/27/2006. During the 2012 cycle, the condemnation expanded and merged with the Nomini Creek impairment, therefore the segment is currently a portion of VDH Shellfish Condemnation 004-082D, 1/25/2010.

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-16-SF** **Jules Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082C, 1/25/2010

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 004-082C, 1/25/2010

Jules Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.045**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-17-SF** **Matthews Cove**

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082F, 1/25/2010

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 004-082F, 1/25/2010

Matthews Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-21-SF** **North Prong Buckner Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 004-082A, 1/25/2010 not included in 004-082E, 2/10/1997

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 004-082A, 1/25/2010

The upper portion of North Prong Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082E, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082A, 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the old upstream impaired area. The upstream portion of the condemnation will be classified as Category 4A, however this lower portion is considered Category 5B; the TMDL is due in 2020. The segment size was reduced in the 2010 cycle due to condemnation 004-082A, 1/24/2008.

North Prong Buckner Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.031**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-22-SF** **Lower Machodoc Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 005-083B, 12/21/2010 not included in 005-083B, 12/28/2007

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS condemnation 005-083B, 12/21/2010

0.36 sq. mile of Lower Machodoc Creek was assessed in 1998 as impaired of the Shellfish Use due to VDH shellfish condemnation 83A, 5/16/1997. The segment has expanded and contracted several times.
0.36 sq. miles of Lower Machodoc Creek was assessed in 1998 as impaired of the Shellfish Use due to a VDH shellfish condemnation. The segment has expanded and contracted several times.

During the 2010 cycle, the segment expanded again. A TMDL was developed based on the 12/28/2007 extent and was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009. However, the condemnation expanded during the 2012 cycle. The upstream segment will be considered Category 4A; the downstream segment is considered Category 5B and is addressed in fact sheet A31E-22-SF.

Lower Machodoc Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.161**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-23-SF** **Lower Machodoc Creek, UT**

Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083C, 12/21/2010

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 005-083C, 12/21/2010

Lower Machodoc Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.059**		

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **A32E-24-SF** **Glebe Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 005-083A, 12/21/2010 not included in 005-083A, 12/15/2008

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Condemnation 005-083A, 12/21/2010

Upstream Glebe Creek has been under a shellfish condemnation. The impairment was addressed in the Lower Machodoc Shellfish TMDL which was approved by the EPA on 12/29/2008 and by the SWCB on 4/28/2009. However, during the 2012 cycle the condemnation expanded and merged with Weatherall Creek. The upstream portion of Glebe Creek and Weatherall Creek are Category 4A; this expansion is Category 5B and the TMDL is due in 2024.

Glebe Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **A32R-01-DO** **Thompson Branch**

Location: Thompson Branch from its headwaters to the tidal limit.

City / County: Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on dissolved oxygen exceedances at Route 626 (1ATHP001.15), as well as DO exceedances at special study stations in the creek (1/1).

During the 2012 cycle, the segment remains impaired with a DO violation rate of 4/19.

Thompson Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.65**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A32R-01-PH** **Thompson Branch**

Location: Thompson Branch from its headwaters to the tidal limit.

City / County: Westmoreland Co

Use(s): Aquatic Life

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

Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on pH exceedances at Route 626 (1ATHP001.15), as well as pH exceedances at special study stations in the creek (1/1).

During the 2012 cycle, the segment remains impaired with a pH violation rate of 15/19.

Thompson Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.65**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A32R-02-DO** **Lee Creek**

Location: Lee Creek from its headwaters to the tidal limit.

City / County: Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Lee Creek was assessed as impaired of the Aquatic Life Use due to dissolved oxygen violation at 1ALEC001.18, which is located at the Rt. 675 bridge. The violation rate was 4/13 during the 2012 cycle.

Lee Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A32R-03-PH** **Nomini Creek, UT**

Location: The unnamed tributary in its entirety.

City / County: Westmoreland Co

Use(s): Aquatic Life

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

During the 2010 cycle, the stream was assessed as not supporting the Aquatic Life Use due to a pH exceedance rate of 2/2 at probabilistic monitoring station 1AXLK000.04.

Nomini Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.45**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A32R-05-PH** **Tavern Run**

Location: Tavern Run from its headwaters to the confluence with Newtons Mill Run.

City / County: Westmoreland Co

Use(s): Aquatic Life

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

During the 2012 cycle, Tavern Run was impaired of the Aquatic Life Use due to a pH violation rate of 2/12 at 1ATAE002.50, which is located at the Route 615 bridge.

Tavern Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.41**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A33E-12-SF** **Shannon Branch**

Location: As described in VDH Notice and Description of Shellfish Condemnation 007-028A, 11/1/2010

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 007-028A, 11/1/2010

Size reduced in the 2010 and 2012 cycles.

Shannon Branch **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.036**		

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **A33E-16-SF** **West Yeocomico River**

Location: VDH Notice and Description of Shellfish Condemnation 007-028F, 11/1/2010

City / County: Westmoreland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation 007-028F, 11/1/2010

West Yeocomico River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.030**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A33E-19-SF** **Dungan Cove**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 007-028G, 11/1/2010 not included in the 5/12/1997 condemnation

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 007-028G, 11/1/2010

The upper part of Dungan Cove was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028G, 5/12/1997. The condemnation grew during the 2008 cycle (007-028H, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by the EPA on 6/8/2006. The TMDL for this expanded area is due in 2020.

Size reduced in the 2010 cycle.

Dungan Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.005**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A33R-01-BAC** **Mill Creek**

Location: From its headwaters to the tidal limit.

City / County: Northumberland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2002 cycle, Mill Creek was assessed not supporting of the Recreation Use goal based on fecal coliform exceedances at Route 202 (1AMIA004.12).

During the 2010 cycle, the E. coli violation rate at 1AMIA004.12 was 1/6 (insufficient information for assessment). However, there was additional monitoring downstream at 1AMIA002.34 which showed impairment (2/6). Therefore the segment will remain listed and was extended downstream to the tidal limit. The impairment converted to E. coli.

The impairment was confirmed by additional monitoring in the 2012 cycle. E. coli was 2/11 at 1AMIA002.34 and 3/12 at 1AMIA004.12.

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.93**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A33R-02-DO** **Lodge Creek**

Location: The free flowing portion of Lodge Creek.

City / County: Northumberland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Lodge Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/14 at 1ALOG003.30, which is located at the Route 360 bridge.

Lodge Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.48**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A33R-03-DO** **Gardner Creek**

Location: The free flowing portion of Gardner Creek.

City / County: Northumberland Co Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Gardner Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1AGAD001.73, which is located at 3352 Coles Point Road. During the 2012 cycle, the violation rate was 4/11 at 1AGAD001.73. In addition, the violation rate was 2/7 at 1AGAD002.54.

Gardner Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A33R-03-PH** **Gardner Creek**

Location: The free flowing portion of Gardner Creek.

City / County: Northumberland Co Westmoreland Co

Use(s): Aquatic Life

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

During the 2010 cycle, Gardner Creek was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 5/5 at 1AGAD001.73, which is located at 3352 Coles Point Road as well as a pH violation rate of 1/1 at 1AGAD002.54, which is located at the Route 612 bridge. During the 2012 cycle, the violation rates increased to 11/11 and 7/7, respectively.

Gardner Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-01-SF2** **The Glebe**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 008-213B, 2/7/2008 not included in the 1997 impairment

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation 008-213B, 2/26/2010

A 0.13 portion of Glebe Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to VDH-DSS Condemnation Notice 145D, 2/25/1997. In the 2004 cycle, the segment was extended to match condemnation 145C, 11/27/2002. However, the 12/02/2004 TMDL was only performed on the 1998 portion. The portion of Glebe Creek that was impaired in 2004 will have a due date of 2016. During the 2012 cycle, the condemnation shortened (008-213B, 2/7/2008 to 008-213B, 2/26/2010) and 0.0437 mi2 will be partially delisted.

The Glebe **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.045**		

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-16-SF2** **Little Wicomico River**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 105A, 6/21/2002 not listed in 1998

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 010-105C, 6/23/2010

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997. During the 2004 cycle, the segment expanded and is a portion of 010-105C, 6/23/2010 in the 2012 cycle. However, the 2003 TMDL only covered the original 1998 impaired section, which will be classified as Cat. 4A. The TMDL for the expansion is due in 2016.

Little Wicomico River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.259**		

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-17-SF** **Bridge Creek**

Location: VDH condemnation 010-105D, 6/23/2010 and portion of VDH condemnation 010-105H, 6/23/2010 not otherwise segmented.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation Notice 010-105D, 6/23/2010 and portion of 010-105H, 6/23/2010

A small portion of the segment was listed in the 2006 cycle due to condemnation 010-105C, 9/15/2004. The segment expanded and merged with another condemnation during the 2008 cycle. Although the other condemnation was listed in 1998 and was later addressed in the Shellfish TMDL approved by the EPA on 12/18/03, this AU represents the portion of the 5/27/2008 condemnation which was not included in the 2003 TMDL. During the 2012 cycle, the segment shortened and split. This constitutes the two pieces not included in the TMDL.

Bridge Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.115**		

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-21-SF** **Kingscote Creek**

Location: Described in VDH-DSS condemnation 008-213A, 2/26/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 008-213A, 2/26/2010

Kingscote Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-25-SF** **Boathouse Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 008-214D, 2/26/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 008-214D, 2/26/2010

Boathouse Creek was assessed as not supporting of the Shellfish Consumption Use during the 2008 cycle due to VDH-DSS condemnation 008-214E, 2/17/2005. During the 2010 cycle, the upstream Coan River condemnation expanded and the two sections merged (008-214D, 2/7/2008). The segments split again during the 2012 cycle.

Boathouse Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.067**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-28-SF** **Slough Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105E, 6/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation Notice 010-105E, 6/23/2010

Slough Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.054**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-29-SF** **Ellyson Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105A, 6/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 010-105A, 6/23/2010

Condemnation shrank in the 2012 cycle.

Ellyson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.068**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-30-SF** **Little Wicomico River**

Location: VDH condemnation 010-105J, 6/23/2010 and portion of VDH Shellfish Condemnation 010-105C, 6/23/2010 not otherwise segmented

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH condemnation 010-105J, 6/23/2010 and portion of VDH Shellfish Condemnation 010-105C, 6/23/2010

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997. During several cycles, the segment expanded and is a portion of 010-105C, 5/7/2008 in the 2010 cycle. However, the 2003 TMDL only covered the original 1998 impaired section, which will be classified as Cat. 4A. This AU only included the 2006 expansion; the TMDL is due in 2018. However, during the 2012 cycle, the condemnation shrank considerably and split 0.142 square miles of Little Wicomico River will be partially delisted. Sloop Creek and a portion of the Little Wicomico River remain impaired.

Little Wicomico River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.044**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-31-BAC** **Little Wicomico River**

Location: Tidal extent to boundary of VDH Notice and Description of Shellfish Condemnation 105A, 6/21/2002

City / County: Northumberland Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

In the 2006 cycle, the upper tidal portion of the Little Wicomico River was considered impaired of the Recreation Use due to enterococci exceedances at 1ALIS004.20, which is located off the mouth of Spences Creek. The enterococci violation rate was 4/26 during the 2012 cycle.

Little Wicomico River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.465**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-32-SF** **Coan River**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 008-214B, 2/26/2010 not included on condemnation 145, 2/23/1997.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 008-214B, 2/26/2010

Headly Cove, Mill Creek and a portion of the Coan River were assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145H and 145I, 2/25/1997. During the 2004 cycle, the segments expanded and merged and are currently merged as shown on VDH SFC 008-214D, 2/7/2008. However the 12/18/2003 Coan River Shellfish TMDL report only addressed the original impairments. The closures first expanded during the 2004 cycle, therefore the TMDL for the expanded areas was due in 2016. During the 2012 cycle, the condemnation shortened by 0.2836 and only a small part of the expanded area remains impaired.

Note: this expansion was included in VAP-A34E-05 and VAP-A34E-32 in the 2006 cycle. During the 2008 cycle, the impairments were merged.

Coan River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-33-SF** **Bridgemans Back Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105B, 6/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 010-105B, 6/23/2010

Size reduced in the 2010 and 2012 cycles.

Bridgemans Back Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.031**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-34-SF** **Back Creek**

Location: VDH Notice and Description of Shellfish Condemnation 010-105F, 6/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH condemnation 010-105F, 6/23/2010
Portion of VDH Shellfish Condemnation 010-105C, 5/27/2008

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997. During several cycles, the segment expanded and is a portion of 010-105C, 5/7/2008 in the 2010 cycle. However, the 2003 TMDL only covered the original 1998 impaired section, which will be classified as Cat. 4A. This impairment addresses only the 2008 expansion. The TMDL for this downstream-most segment was due in 2020. However, during the 2012 cycle, condemnation 010-105C, 5/27/2008 shrank considerably. The 2008 expansion is now limited to Back Creek (VAP-A34E_BAC01A12). The Little Wicomico River will be partially delisted.

Back Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34E-35-SF** **Little Wicomico River, UT**

Location: VDH Notice and Description of Shellfish Condemnation 010-105I, 6/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH condemnation 010-105I, 6/23/2010

Little Wicomico River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.024**		

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **A34R-02-PH** **Little Wicomico River**

Location: The nontidal portion of Little Wicomico River.

City / County: Northumberland Co

Use(s): Aquatic Life

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

The nontidal portion of Little Wicomico River was initially considered not supporting the Aquatic Life Use during the 2006 cycle due to a pH exceedance rate of 2/11 at 1ALIS007.20, located at the Route 646 bridge. During the 2008 cycle, the exceedance rate increased to 3/13. No additional data was collected during the 2010 or 2012 cycles.

Little Wicomico River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.38**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **A34R-03-DO** **Coan Mill Stream, UT**

Location: The unnamed tributary in its entirety.

City / County: Northumberland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 1AXLL000.92, which is located west of Route 301. The exceedance rate was 2/12 during the 2012 cycle.

Coan Mill Stream, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **B02R-01-BAC** **West Strait Creek**

Location: West Strait Creek from the headwaters downstream to the Monterey STP discharge. (Start Mile: 4.59 End Mile: 3.74 Total Impaired Size: .85 miles)

City / County: Highland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station 1AWSC003.79 (3 violations of 9 samples for e-coli). Initial Listing Date: 2010

West Strait Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.85**

Sources:

Agriculture	Non-Point Source	Unspecified Domestic Waste	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B02R-06-BAC** **Strait Creek**

Location: Strait Creek from the headwaters downstream to its confluence with the South Branch Potomac River. (Start Mile: 6.01 End Mile: 0.00 Total Impaired Size: 6.01 Miles)

City / County: Highland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the violations of the e-coli bacteria WQS at stations 1ASTT000.02 (1 violations of 11 samples for e-coli; no new data in 2012) and 1ASTT004.26 (3 violations of 11 samples for e-coli). Initial Listing Date: 2006

Strait Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.99**

Sources:

Agriculture	Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B03R-03-BAC** **South Fork South Branch Potomac River**

Location: South Fork South Branch Potomac River from the headwaters downstream to the VA/WV State Line. (Start Mile: 2.46 End Mile: 0.00 Total Impaired Size: 2.46 Miles

City / County: Highland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1ASFP02.56 (2 violations of 12 samples for e-coli). Initial Listing Date: 2012.

South Fork South Branch Potomac River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.46**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B05R-01-BAC** **Back Creek**

Location: Back Creek from the headwaters downstream to its confluence with Isaacs Creek. (Start Mile: 24.60 End Mile: 7.54 Total Impaired Size: 17.06 Miles)

City / County: Frederick Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1ABAR041.11 (2 violations of 12 samples for e-coli). Initial Listing Date: 2010.

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.06**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B05R-02-BAC** **Little Isaacs Creek**

Location: Little Isaacs Creek from the Timber Ridge School STP downstream (including an unnamed tributary originating near Reynolds Store) to its confluence with Isaacs Creek. (Start Mile: 9.53 End Mile: 0.00 Total Impaired Size: 9.93 Miles)

City / County: Frederick Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station 1ALIG001.84 (2 violations of 11 samples for e-coli). Initial Listing Date: 2008

Little Isaacs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.53**

Sources:

Agriculture	Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B07R-01-BAC** **Babbs Run**

Location: Babbs Run from the headwaters downstream to its confluence with Back Creek. (Start Mile: 11.46 End Mile: 0.00 Total Impaired Size: 11.46 Miles)

City / County: Frederick Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The segment remains impaired based on violations of the e-coli bacteria WQS at station 1ABAB004.54 (2 violations of 11 samples for e-coli). Initial Listing Date: 2004

Babbs Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.46**

Babbs Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.46**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B12R-01-PCB** **Lewis Creek**

Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. (Start Mile: 9.54 End Mile: 0.00 Total Impaired Size: 9.54 Miles)

City / County: Augusta Co Staunton City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to violations of Fish Tissue and Sediment screening values at stations: 1BLEW005.24 (01 Hg, HMW PAH, PHH, FTH, Pry, ATH Ben, Chrys, Chl 01 Fish PCB 2 sp 2005 Fish PCB) and 1BLEW006.64 (1 samples exceeded the PEC of 128 for Lewis (172)). Initial Listing Date: 2004.

Lewis Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**9.74**

Sources:

Inappropriate Waste Disposal	Municipal (Urbanized High Density Area)

Potomac and Shenandoah River Basins

Cause Group Code: **B12R-02-BEN** **Middle River**

Location: Middle River from its confluence with Moffett Creek downstream to its confluence with Christians Creek. (Start Mile: 40.23 End Mile: 17.56 Total Impaired Size: 22.67 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment in impaired due to a violation of the General Standard for Benthics at station: 1BMDL026.58 (Impaired for VSCI). Initial Listing Date: 2010

Middle River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**22.67**

Sources:

Agriculture Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B14R-03-TEMP** **Long Meadow Run**

Location: Long Meadow Run and tributary from the headwaters downstream to its confluence with Christians Creek. (Start Mile: 10.06 End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

This segment is impaired due to violations of the natural trout temperature WQS (20 C) at station: 1BMDW000.18 (5 violations of 16 samples for temperature). Initial Listing Date: 2006. The aquatic life use is impaired due to violations of the temperature standard and is Category 5C due to suspected natural conditions.

Long Meadow Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**10.06**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B16L-01-TEMP** **Elkhorn Lake**

Location: Elkhorn Lake (Total Impaired Size: 50.7 Acres)

City / County: Augusta Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This lake is impaired due to violations of the temperature WQS at station: 1BNTH045.36 (22 violations of 73 samples for temperature). Initial Listing Date: 2010.

Elkhorn Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:		**50.70**	

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B16L-02-PH** **Staunton Dam Lake**

Location: Staunton Dam Lake (Total Impaired Size: 20.6 Acres)

City / County: Augusta Co

Use(s): Aquatic Life

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

This lake is impaired due to violations of the pH WQS at station: 1BNTH043.48 (No new data in 2012 window, previous assessment carries forward). Initial Listing Date: 2006.

Staunton Dam Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**20.60**	

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B16R-01-PH** **North River**

Location: North River from its confluence with Little River downstream to its confluence with Freemason Run. This impairment length was shortened in 2010 due to upstream stations returning to fully supporting status. Original length was 21.80 Miles. (Start Mile: 37.20 End Mile: 28.73 Total Impaired Size: 4.47 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment remains impaired due to violations of the pH WQS at station: 1BNTH036.96 (1 violations of 3 samples for pH 3 of 9 in 2010, no new data in 2012). Initial Listing Date: 2002

North River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.47**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B18R-01-BEN** **Wolf Run**

Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 3.11 End Mile: 0.00 Total Impaired Size: 3.11 Miles)

City / County: Augusta Co Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: USFS 2019 and USFS 2042. No new data available for the 2012 assessment window, this impairment carries over to this cycle. Initial Listing Date: 2002.

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

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B18R-01-PH** **Wolf Run**

Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 3.11 End Mile: 0.00 Total Impaired Size: 3.11 Miles)

City / County: Augusta Co Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA VT56 (12 violations of 12 samples for pH in 2010, no new data available for 2012. Impairment carries forward.). Initial Listing Date: 2006.

Wolf Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.16**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B18R-02-PH** **Briery Branch**

Location: Briery Branch from the headwaters downstream to its confluence with Hone Quarry Run. (Start Mile: 13.01 End Mile: 6.00 Total Impaired Size: 7.01 Miles)

City / County: Augusta Co Rockingham Co

Use(s): Aquatic Life

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

This segment remained impaired due to previous violations of the pH WQS at station: 1BBRY006.94. This assessment unit had 2 pH minimum standard violations out of 9 samples for the 2006 assessment window at station: 1BBRY006.94. No additional data is available for the 2008 assessment cycle. In the 2002 assessment window, this segment was listed as impaired and carries forward to this cycle. The Category 5C - Impaired - No TMDL due to natural conditions carries from the 2006 assessment. Initial Listing Date: 2002.

Briery Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **B18R-06-PH** **Rocky Run**

Location: Rocky Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 1.95 End Mile: 0.00 Total Impaired Size: 1.95 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA RH33 (12 violations of 12 samples for pH in 2010, no new data for 2012, impairment carries forward). Initial Listing Date: 2006.

Rocky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.95**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B18R-07-PH** **Union Springs Run**

Location: Union Springs Run from the headwaters downstream to its confluence with Red Banks Run. (Start Mile: 3.65 End Mile: 0.00 Total Impaired Size: 3.65 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA RH34 (12 violations of 12 samples for pH in 2010, no new data for 2010, impairment carries forward). Initial Listing Date: 2006.

Union Springs Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.64**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B20L-01-TEMP** **Switzer Lake**

Location: Switzer Lake (Total Impaired Size: 99.49 Acres)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This lake is impaired due to violations of the temperature WQS at station: 1BSKD003.18 (50 violations of 335 samples for temperature). Initial Listing Date: 2006.

Switzer Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:		**99.49**	

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B20R-01-PH** **Dry River**

Location: Dry River from its confluence with Laurel Run downstream to the Route 613 bridge at Lilly. (Start Mile: 20.45 End Mile: 6.32 Total Impaired Size: 14.13 Miles) Length in 2008 was 13.99 miles, length in 2010 is 14.13 miles due to assessment unit segmentation corrections.

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: 1BDUR016.66 (5 violations of 12 samples for pH-2008)(0 violations of 3 samples-2010). No new data available in the 2010 assessment cycle to justify de-listing. Initial Listing Date: 2002.

Dry River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**14.13**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B30R-02-PH** **Loves Run**

Location: Loves Run from the headwaters downstream to its confluence with the South River. (Start Mile: 5.02 End Mile: 0.00 Total Impaired Size: 5.02 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA AU14 (12 violations of 12 samples for pH). This data is now outside the assessment data window, however the impairment must carry forward. Initial Listing Date: 2006.

Loves Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.44**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B31L-01-PH** **Coles Run Reservoir**

Location: Coles Run Reservoir (Total Impaired Size: 11.44 Acres)

City / County: Augusta Co

Use(s): Aquatic Life

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

This lake is impaired due to violations of the pH WQS at station: 1BCLS003.60 (89 violations of 89 samples for pH). Initial Listing Date: 2008.

Coles Run Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**11.44**	

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B31R-01-BAC** **Back Creek**

Location: Back Creek from the headwaters (including South Fork Back Creek) downstream to the confluence with South River. (Start Mile: 13.31 End Mile 0.00 Total Impaired Size 13.31 Miles)

City / County: Augusta Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station 1BBCK000.78. (2 violations of 9 samples for e-coli). Initial Listing Date: 2012.

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.77**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B31R-01-BEN** **Back Creek**

Location: Back Creek from the headwaters (including South Fork Back Creek) downstream to the confluence with South River. (Start Mile: 13.31 End Mile 0.00 Total Impaired Size 13.31 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station 1BBCK000.78 (Impaired for VSCI). Initial Listing Date 2002.

Back Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.77**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B31R-02-BEN** **Mills Creek**

Location: Mills Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 8.88 End Mile: 0.00 Total Impaired Size: 8.88 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at USFS Station: 5116 (Impaired for VSCI). Initial Listing Date: 2002.

Mills Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.87**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B31R-04-PH** **Coles Run**

Location: Coles Run from the headwaters downstream to its confluence with South River. (Start Mile: 6.10 End Mile: 0.00 Total Impaired Size: 6.10 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA AU16 (12 violations of 12 samples for pH in 2010, no new data are available in 2012, however, the impairment carries forward). Initial Listing Date: 2006.

Coles Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.11**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B31R-05-PH** **Johns Run**

Location: Johns Run from the headwaters downstream its confluence with South River. (Start Mile: 4.86 End Mile: 0.00 Total Impaired Size: 4.86 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA AU15 (12 violations of 12 samples for pH in 2010, no new data are available in 2012, however, the impairment carries forward. Initial Listing Date: 2006.

Johns Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.86**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B31R-06-PH** **Kennedy Creek**

Location: Kennedy Creek and tributaries from the headwaters downstream to its confluence with South River. (Start Mile: 9.49 End Mile: 0.00 Total Impaired Size: 9.49 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA VT39 (12 violations of 12 samples for pH in 2010, no new data are available in 2012, however, the impairment carries forward). Initial Listing Date: 2006.

Kennedy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**9.49**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B31R-07-PH** **Orebank Creek**

Location: Orebank Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 3 End Mile: 0.00 Total Impaired Size: 3 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA OB01 (12 violations of 12 samples for pH in 2010, no new data are available in 2012, however, the impairment carries forward). Initial Listing Date: 2006.

Orebank Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.00**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B32R-02-PCB** **South River**

Location: South River from its confluence with Stull Run downstream to its confluence with North River. (Start Mile: 5.29 End Mile: 0.00 Total Impaired Size: 5.29 Miles)

City / County: Augusta Co Rockingham Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to the presence of PCB's in fish tissue at station: 1BSTH000.19 (2 samples of PCB's (Carp and Redhorse Sucker (2005). Initial Listing Date: 2008.

South River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**5.29**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B32R-03-PH** **Paine Run**

Location: Paine Run from the headwaters downstream to its confluence with South River. (Start Mile: 6.26 End Mile: 0.00 Total Impaired Size: 6.26 Miles)

City / County: Augusta Co Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at stations: UVA PAIN (11 violations of 12 samples for pH) (This data is now outside the assessment data window, however the impairment carries forward to 2012). Initial Listing Date: 2004.

Paine Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.25**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B32R-04-PH** **Meadow Run**

Location: Meadow Run from the headwaters downstream to the end of surface flow. (Start Mile: 6.87 End Mile: 0.00 Total Impaired Size: 6.87 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA VT36 (12 violations of 12 samples for pH in 2010 cycle) (This data is now outside the assessment data window, however, the impairment carries forward to 2012). Initial Listing Date: 2004.

Meadow Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.87**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B33R-02-PH** **Deep Run**

Location: Deep Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.33 End Mile: 0.00 Total Impaired Size: 4.43 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA DR01 (12 violations of 12 samples for pH) (This data is now outside the assessment data window, however, the impairment carries forward to 2012. Initial Listing Date: 2004.

Deep Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.32**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B33R-03-PH** **Lower Lewis Run**

Location: Lower Lewis Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 3.66 End Mile: 0.00 Total Impaired Size: 3.66 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA RH47 (12 violations of 12 samples for pH) (This data is now outside the assessment data window, however, the impairment carries forward to 2012. Initial Listing Date: 2006.

Lower Lewis Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.68**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B35R-01-BAC** **Boone Run**

Location: Boone Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 13.08 End Mile: 0.00 Total Impaired Size: 13.08 Miles)

City / County: Rockingham Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment remains impaired for recreational use due to violations of the e-coli bacteria WQS at station: 1BBON000.60 (14 violations of 36 samples for e-coli). Initial Listing Date: 2002.

Boone Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.11**

Boone Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**13.11**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B35R-02-BAC** **Quail Run**

Location: Quail Run from the headwaters downstream to its confluence with Boone Run. (Start Mile: 5.54 End Mile: 0.00 Total Impaired Size: 5.54 Miles)

City / County: Rockingham Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BBON001.46 (24 violations of 50 samples for e-coli), 1BQAL004.30 (10 violations of 36 samples for e-coli) and 1BQAL005.29 (9 violations of 47 samples for e-coli). Initial Listing Date: 2004 (lengthen 2010).

Quail Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.17**

Quail Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.89**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B35R-03-BEN** **Quail Run**

Location: Quail Run from the headwaters downstream to the Massanutten STP discharge. (Start Mile: 5.54 End Mile: 4.26 Total Impaired Size: 1.28 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

This segment is impaired due to violations of the General Standard for Benthics at station: 1BQAL005.04 (Impaired for VSCI) and 1BQAL005.09 (Impaired for VSCI). Initial Listing Date: 2002.

Quail Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.28**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Potomac and Shenandoah River Basins

Cause Group Code: **B35R-04-PH** **Two Mile Run**

Location: Two Mile Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.7 End Mile: 0.00 Total Impaired Size: 4.7 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA VT53 (12 violations of 12 samples for pH) (This data is now outside the assessment data window, however, the impairment will carry forward to 2012). Initial Listing Date: 2006.

Two Mile Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.69**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B35R-05-PH** **One Mile Run**

Location: One Mile Run from the headwaters downstream to its confluence with the South Fork Shenandoah River (Start Mile: 6.48 End Mile: 0.00, Total Impaired Size: 13.77 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA RH52 (6 violations of 6 samples for pH) This data is now outside the assessment window for 2012, however the impairment carries forward to 2012. Initial Listing Date: 2010

One Mile Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.48**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B37R-01-PCB** **South Fork Shenandoah River**

Location: South Fork Shenandoah River from its confluence with Naked Creek downstream to its confluence with Stony Creek just above the Route 340 bridge at Alma. (Start Mile: 75.34 End Mile: 57.07 Total Impaired Size: 18.27)

City / County: Page Co Rockingham Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to violations of the fish tissues screening value for PCB at stations: 1BSSF063.17 (2 samples of PCB in Lmouth Bass & Redbreast Sunfish) and 1BSSF078.24 (3 samples of PCB in White Sucker, Redbreast Sunfish & Smouth Bass). Initial Listing Date: 2010

South Fork Shenandoah River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**18.26**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B37R-02-BAC** **Line Run**

Location: Line Run from the headwaters downstream to its confluence with Honey Run. (Start Mile: 3.9 End Mile: 0.00 Total Impaired Size: 3.9 Miles)

City / County: Page Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BLIN001.60 (4 violations of 36 samples for e-coli in 2010, 2 of 33 in 2012), no new data for assessment. Segment remains impaired in 2012. Initial Listing Date: 2006.

Line Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.90**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B37R-03-BAC** **Honey Run**

Location: Honey Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.53 End Mile: 0.00 Total Impaired Size: 4.53 Miles)

City / County: Page Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BHDY000.91 (7 violations of 32 samples for e-coli). Initial Listing Date: 2008.

Honey Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.53**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B37R-04-TEMP** **Cub Run**

Location: Cub Run in Page County from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 9.62 End Mile: 0.00 Total Impaired Size: 9.62 Miles)

City / County: Page Co Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BCUB-FP12-FOSR (12 violations of 84 samples for temperature). Initial Listing Date: 2012

Cub Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**9.62**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B38R-02-BAC** **Big Run**

Location: Big Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 5.4 End Mile: 0.00 Total Impaired Size: 5.4 Miles)

City / County: Page Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BBIG000.48 (23 violations of 25 samples for e-coli). Initial Listing Date: 2006.

Big Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.40**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B39R-03-BEN** **East Hawksbill Creek**

Location: East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.13 End Mile: 0.00 Total Impaired Size: 9.13 Miles)

City / County: Page Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BEHC001.18 (Impaired for VSCI). Initial Listing Date: 2008.

East Hawksbill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.13**

Sources:

Agriculture Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B39R-03-PH** **Rocky Branch**

Location: Rocky Branch from the headwaters downstream to its confluence with Pass Run. (Start Mile:4.18 End Mile: 0.00 Total Impaired Size: 4.18 Miles)

City / County: Page Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: USGS 163054325. Initial Listing Date: 2004; This segment is impaired for aquatic life use based on violations of the pH WQS at USGS site 163054325. This use support carries forward for the 2006 assessment as no new data are available for assessment in 2012.

Rocky Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.18**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B39R-03-TEMP** **Pass Run**

Location: Pass Run from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.07 End Mile: 0.00 Total Impaired Size: 9.07 Miles)

City / County: Page Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BPSS-FP17-FOSR (28 violations of 75 samples for temperature). Initial Listing Date: 2010

Pass Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**9.07**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B39R-04-BEN** **Dry Run**

Location: Dry Run from the outfall of Lake Arrowhead downstream to its confluence with Hawksbill Creek. (Start Mile: 5.32 End Mile: 0.00 Total Impaired Size: 5.32 Miles)

City / County: Page Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BDRI000.21 (Impaired for VSCI).
Initial Listing Date: 2012

Dry Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.32**

Sources:

Agriculture Dam or Impoundment Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B40R-01-BAC** **Jeremys Run**

Location: Jeremys Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 10.94 End Mile: 0.00 Total Impaired Size: 10.94 Miles)

City / County: Page Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BJER000.62 (5 violations of 12 samples for e-coli). Initial Listing Date: 2012

Jeremys Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.94**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B40R-01-PH** **Jeremys Run**

Location: Jeremys Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 10.94 End Mile: 0.00 Total Impaired Size: 10.94 Miles)

City / County: Page Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: USGS 01630565. Initial Listing Date: 2004; This impairment carries forward from the 2006 cycle as no additional data are available in the 2012 cycle.

Jeremys Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.94**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B40R-02-BAC** **Flint Run**

Location: Flint Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 11.4 End Mile: 0.00 Total Impaired Size: 11.4 Miles)

City / County: Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform WQS at station: 1BFNT002.16. Initial Listing Date: 2004; This impairment carries forward from the 2006 assessment based on fecal coliform as no additional e-coli data are available for assessment in 2012.

Flint Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.39**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B40R-03-BAC** **Gooney Run**

Location: Gooney Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 18.38 End Mile: 0.00 Total Impaired Size: 18.38 Miles)

City / County: Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BGNY000.04 (2 violations of 13 samples for e-coli). Initial Listing Date: 2010.

Gooney Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.37**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B40R-03-TEMP** **Gooney Run**

Location: Gooney Run and tributaries from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 18.38 End Mile: 0.00 Total Impaired Size: 18.38 Miles)

City / County: Warren Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BGNY000.04 (2 violations of 13 samples for temperature). Initial Listing Date: 2006.

Gooney Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**18.37**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B40R-04-TEMP** **Flint Run**

Location: Flint Run from a point 4 miles upstream of its confluence with the South Fork Shenandoah River downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.00 End Mile: 0.00 Total Impaired Size: 4.00 Miles)

City / County: Warren Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS standard at station: 1BFNT-FW21-FOSR (14 violations of 59 samples for temperature). Initial Listing Date: 2010

Flint Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.99**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B41R-01-BAC** **Happy Creek**

Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 8.42 End Mile: 0.00 Total Impaired Size: 8.42 Miles)

City / County: Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform WQS at station: 1BHPY001.29. Initial Listing Date: 2004; This impairment is carried forward from the 2006 assessment as no additional e-coli data are available for assessment in 2012.

Happy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.42**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B41R-03-BEN** **Happy Creek**

Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 8.42 End Mile: 0.00 Total Impaired Size: 8.42 Miles)

City / County: Warren Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BHPY001.29 (Impaired for VSCI) and 1BHPY002.67 (Impaired for VSCI). Initial Listing Date: 2008.

Happy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.42**

Sources:

Agriculture	Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B41R-04-BAC** **South Fork Shenandoah River**

Location: South Fork Shenandoah River from its confluence with Gooney Run downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 10.03 End Mile: 0.00 Total Impaired Size: 10.03 Miles) This segment was lengthened in 2012.

City / County: Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BSSF003.56 (6 violations of 39 samples for e-coli) and 1BSSF009.58 (2 violations of 13 samples for e-coli). Initial Listing Date: 2010

South Fork Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.03**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B42R-01-BAC** **Crab Run**

Location: Crab Run from the VA/WV line downstream to its confluence with the German River. (Start Mile: 3.77 End Mile: 0.00 Total Impaired Size: 3.77 Miles)

City / County: Rockingham Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCRB000.18 (2 violations of 11 samples for e-coli). Initial Listing Date: 2010

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

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B42R-01-BEN** **North Fork Shenandoah River**

Location: North Fork Shenandoah River from its confluence with the German River downstream to its confluence with Capon Run (Start Mile: 108.79 End Mile: 106.28 Total Impaired Size: 2.51 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BNFS107.86 (Impaired for VSCI).
Initial Listing Date: 2010

North Fork Shenandoah River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.50**

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B45R-01-BEN** **Long Meadow Run**

Location: Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 8.53 End Mile: 0.00 Total Impaired Size: 8.53 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BLOM000.24 (Impaired for VSCI). Initial Listing Date 2008.

Long Meadow Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.53**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B45R-02-BEN** **Turley Creek**

Location: Turley Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 4.01 End Mile: 0.00 Total Impaired Size: 4.01 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BTRL000.02 (Impaired for VSCI). Initial Listing Date: 2002.

Turley Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.01**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B45R-05-BEN** **North Fork Shenandoah River**

Location: North Fork Shenandoah River from its confluence with Linville Creek downstream to its confluence with Holmans Creek. (Start Mile: 89.74 End Mile: 76.14 Total Impaired Size: 13.6 Miles) This impairment size was lengthened in 2012 to include 2 upstream assessment units.

City / County: Rockingham Co Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BNFS087.35 (Impaired for VSCI) and 1BNFS088.81 (Impaired for VSCI). Initial Listing Date: 2008.

North Fork Shenandoah River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.60**

Sources:

Industrial Point Source Discharge

Municipal (Urbanized High Density Area)

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B47R-01-BEN** **Fridley Run**

Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run. (Start Mile: 2.39 End Mile: 0.00 Total Impaired Size: 2.39 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 4074 (MAIS Impaired) No data are available for 2012, however, the impairment carries forward to 2012. Initial Listing Date: 2002.

Fridley Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.39**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B47R-01-PH** **Fridley Run**

Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run. (Start Mile: 2.39 End Mile: 0.00 Total Impaired Size: 2.39 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: 1BFDY000.02 (12 violations of 13 samples for pH) No data are available for 2012, however, the impairment carries forward for 2012. Initial Listing Date: 2006.

Fridley Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.39**

Sources:

Atmospheric Deposition - Acidity

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Potomac and Shenandoah River Basins

Cause Group Code: **B47R-04-BEN** **Mountain Run**

Location: Mountain Run from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 5.98 End Mile: 0.00 Total Impaired Size: 5.98 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 4076 (MAIS Impaired). Additional data in 2012 indicate fully supporting status, however, additional surveys are needed to fully de-list this segment. Initial Listing Date: 2002.

Mountain Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.98**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B47R-07-BEN** **Dry Fork**

Location: Dry Fork from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 10.16 End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Rockingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BDFK003.82 (Impaired for VSCI) and 1BDFK004.03 (Impaired for VSCI) in 2010 cycle, no new data in 2012. Initial Listing Date: 2006.

Dry Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.06**

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B48R-02-BEN** **Crooked Run**

Location: Crooked Run from the headwaters downstream to its confluence with Mill Creek. (Start Mile: 3.89 End Mile: 0.00 Total Impaired Size: 3.89 Miles)

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BCKD000.38 (Impaired for VSCI). Initial Listing Date: 2008.

Crooked Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.89**

Sources:

Agriculture Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B49R-01-BEN** **Stony Creek**

Location: Stony Creek from the Georges Chicken discharge downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 5.76 End Mile: 0.00 Total Impaired Size: 5.76 Miles)

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BSTY004.24 (Impaired for VSCI). Initial Listing Date: 2008.

Stony Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.76**

Sources:

Agriculture	Municipal (Urbanized High Density Area)	Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B49R-04-BEN** **Laurel Run**

Location: Laurel Run from its confluence with an unnamed tributary near USFS Road 252 downstream to its confluence with Stony Creek. (Start Mile: 3.72 End Mile: 0.00 Total Impaired Size: 3.72 Miles)

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 4002 (MAIS Impaired in 2010) Site is fully supporting for VSCI in 2012 based on one benthic survey. Additional survey needed to fully de-list the impairment. Initial Listing Date: 2002.

Laurel Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.72**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B49R-05-BEN** **Little Stony Creek**

Location: Little Stony Creek from the headwaters downstream to its confluence with an unnamed tributary near USFS Road 92. (Start Mile: 3.24 End Mile: 0.00 Total Impaired Size: 3.24 Miles)

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: USFS 4016 (MAIS Impaired) and USFS 4017 (MAIS Impaired). Data are now outside the for assessment data window for 2012, however, the impairment will carry forward to 2012. Initial Listing Date: 2004.

Little Stony Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.24**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B49R-05-TEMP** **Little Stony Creek**

Location: Little Stony Creek and tributary from the headwaters of the tributary and the confluence of the tributary with Little Stony Creek near USFS Road 92 downstream to the confluence with Stony Creek. (Start Mile: 4.85 End Mile: 0.00 Total Impaired Size: 4.85 Miles.

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BLSC000.50 (3 violations of 10 for temperature). Initial Listing Date: 2012.

Little Stony Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.85**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B49R-07-TEMP** **Stony Creek**

Location: Stony Creek from the Lake Laura dam outfall downstream to the Route 682 bridge (Wakeman's Grove Road). (Start Mile: 22.92 End Mile: 4.51 Total Impaired Size: 18.41 Miles) This impairments downstream extents was modified in 2012 and the impairment lengthened based on additional data.

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BSTY019.70 (carried from 2008); 1BSTY-NS30-FOSR (15 violations of 95 samples for temperature); 1BSTY-NS58-FOSR (14 violations of 95 samples for temperature) and 1BSTY-NS29-FOSR (10 violations of 94 samples for temperature). Initial Listing Date: 2006.

Stony Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**18.41**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B50R-03-BAC** **Pughs Run**

Location: Pughs Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 5.86 End Mile: 0.00 Total Impaired Size: 5.86 Miles)

City / County: Shenandoah Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BPGH000.60 (4 violations of 13 samples for e-coli). Initial Listing Date: 2004

Pughs Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.86**

Pughs Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.86**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B50R-03-BEN** **Pughs Run**

Location: Pughs Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 5.86 End Mile: 0.00 Total Impaired Size: 5.86 Miles)

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 1BPGH000.29 (Impaired for VSCI).
Initial Listing Date: 2012

Pughs Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.86**

Sources:

Agriculture Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B51R-01-BAC** **Tumbling Run**

Location: Tumbling Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake. (Start Mile: 5.05 End Mile: .9 Total Impaired Size: 4.15 Miles)

City / County: Shenandoah Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BTBL001.27 (2 violations of 12 samples for e-coli) and 1BTBL-NS44-FOSR (5 violations of 18 samples for e-coli). Initial Listing Date: 2004

Tumbling Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.13**

Tumbling Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.13**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B51R-02-BAC** **North Fork Shenandoah River**

Location: North Fork Shenandoah River from the 5 mile upper limit of the PWS designation for the Winchester Public Water intake downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 11.46 End Mile: 0.00 Total Impaired Size: 11.46 Miles) This impairment was lengthened in 2010.

City / County: Shenandoah Co Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BNFS000.57 (6 violations of 36 samples for e-coli) and 1BNFS010.34 (6 violations of 39 samples for e-coli). Initial Listing Date: 2008.

North Fork Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.46**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B52R-03-BEN** **Cedar Creek**

Location: Cedar Creek from the headwaters downstream to a spring branch near Van Buren Furnace (Start Mile 21.07 End Mile 18.54 Total Impaired Area: 2.53 Miles)

City / County: Shenandoah Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment remains impaired due to violations of the General Standard for Benthics at USFS 4003 in 2002. No additional data available for assessment in 2012. Initial Listing Date 2002.

Cedar Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.53**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B52R-04-BAC** **Cedar Creek**

Location: Cedar Creek from its confluence with a spring branch near Van Buren Furnace downstream to its confluence with Paddy Run. (Start Mile: 18.54 End Mile: 11.09 Total Impaired Size: 7.45 Miles)

City / County: Shenandoah Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 1BCDR-CC06-FOSR (10 violations of 17 samples for e-coli). Initial Listing Date: 2012.

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.45**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B53R-01-BAC** **Cedar Creek**

Location: Cedar Creek from its confluence with Fall Run downstream to its confluence with Stickley Run. (Start Mile: 17.87 End Mile: 3.68 Total Impaired Size: 14.19 Miles)

City / County: Frederick Co Shenandoah Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCDR017.49 (2 violations of 15 samples for e-coli) (1 of 12 samples in 2012, no new data). Initial Listing Date: 2008.

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.19**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B54R-01-BAC** **Passage Creek**

Location: Passage Creek from its confluence with Peters Mill Run downstream to its confluence with the North Fork Shenandoah River. (Start Mile:18.47 End Mile: 0.00 Total Impaired Size: 18.47 Miles)

City / County: Shenandoah Co Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BPSG001.36 (3 violations of 36 samples for e-coli, no new data in 2012) and 1BPSG018.13 (3 violations of 15 samples for e-coli). Initial Listing Date: 2006.

Passage Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.47**

Passage Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**18.47**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B54R-01-PH** **Passage Creek**

Location: Passage Creek from the headwaters downstream to the Route 675 bridge crossing. (Start Mile: 35.41 End Mile: 30.19 Total Impaired Size: 5.22 Miles)

City / County: Page Co Shenandoah Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: 1BPSG031.99 (2 violations of 5 samples for pH). Initial Listing Date: 2010

Passage Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.22**

Sources:

Atmospheric Deposition - Acidity

Potomac and Shenandoah River Basins

Cause Group Code: **B55R-01-BAC** **Manassas Run**

Location: Manassas Run from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.15 End Mile: 0.00 Total Impaired Size: 9.15 Miles)

City / County: Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BMAN002.55 (3 violations of 12 samples for fecal coliform in 2008). This assessment is carried forward from the 2006 assessment cycle based on fecal coliform as no additional e-coli data are available for assessment in 2012. Initial Listing Date: 2004.

Manassas Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.15**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B55R-02-BAC** **Borden Marsh Run**

Location: Borden Marsh Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.46 End Mile: 0.00 Total Impaired Size: 9.46 Miles)

City / County: Clarke Co Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BBMR000.20 (0 violations of 3 samples for e-coli)(No new data in 2012, impairment carried forward to 2012). Initial Listing Date: 2006.

Borden Marsh Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.46**

Sources:

Non-Point Source

Potomac and Shenandoah River Basins

Cause Group Code: **B55R-03-BAC** **Willow Brook**

Location: Willow Brook from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 3.95 End Mile: 0.00 Total Impaired Size: 3.95 Miles)

City / County: Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BWLO000.71 (5 violations of 6 samples for e-coli). Initial Listing Date: 2006.

Willow Brook **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.95**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B56R-01-BAC** **Crooked Run**

Location: Crooked Run excluding the tributary feeding the east arm of Lake Frederick from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 8.87 End Mile: 0.00 Total Impaired Size: 8.87 Miles)

City / County: Frederick Co Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCRO002.75 (8 violations of 44 samples for e-coli). Initial Listing Date: 2002.

Crooked Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.87**

Crooked Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.87**

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B56R-01-DO** **Crooked Run**

Location: Crooked Run excluding the tributary feeding the east arm of Lake Frederick from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 8.87 End Mile: 0.00 Total Impaired Size: 8.87 Miles)

City / County: Frederick Co Warren Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to violations of the DO WQS at stations: 1BCRO-CR01-FOSR (2 violations of 13 samples for DO). Initial Listing Date: 2008.

Crooked Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.87**

Sources:

Upstream Impoundments
(e.g., PI-566 NRCS
Structures)

Potomac and Shenandoah River Basins

Cause Group Code: **B56R-02-BAC** **Stephens Run**

Location: Stephens Run from an unnamed tributary .95 miles upstream of Crooked Run downstream to its confluence with Crooked Run. (Start Mile: .95 End Mile: 0.00 Total Impaired Size: .95 Miles)

City / County: Frederick Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 1BSTV000.20 (violations of 36 samples for e-coli). Initial Listing Date: 2010.

Stephens Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.95**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B56R-02-DO** **Stephens Run**

Location: Stephens Run from an unnamed tributary .95 miles upstream of Crooked Run downstream to its confluence with Crooked Run. (Start Mile: .95 End Mile: 0.00 Total Impaired Size: .95 Miles)

City / County: Frederick Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to violations of the DO WQS at station: 1BSTV000.20 (4 violations of 36 samples for DO). Initial Listing Date: 2008.

Stephens Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.95**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B56R-03-BAC** **West Run**

Location: West Run from the headwaters downstream to its confluence with Molly Camel Run (Start Mile: 6.12 End Mile: 0.00 Total Impaired Size: 6.12 Miles)

City / County: Frederick Co Warren Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 1BWST000.20 (3 violations of 29 samples for e-coli) and 1BWST000.33 (3 violations of 13 samples for e-coli). Initial Listing Date: 2010

West Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.12**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B57R-02-BAC** **Long Branch**

Location: Long Branch from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 3.63 End Mile: 0.00 Total Impaired Size: 3.63 Miles)

City / County: Clarke Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BLNG000.24 (10 violations of 28 samples for e-coli). Initial Listing Date: 2004.

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.63**

Long Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.63**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B57R-03-BAC** **Chapel Run**

Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.44 End Mile: 0.00 Total Impaired Size: 9.44 Miles)

City / County: Clarke Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCPL000.95 (2 violations of 9 samples for e-coli). Initial Listing Date: 2008.

Chapel Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.44**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B57R-03-BEN** **Chapel Run**

Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.44 End Mile: 0.00 Total Impaired Size: 9.44 Miles)

City / County: Clarke Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BCPL000.95 (Impaired for VSCI). Initial Listing Date: 2006.

Chapel Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.44**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B57R-04-TEMP** **Roseville Run**

Location: Roseville Run from the headwaters downstream to its confluence with Page Brook Run. (Start Mile: 3.94 End Mile: 0.00 Total Impaired Size: 3.94 Miles)

City / County: Clarke Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BRSC001.42 (4 violations of 24 samples for e-coli). Initial Listing Date: 2010

Roseville Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.94**

Sources:

Source Unknown

Potomac and Shenandoah River Basins

Cause Group Code: **B58R-02-BAC** **Dog Run**

Location: Dog Run from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 4.80 End Mile: 0.00 Total Impaired Size: 4.80 Miles)

City / County: Clarke Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BDGR000.23 (4 violations of 9 samples for e-coli). Initial Listing Date: 2008.

Dog Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.80**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B58R-03-BAC** **Wheat Spring Branch**

Location: Wheat Spring Branch from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 4.31 End Mile: 0.00 Total Impaired Size: 4.31 Miles)

City / County: Clarke Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BWSB000.22 (15 violations of 15 samples for e-coli). Initial Listing Date: 2008.

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

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B58R-04-BAC** **Long Marsh Run**

Location: Long Marsh Run from the headwaters downstream to the VA/WV State Line. (Start Mile: 5.55 End Mile: 0.00 Total Impaired Size: 5.55 Miles)

City / County: Clarke Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 1ALMR001.82 (6 violations of 12 samples for e-coli). Initial Listing Date: 2012.

Long Marsh Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.55**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Potomac and Shenandoah River Basins

Cause Group Code: **B58R-05-BAC** **Shenandoah River**

Location: Shenandoah River from its confluence with Craig Run downstream to the VA/WV State Line. (Start Mile: 28.26 End Mile: 19.93 Total Impaired Size 8.33 Miles)

City / County: Clarke Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 1BSHN022.63 (5 violations of 39 samples for e-coli). Initial Listing Date: 2012.

Shenandoah River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.24**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **G01E-02-EBEN** **James River**

Location: Mainstem James River from the fall line at Mayos Bridge downstream to the JMSTFl/JMSOH boundary.

City / County: Charles City Co, Chesterfield Co, Henrico Co, Hopewell City, Prince George Co, Richmond City, Surry Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

During the 2012 cycle, the mainstem James River within the tidal freshwater estuary was impaired of the Aquatic Life Use due to an inadequate benthic community based on the Chesapeake Bay Benthic Index of Biological Integrity.

This is supported by benthic alteration at 2010 Coastal 2000 stations 2CJMS055.04 and 2CJMS084.70, which were considered Category 5A. The source is "possibly cumulative chronic effects of metals and PAHs in the sediment".

James River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**31.343**		

Sources:

Source Unknown

James River Basin

Cause Group Code: G01E-03-PCB **James River and Various Tributaries**

Location: Estuarine James River from the fall line to the Hampton Roads Bridge Tunnel, including several tributaries listed below.

City / County:

Charles City Co	Chesapeake City	Chesterfield Co	Colonial Heights City	Dinwiddie Co
Hampton City	Henrico Co	Hopewell City	Isle Of Wight Co	James City Co
New Kent Co	Newport News City	Norfolk City	Petersburg City	Portsmouth City
Prince George Co	Richmond City	Suffolk City	Surry Co	Virginia Beach City
Williamsburg City				

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

During the 2002 cycle, the James River from the Fall line to Queens Creek was considered not supporting of the Fish Consumption Use due to PCBs in multiple fish species at multiple DEQ monitoring locations.

During the 2004 cycle, a VDH Fish Consumption Restriction was issued from the fall line to Flowerdew Hundred and the segment was adjusted slightly to match the Restriction. In addition, in the 2004 cycle, the Chickahominy River from Walkers Dam to Diascund Creek was assessed as not supporting the Fish Consumption Use because the DEQ screening value for PCBs was exceeded in 3 species during sampling in 2001.

During the 2006 cycle, the VDH restriction was extended on 12/13/2004 to extend from the I-95 bridge downstream to the Hampton Roads Bridge Tunnel and include the tidal portions of the following tributaries:

Appomattox River up to Lake Chesdin Dam
Bailey Creek up to Route 630
Bailey Bay
Chickahominy River up to Walkers Dam
Skiffes Creek up to Skiffes Creek Dam
Pagan River and its tributary Jones Creek
Chuckatuck Creek
Nansemond River and its tributaries Bennett Creek and Star Creek
Hampton River
Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St. Julian Creek, Deep Creek, and Broad Creek

The advisory was modified again on 10/10/2006 to add Poythress Run.

The impairments were combined. The TMDL for the lower extended portion is due in 2018.

James River and Various Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**256.589**		**7.49**

Sources:

Contaminated Sediments	Source Unknown	Sources Outside State Jurisdiction or Borders

James River Basin

Cause Group Code: **G01L-01-DO** **Falling Creek Reservoir**

Location: Falling Creek Reservoir

City / County: Chesterfield Co Richmond City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The lake was subject to historical chronic problems resulting from nutrients and organic loadings. It was listed in 1998 as not supporting the Public Water Supply use and threatened of the ALUS.

During the 2006 cycle, monitoring showed acceptable DO in the epilimnion, but showed depressed DO in the hypolimnion during stratification. The TSIs were:

TSI(CA) = 53
TSI(TP) = 59
TSI(SD) = 63

Although the secchi depth TSI exceeded the limit of 60, the Chlorophyll a and phosphorus TSIs were acceptable (mesotrophic); these are considered more reliable since an elevated secchi depth TSI may be due to inorganic turbidity and not an indication of excessive nutrients. Since the PWS Use for Falling Creek has been removed from the WQS and the TSIs meet acceptable limits the lake should be delisted for PWS. However due to the depressed dissolved oxygen in the bottom, the segment should be classified as Category 4C due to natural stratification; the segment is first listed for DO in 2006.

During the 2008 cycle the lake criteria was developed and the lake is fully supporting for DO and will be DELISTED.

During the 2012 cycle the segment became impaired for DO with a pooled violation rate of 11/60.

Falling Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**88.37**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G01R-01-PCB** **Goode Creek**

Location: Goode Creek from the confluence with Broad Rock Creek to its mouth at the James River.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Water Column / 5A

During the 2012 cycle, Goode Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected at 2-GOD000.77 as part of a 2009 source identification study for the VDH PCB advisory in the James River.

Goode Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**1.25**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G01R-02-CU** **XVP - Almond Creek, UT**

Location: Unnamed tributary of Almond Creek.

City / County: Henrico Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Copper / 5A

During the 2012 cycle, the tributary was impaired of the Aquatic Life and Wildlife Uses due to exceedances of the acute water quality criteria for dissolved copper in 2008 and 2009 at station 2-XVP000.04.

XVP - Almond Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:			**0.72**

Sources:

Landfills Source Unknown

James River Basin

Cause Group Code: **G01R-02-PCB** **Almond Creek**

Location: Almond Creek from its headwaters to its mouth.

City / County: Henrico Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Water Column / 5A

During the 2012 cycle, Almond Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected in 2009 as part of a source identification study for the PCB advisory in the James River.

Almond Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**2.36**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G01R-02-PH** **XVO and XVP (Almond Creek, UTs)**

Location: Unnamed tributaries of Almond Creek.

City / County: Henrico Co

Use(s): Aquatic Life

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

In 2004, Almond Creek and tributaries XVO and XVP were considered impaired of the Aquatic Life Use due to pH exceedances at 2-ALM000.42 as well as pH exceedances at station located on UTs downstream of the BFI landfill (2-XVO000.10 and 2-XVP000.04). The pH TMDL is due in 2016. Although there are numerous exceedances on the tributary, the pH violation rates were acceptable during the 2010 cycle on mainstem Almond Creek, therefore Almond Creek was partially delisted. During the 2012 cycle, the exceedance rates are as follows:

2-XVO000.10 - 8/27 (2008 window)
2-XVO000.16 - 0/2
2-XVP000.04 - 3/5

XVO and XVP (Almond Creek, UTs) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.82**

Sources:

Landfills	Source Unknown

James River Basin

Cause Group Code: **G01R-02-ZN** **XVP - Almond Creek, UT**

Location: Unnamed tributary of Almond Creek.

City / County: Henrico Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Zinc / 5A

During the 2012 cycle, the tributary was impaired of the Aquatic Life and Wildlife Uses due to exceedances of the acute water quality criteria for dissolved zinc in 2008 and 2009 at station 2-XVP000.04.

XVP - Almond Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Zinc - Total Impaired Size by Water Type:			**0.72**

Sources:

Landfills Source Unknown

James River Basin

Cause Group Code: **G01R-04-DO** **Falling Creek**

Location: Falling Creek from Gregorys Pond downstream to the confluence with Horners Run.

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, this segment of Falling Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/22 at DEQ station 2-FAC012.96, which is located at the Route 360 bridge. Chesterfield County has a station at this location that also shows DO problems, however their data is not approved for use in the assessment.

Falling Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.98**

Sources:

Source Unknown

James River Basin

Cause Group Code: G01R-05-PH **Kingsland Creek**

Location: Kingsland Creek from its headwaters downstream to its mouth at the James River.

City / County: Chesterfield Co

Use(s): Aquatic Life

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

During the 2006 cycle, Kingsland Creek was assessed as not supporting the Aquatic Life Use based on pH exceedances at the Route 1 bridge (2CKSL002.62). The exceedance rate was 3/11 in the 2008 cycle. No additional data has been collected.

Kingsland Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.50**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G01R-06-PCB** **Gillies Creek**

Location: Gillies Creek from its headwaters to its mouth at the James River.

City / County: Henrico Co Richmond City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Water Column / 5A

During the 2012 cycle, Gillies Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected at 2-GIL000.42 as part of a 2009 source identification study for the PCB advisory in the James River.

Gillies Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**6.02**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G01R-06-PH** **Gillies Creek**

Location: Gillies Creek from its headwaters to its mouth at the James River.

City / County: Henrico Co Richmond City

Use(s): Aquatic Life

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

Gillies Creek was initially assessed as not supporting the Aquatic Life Use in 2004 based on elevated pH at the Government Road Bridge (2-GIL001.00, which was previously called 2-GIL000.42). During the 2010 cycle, the pH exceedance rate was 3/25 at 2-GIL001.00, although the other stations within the segment had acceptable pH exceedance rates.

Gillies Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.02**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G01R-07-DO** **Redwater Creek**

Location: Redwater Creek from its headwaters to its mouth at Proctors Creek.

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Redwater Creek was assessed as impaired of the Aquatic Life Use in the 2010 cycle due to a dissolved oxygen exceedance rate of 3/12 at Route 615 (Coxendale Road). Two values were extremely low.

Redwater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.94**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G01R-09-DO** **UT to James River - XPF**

Location: Ditch to James River through National Battlefield Park

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The ditch is considered impaired of the Aquatic Life use due to monitoring by the USGS:

DO 2/4 at 0203853010 (James River Trib 5 at West Boundary at Bellwood, VA
DO 2/4 at 0203853030 (James River Trib 5 Below Landfill at Bellwood, VA)

The downstream station 020853050 (James River Trib 5 at East Boundary) was acceptable. This station is near station 2-XPF-RICH-08-NPS, which also shows acceptable DO levels.

UT to James River - XPF **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.39**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G01R-09-PH** **UT to James River - XPF**

Location: Ditch to James River through National Battlefield Park

City / County: Chesterfield Co

Use(s): Aquatic Life

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

The ditch is considered impaired of the Aquatic Life use due to monitoring by the USGS:

pH 2/4 at 0203853010 (James River Trib 5 at West Boundary at Bellwood, VA
pH 2/4 at 0203853030 (James River Trib 5 Below Landfill at Bellwood, VA)

The downstream station 020853050 (James River Trib 5 at East Boundary) was acceptable. This station is near station 2-XPF-RICH-08-NPS, which also has acceptable pH.

UT to James River - XPF **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.39**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G01R-12-DO** **Coles Run, UT**

Location: The unnamed tributary XYI from its headwaters to its mouth

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The segment has been assessed as impaired of the Aquatic Life Use based on DO exceedances of 4/4 at USGS station 0203854210, which is located in the breastworks on the National Battlefield.

Coles Run, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.63**

Sources:

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

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G01R-12-PH** **Coles Run, UT**

Location: The unnamed tributary XYI from its headwaters to its mouth

City / County: Henrico Co

Use(s): Aquatic Life

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

The segment has been assessed as impaired of the Aquatic Life Use based on pH exceedances of 4/4 at USGS station 0203854210, which is located in the breastworks on the National Battlefield.

Coles Run, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.63**

Sources:

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

James River Basin

Cause Group Code: **G01R-15-BEN** **Proctors Creek**

Location: The nontidal mainstem of Proctors Creek.

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Proctors Creek was assessed as impaired of the Aquatic Life Use in the 2010 cycle due to an impaired benthic community at the Route 2 bridge (2-PCT002.46).

Proctors Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.92**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G02E-04-PCB** **James River**

Location: Mainstem James River from the limit of PWS near Dutch Gap downstream to the JMSTFu/JMSTFl boundary at the Appomattox River.

City / County: Charles City Co Chesterfield Co Henrico Co

Use(s): Fish Consumption Public Water Supply

Cause(s) /
VA Category: PCB in Water Column / 5A

During the 2012 cycle, the segment was impaired of the Fish Consumption Use due to two exceedances of the Human Health Water Quality Criteria for PCBs in water samples collected at 2-JMS087.11. The station was sampled in 2009 and is located at buoy 137.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:	**3.971**		

James River **Public Water Supply**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:	**3.971**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G02R-02-DO** **Roundabout Creek**

Location: Mainstem of Roundabout Creek from the pond at approximately river mile 2.04 downstream to the mouth.

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Roundabout Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/15 at station 2-ROT001.15, which is located at WRVA Road. The DO TMDL is due in 2018.

No additional data has been collected.

Roundabout Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.05**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G02R-02-PH** **Roundabout Creek**

Location: Mainstem of Roundabout Creek from the pond at approximately river mile 2.04 downstream to the mouth.

City / County: Henrico Co

Use(s): Aquatic Life

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

Roundabout Creek was initially assessed as not supporting the Aquatic Life Use goals in 2004 based on pH exceedances at station 2-ROT001.15, which is located at WRVA Road. During the 2006 cycle, the segment remained impaired for pH with an exceedance rate of 4/28. The pH TMDL is due in 2016.

No additional data has been collected.

Roundabout Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.05**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G02R-03-DO** **Johnson Creek Watershed**

Location: Johnson Creek and tributaries from its headwaters to the mouth at the James River

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Johnson Creek was initially assessed as not supporting the Aquatic Life Use goal during the 2004 cycle based on dissolved oxygen exceedances at Route 827 Allied Road (2-JOD001.19). The exceedance rate was 3/23 in the 2008 cycle.

The segment was extended during 2006 based on monitoring by Chesterfield County. No additional data was collected during the 2010 or 2012 cycles.

Johnson Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**16.24**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G02R-03-PH** **Johnson Creek Watershed**

Location: Johnson Creek and tributaries from its headwaters to the mouth at the James River

City / County: Chesterfield Co

Use(s): Aquatic Life

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

Johnson Creek was initially assessed as not supporting the Aquatic Life Use goal during the 2004 cycle based on pH exceedances at Route 827 Allied Road (2-JOD001.19). During the 2008 cycle, the exceedance rate was 11/23.

The segment was extended during 2006 based on monitoring by Chesterfield County. No additional data was collected during the 2010 or 2012 cycles.

Johnson Creek Watershed **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**16.24**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G02R-04-DO** **Western Run**

Location: Western Run from its headwaters to its mouth at the confluence with Turkey Island Creek

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Western Run was assessed as not supporting of the Aquatic Life Use based on a dissolved oxygen violation rate of 4/15 at DEQ station 2-WSN000.85, which is located at Route 156. No additional monitoring has been conducted by the DEQ, however the NPS monitored at the same location during the 2012 cycle and the exceedance rate was 1/6.

Western Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.84**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G02R-05-BAC** **Crewes Channel**

Location: Crewes Channel from its headwaters to its tidal limit

City / County: Henrico Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Crewes Channel was assessed as not supporting the Recreation Use due to an E. coli violation rate of 2/16 at DEQ station 2-CCH000.54, which is located at the Route 5 bridge. The TMDL is currently under development.

Crewes Channel **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.19**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **G02R-05-DO** **Crewes Channel**

Location: Crewes Channel from its headwaters to its tidal limit

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Crewes Channel was assessed as not supporting the Aquatic Life Use goal based on a dissolved oxygen exceedance rate of 4/4 at NPS station 2-CCH-RICH-06-NPS, which is located at Route 156.

Crewes Channel **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.19**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G02R-05-PH** **Crewes Channel**

Location: Crewes Channel from its headwaters to its tidal limit

City / County: Henrico Co

Use(s): Aquatic Life

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

Crewes Channel was assessed as not supporting the Aquatic Life Use goal based on pH violation rates of 4/4 and 3/4 at USGS stations 0203874770 and 0203874785, respectively. Monitoring at downstream DEQ station 2-CCH000.54 has an acceptable pH violation rate and NPS station 2-CCH-RICH-06-NPS, which is located at the same location as the old USGS station 0203874785, only has an exceedance rate of 1/4; therefore further monitoring in the segment is warranted to determine the extent of the impairment.

Crewes Channel **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.19**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G02R-07-BAC** **Western Run**

Location: Western Run from its headwaters to its mouth at the confluence with Turkey Island Creek

City / County: Henrico Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Western Run was initially assessed as not supporting the Recreation use goals in the 2006 cycle based on bacteria sampling at the Route 156 bridge:

Fecal coliform exceedance rate of 2/3 at USGS station 0203874275
E. coli exceedance rate of 2/4 at DEQ station 2-WSN000.85

During the 2008 cycle, the bacteria impairment converted solely to E. coli based on an E. coli exceedance rate of 6/16 at 2-WSN000.85.

The TMDL is currently under development.

Western Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.84**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G02R-08-DO** **Turkey Island Creek**

Location: Turkey Island Creek from its headwaters to the tidal limit.

City / County: Charles City Co Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Turkey Island Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/9 at Carters Mill Road (2-TIC002.69.)

No additional data has been collected.

Turkey Island Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.43**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: G03E-01-PCB **Bailey Creek (tidal), Cattail Creek (tidal)**

Location: Segment begins at Bailey Creek fall line and extends downstream to its mouth at the confluence with the James River. The segment includes the tidal portion of Cattail Creek.

City / County: Hopewell City Prince George Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Water Column / 5A

During the 2012 cycle, tidal Bailey Creek was impaired of the Fish Consumption Use due to two exceedances of the Human Health - Other Surface Waters WQS for water column PCBs. The samples were collected at 2-BLY000.65 as part of a 2009 source identification study for the VDH PCB advisory in the James River.

Bailey Creek (tidal), Cattail Creek (tidal) **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:	**0.123**		

Sources:

Contaminated Sediments Source Unknown

James River Basin

Cause Group Code: **G03E-01-PH** **Bailey Creek (tidal), Cattail Creek (tidal)**

Location: Segment begins at Bailey Creek fall line and extends downstream to its mouth at the confluence with the James River. The segment includes the tidal portion of Cattail Creek.

City / County: Hopewell City Prince George Co

Use(s): Aquatic Life

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

Tidal Bailey Creek was initially considered impaired for pH on the 2004 303(d) list due to high pH measurements at the Hopewell Region Monitoring and Assessment Project (HERMA) stations. During the 2012 cycle, the pH exceedance rate at 2-BLY000.65 was 3/66, however the segment will remain listed based on the downstream HERMA stations.

Bailey Creek (tidal), Cattail Creek (tidal) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.123**		

Sources:

Industrial Point Source Discharge

Municipal Point Source Discharges

Source Unknown

James River Basin

Cause Group Code: **G03L-01-DO** **Harrison Lake**

Location: Harrison Lake in its entirety.

City / County: Charles City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

In 2006 the lake is also considered impaired Cat. 5A because the dissolved oxygen violation rate was unacceptable in the epilimnion/nonstratified periods. This was primarily due to DO violations during the September 2004 monitoring when the lake was not stratified.

In 2008 cycle no additional monitoring was collected, the lake nutrient criteria was developed, lake Harrison does not have a true lacustrine zone. The regional biologist recommended that this lake should be removed from the table of lakes to which the nutrient criteria standards apply during the next triennial review.

During the 2010 cycle the segment remained impaired for DO with a violation rate of 9/36 at station 2-WER000.02.

During the 2012 cycle the segment remained impaired for DO since there has been no new data since the 2010 cycle.

Harrison Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**60.15**	

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Source Unknown

James River Basin

Cause Group Code: **G03L-01-HG** **Harrison Lake**

Location: Harrison Lake in its entirety.

City / County: Charles City Co

Use(s): Fish Consumption

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

2-HEC006.22 (C)- 2005 fish tissue had As in 3 species as an observed effect and Hg in 4 species.

VDH Fish Consumption Advisory for kepone

The VDH issued a Fish Consumption Advisory for Harrison Lake on 7/20/2006. No more than 2 meals per month of Redear Sunfish, Largemouth Bass, Chain Pickerel, and Bowfin are recommended due to mercury in fish tissue.

Harrison Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**60.15**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

James River Basin

Cause Group Code: **G03L-01-PH** **Harrison Lake**

Location: Harrison Lake in its entirety.

City / County: Charles City Co

Use(s): Aquatic Life

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

In 2006 Harrison Lake was assessed as not supporting of the Aquatic Life Use based on a pH violation rate of 12/25 at 2-WER000.02.

In 2008 cycle no additional monitoring was collected, the lake nutrient criteria was developed, lake Harrison does not have a true lacustrine zone. The regional biologist recommended that this lake should be removed from the table of lakes to which the nutrient criteria standards apply during the next triennial review.

During the 2010 cycle the segment remained impaired for pH with a violation rate of 33/60 at station 2-WER000.02.

During the 2012 cycle the segment remained impaired for pH since there has been no new data since the 2010 cycle.

Harrison Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**60.15**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G03R-02-ALD** **Bailey Creek**

Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the fall line.

City / County: Hopewell City Prince George Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Aldrin / 5A

The non-tidal portion of Bailey Creek was assessed in the 2002 cycle as impaired of the Fish Consumption Use goal because of exceedances of the human health screening levels for aldrin in fish studies at station 2-BLY005.72 in 1997. The TMDL for aldrin is due in 2014.

Bailey Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aldrin - Total Impaired Size by Water Type:			**5.98**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G03R-02-DO** **Bailey Creek**

Location: Segment begins at the confluence with Manchester Run and extends downstream to the fall line.

City / County: Hopewell City Prince George Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, monitoring was conducted at 2-BLY003.42, which is located at the Route 156 bridge. The segment of Bailey Creek from Manchester Run to the fall line was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 2/14. The DO TMDL is due in 2020. The violation rate was 2/12 during the 2012 cycle.

Bailey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.89**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G03R-02-PCB** **Bailey Creek**

Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the fall line.

City / County: Hopewell City Prince George Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The non-tidal portion of Bailey Creek was assessed in the 2002 cycle as impaired of the Fish Consumption Use goal because of exceedances of the human health screening levels for PCBs in fish samples at station 2-BLY005.72 in 1997. In addition, VDH has issued a Fish Consumption Advisory for PCBs upstream to the Route 630 bridge. The TMDL for PCBs in fish is due in 2014.

Bailey Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**5.98**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G03R-03-PCB** **Poythress Run**

Location: Poythress Run from its headwaters to its tidal limit

City / County: Charles City Co Hopewell City Prince George Co

Use(s): Aquatic Life Fish Consumption Wildlife

Cause(s) /
VA Category: PCB in Water Column / 5A

During the 2012 cycle, Poythress Run was impaired of the Fish Consumption Use due to two water column PCB exceedances of the Human Health - Other Surface Waters WQS and the Aquatic Life/Wildlife WQS. The samples were collected at 2-PTH000.42 as part of a 2009 source identification study for the PCB advisory in the James River. The station is located at Poythress Run at Station Street.

Poythress Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**0.78**

Poythress Run **Wildlife**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**0.39**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G03R-04-BAC** **West Run**

Location: West Run from the confluence with East Run downstream to the backwater of Harrison Lake.

City / County: Charles City Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, West Run was assessed as not supporting the Recreation Use based on an E. coli exceedance rate of 2/12 at the Route 625 bridge (2-WER001.93.)

The TMDL is currently under development.

West Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.86**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G03R-04-PH** **West Run**

Location: West Run from the confluence with East Run downstream to the backwater of Harrison Lake.

City / County: Charles City Co

Use(s): Aquatic Life

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

West Run was initially assessed as not supporting the Aquatic Life Use in 2004 based on pH exceedances at the Route 625 bridge (2-WER001.93). During the 2010 cycle, the segment remained impaired (9/14). No additional data was collected during the 2012 cycle.

West Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.86**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G03R-05-PCB** **XYO - Cattail Creek, UT**

Location: The tributary in its entirety.

City / County: Hopewell City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Water Column / 5A

During the 2012 cycle, the tributary was impaired of the Fish Consumption Use due to two water column PCB exceedances of the Human Health - Other Surface Waters WQS. The samples were collected at 2-XYO000.03 as part of a 2009 source identification study for the PCB advisory in the James River. The station is located off South 1st Street.

XYO - Cattail Creek, UT **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**0.34**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G03R-06-BEN** **UT (XUD) to West Run**

Location: The unnamed tributary XUD in its entirety.

City / County: Charles City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, the unnamed tributary to West Run was assessed as not supporting the Aquatic Life Use based on an impaired benthic community at 2-XUD000.15, a freshwater probabilistic monitoring station.

UT (XUD) to West Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.57**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G03R-06-PH** **UT (XUD) to West Run**

Location: The unnamed tributary XUD in its entirety.

City / County: Charles City Co

Use(s): Aquatic Life

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

The unnamed tributary to West Run was assessed in 2006 as not supporting the Aquatic Life Use based on a pH exceedance rate of 2/2 at 2-XUD000.15, a freshwater probabilistic monitoring station.

UT (XUD) to West Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.57**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G04E-02-EBEN** **James River**

Location: The mainstem tidal James River from the oligohaline boundary to the Chickahominy River.

City / County: Charles City Co James City Co Surry Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The oligohaline portion of the James River is impaired for benthics as determined by the Chesapeake Bay B-IBI study.

James River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**20.400**		

Sources:

Contaminated Sediments

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G04L-01-DO** **Sunken Meadow Pond**

Location: Sunken Meadow Pond in its entirety.

City / County: Surry Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Sunken Meadow Pond was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 2-SKC001.17, which is located at Rt. 626. The exceedance rate was 5/21 during the 2012 cycle.

Although the segment is a non-significant/non 187 lake, the TSI was not used because guidance page 68 states that it will only be calculated on stratified lakes. The TSIs would have been 50 for chlorophyll a, 61 for total phosphorus, and secchi depth information was not collected. The station is located near the backwater of the pond and only surface samples were collected.

Sunken Meadow Pond **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**172.85**	

Sources:

Dam or Impoundment	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G04R-01-BAC** **Wards Creek**

Location: Wards Creek from the headwaters to its tidal limit.

City / County: Prince George Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2006 cycle, Wards Creek was assessed as not supporting of the Recreation Use support goal based on an E. coli exceedances at monitoring station 2-WRD005.40, which is located at the Route 10 bridge. The violation rate was 5/35 during the 2012 cycle. The TMDL is currently under development.

Wards Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.46**

Sources:

Source Unknown

James River Basin

Cause Group Code: G04R-02-BAC **Upper Chippokes Creek**

Location: Upper Chippokes Creek from the headwaters to its tidal limit.

City / County: Prince George Co Surry Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Upper Chippokes Creek was assessed as not supporting of the Recreation Use support goal based on an E. coli violation rate of 2/10 at monitoring station 2-UCK007.73, which is located at the Route 10 bridge.

No additional data has been collected.

Upper Chippokes Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.61**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G04R-03-MIREX** **Bailey Branch**

Location: Bailey Branch from the headwaters to its tidal limit.

City / County: Surry Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Mirex / 5A

During the 2010 cycle, Bailey Branch was assessed as not supporting of the Aquatic Life and Wildlife Uses due to two exceedances of the water quality standard for Mirex in SPMDs at freshwater probabilistic monitoring station 2-BLB002.04.

Bailey Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mirex - Total Impaired Size by Water Type:			**10.48**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-01-DO** **Chickahominy River, UT - Unnamed Tributary**

Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The segment was assessed as not supporting of the Aquatic Life Use for dissolved oxygen due to an exceedance rate of 2/2 at 2-XDD000.65. Other stations in the segment have acceptable violation rates, therefore continued monitoring is recommended.

Chickahominy River, UT - Unnamed Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.15**

Sources:

Industrial Point Source
Discharge

James River Basin

Cause Group Code: **G05R-01-NH3** **Chickahominy River, UT - Unnamed Tributary**

Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Ammonia (Un-ionized) / 5A

Multiple exceedances of the chronic ammonia criteria had been noted in grab samples throughout the stream, therefore a special study was conducted in July 2005 to investigate the ammonia levels in the stream. Based on the results of the study, the segment is now impaired for ammonia because of 6 acute ammonia exceedances each at 2-XDD000.84 and at 2-XDD000.91. A fish kill was noted in the pond.

Chickahominy River, UT - Unnamed Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Ammonia (Un-ionized) - Total Impaired Size by Water Type:			**2.30**

Sources:

Industrial Point Source
Discharge

James River Basin

Cause Group Code: **G05R-03-BAC** **Chickahominy River**

Location: The Chickahominy River from an unnamed tributary immediately downstream of rivermile 76.59 to the Route 360 bridge.

City / County: Charles City Co Hanover Co Henrico Co New Kent Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, the segment of the Chickahominy from the unnamed tributary at approximately rivermile 76 downstream to the Route 360 bridge was assessed as not supporting of the Recreation Use due to the following E. coli exceedance rates:

2/12 at 2CCHK071.66
3/12 at 2-CHK067.30

Chickahominy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.33**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-04-BEN** **Chickahominy River**

Location: The Chickahominy River from its headwaters to the confluence with unnamed tributary XDD.

City / County: Hanover Co Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle, the segment was assessed as not supporting of the Aquatic Life Use due to an impaired benthic community at station 2-CHK079.23, which is located at the Route 33 bridge.

Chickahominy River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.06**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G05R-04-PH** **Chickahominy River**

Location: The Chickahominy River from its headwaters to the confluence with an unnamed tributary immediately downstream of rivermile 76.59.

City / County: Hanover Co Henrico Co

Use(s): Aquatic Life

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

During the 2010 cycle, the Chickahominy from the headwaters downstream to tributary XDD was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 3/16 at station 2-CHK079.23, which is located at the Route 33 bridge. The exceedance rate was 3/21 during the 2012 cycle.

In addition, the segment was extended during the 2012 cycle, due to a violation rate of 5/36 at 2-CHK076.59, which is located at the Route 156 bridge.

Chickahominy River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**9.36**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G05R-05-BAC** **Stony Run**

Location: Stony Run from the confluence with Lickinghole Creek downstream to its mouth at the Chickahominy River.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The segment of Stony Run was initially assessed as impaired of the Recreation Use in 2004 because of fecal coliform exceedances at the Route 656 bridge (2-SNF000.04). E. coli monitoring was conducted during the 2010 cycle; the impairment converted to E. coli. The exceedance rate was 5/23 during the 2012 cycle.

Stony Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.21**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-06-BEN** **Grassy Swamp Creek**

Location: Grassy Swamp Creek from the pond at rivermile 0.99 to its mouth.

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Grassy Swamp Creek was assessed as not supporting of the Aquatic Life Use due to impairment of the benthic community at 2-GRC000.96.

Grassy Swamp Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.02**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-06-DO** **Grassy Swamp Creek**

Location: Grassy Swamp Creek from the pond at rivermile 0.99 to its mouth.

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Grassy Swamp Creek was assessed as impaired of the Aquatic Life Use in the 2008 cycle due to a dissolved oxygen exceedances at 2-GRC000.96, which is located at the Route 660 bridge. The exceedance rate is 25/93 in the 2012 cycle.

Grassy Swamp Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.02**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G05R-07-DO** **Chickahominy River, UT (XDD)**

Location: The unnamed tributary XDD from its headwaters to the Tysons Foods discharge.

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The segment was initially assessed as not supporting of the Aquatic Life Use in the 2006 cycle due to dissolved oxygen exceedances at 2-XDD001.23. The impairment is suspected to be caused by low flow conditions potentially exacerbated by the excess phosphorus in the watershed. During the 2012 cycle, the segment has a DO violation rate of 28/60 at 2-XDD001.23.

Chickahominy River, UT (XDD) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.52**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G05R-07-PH** **Chickahominy River, UT (XDD)**

Location: The unnamed tributary XDD from its headwaters to the Tysons Foods discharge.

City / County: Hanover Co

Use(s): Aquatic Life

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

The segment is impaired for pH with a violation rate of 36/60 during the 2012 cycle. The segment was initially considered impaired during the 2006 cycle, but it was categorized as Category 4A because of the benthic/pH TMDL for the lower portion of the tributary. Since the pH at this station is low, not elevated as at the downstream stations, this impairment should not be considered addressed. Because it was initially impaired in 2006, a TMDL due date of 2018 was assigned.

Chickahominy River, UT (XDD) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.52**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G05R-08-DO** **Upham Brook, UT (XAR)**

Location: The unnamed tributary XAR from its headwaters to its mouth at Upham Brook. Previously called Upham Brook from its headwaters to the extent of backwater of Shaaf Pond in Cheswick Park.

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Upham Brook upstream of Shaaf Pond was initially assessed as not supporting the Aquatic Life Use in the 2006 cycle based on dissolved oxygen exceedances at 2-UPM011.11, located in Cheswick Park. During the 2008 cycle, the exceedance rate was 4/27. In the 2010 cycle, it was determined that the stream is actually an unnamed tributary to Upham Brook and that Shaaf Pond no longer exists; therefore the segment was revised to include the entire mainstem of the tributary.

No additional data has been collected.

Upham Brook, UT (XAR) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.20**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-09-BEN** **North Run**

Location: North Run from its headwaters to the confluence with Hungary Creek.

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

North Run from its headwaters to the confluence with Hungary Creek was assessed as not supporting the Aquatic Life Use during the 2008 cycle based on an impaired benthic community at freshwater probabilistic monitoring station 2-NTR005.53, located above Mountain Road.

North Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.62**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-09-PH** **North Run**

Location: North Run from its headwaters to the confluence with Hungary Creek.

City / County: Henrico Co

Use(s): Aquatic Life

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

North Run from its headwaters to the confluence with Hungary Creek was assessed as not supporting the Aquatic Life Use during the 2006 cycle based on a pH exceedance rate of 3/6 at station 2-NTR005.53, located above Mountain Road. No additional data has been collected.

North Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.62**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-10-DO** **Upham Brook**

Location: Upham Brook from Flippen Creek downstream to the confluence with the UT entering above Wilkinson Road

City / County: Henrico Co Richmond City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The segment was assessed as not supporting the Aquatic Life Use in the 2008 cycle based on a dissolved oxygen exceedance rate of 2/12 at Route 301 (2-UPM002.41).

Upham Brook **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.20**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-11-DO** **Upham Brook, UT (XXP)**

Location: The unnamed tributary XXP from its headwaters to its mouth at Upham Brook.

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, the tributary was assessed as not supporting of the Aquatic Life Use based on a dissolved oxygen exceedance rate of 3/12 at TMDL station 2-XXP000.23.

Upham Brook, UT (XXP) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G05R-12-BAC** **Upper Stony Run and Tributaries**

Location: Stony Run and its tributaries upstream of the confluence with Lickinghole Creek

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The watershed was monitored during the 2012 cycle due to a downstream bacterial impairment on Stony Run. The watershed shows extensive exceedances throughout and will be impaired for the Recreation Use.

3/12 at 2CXAG000.50
2/12 at 2-LKH000.04
1/12 at 2-LKH001.00 (fully supporting)
2/12 at 2-LKH001.46
4/12 at 2-LKH002.42
2/12 at 2-LKH003.42
3/12 at 2-SNF000.23
1/12 at 2-SNF000.87 (fully supporting)
3/12 at 2-SNF001.27
5/11 at 2-SNF001.58
3/12 at 2-SNF003.70
6/10 at 2-SNF005.59
1/10 at 2-SNF006.44 (fully supporting)
2/12 at 2-XOI000.65

Upper Stony Run and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**24.15**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G05R-12-DO** **Upper Stony Run and Tributaries**

Location: Stony Run and its tributaries upstream of the confluence with Lickinghole Creek

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The watershed was monitored during the 2012 cycle due to a downstream bacterial impairment on Stony Run. Monitoring shows moderate dissolved oxygen exceedances throughout the watershed and it will be impaired for the Aquatic Life Use.

4/12 at 2CXAG000.50
3/12 at 2-LKH001.00
2/12 at 2-LKH002.42
3/12 at 2-SNF003.70
3/12 at 2-XOI000.65

The following stations had fully supporting exceedance rates:
0/12 at 2-LKH000.04
0/12 at 2-LKH001.46
1/12 at 2-LKH003.42
1/12 at 2-SNF000.23
0/12 at 2-SNF000.87
0/12 at 2-SNF001.27
1/12 at 2-SNF001.58
1/10 at 2-SNF005.59
1/10 at 2-SNF006.44

Upper Stony Run and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**24.15**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G05R-12-PH** **Upper Stony Run and Tributaries**

Location: Stony Run and its tributaries upstream of the confluence with Lickinghole Creek

City / County: Hanover Co

Use(s): Aquatic Life

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

The watershed was monitored during the 2012 cycle due to a downstream bacterial impairment on Stony Run. The watershed shows extensive pH exceedances throughout and will be impaired for the Aquatic Life Use.

6/12 at 2CXAG000.50
2/12 at 2-LKH000.04
2/12 at 2-LKH001.00
1/12 at 2-LKH001.46 (fully supporting)
2/12 at 2-LKH002.42
2/12 at 2-LKH003.42
0/12 at 2-SNF000.23 (fully supporting)
2/12 at 2-SNF000.87
3/12 at 2-SNF001.27
3/12 at 2-SNF001.58
4/12 at 2-SNF003.70
4/10 at 2-SNF005.59
5/10 at 2-SNF006.44
3/12 at 2-XOI000.65

Upper Stony Run and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**24.15**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G06R-01-HG** **Chickahominy River**

Location: Segment begins at the Route 360 bridge over the Chickahominy River, and extends downstream to the Route 156 bridge.

City / County: Hanover Co Henrico Co

Use(s): Fish Consumption

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

During the 2010 cycle, the segment was assessed as not supporting of the Fish Consumption Use due to mercury exceedances in chain pickerel and yellow bullhead catfish during 2005 sampling.

Chickahominy River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**7.53**

Sources:

Atmospheric Deposition - Toxics Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G06R-06-PH** **Beaverdam Creek**

Location: Beaverdam Creek from its headwaters to its mouth.

City / County: Hanover Co

Use(s): Aquatic Life

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

Beaverdam Creek is assessed as not supporting of the Aquatic Life Use based on a pH standard exceedance rate of 3/4 at USGS station 02042433.

During the 2008 cycle, monitoring at DEQ station 2-BEV002.00 at the Route 156 bridge, only slightly upstream of the USGS station, had an acceptable exceedance rate of 0/11; therefore continued monitoring was recommended.

During the 2012 cycle, monitoring was conducted at 2-BEV002.00 as well as 2-BEV-RICH01-NPS, which is a National Park Service station. The NPS station had an acceptable violation rate (0/7), however the DEQ station is now 3/16, therefore the segment will remain impaired.

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.68**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G06R-07-DO** **Boatswain Creek**

Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Boatswain Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/8 at National Park Service Station 2-BTS-RICH-03-NPS. The station is located 100 yards downstream of Wyatt House Road near the west boundary of Richmond National Battlefield Park.

Continued monitoring is recommended because monitoring at upstream DEQ station 2-BTS002.62 was acceptable (1/11).

Boatswain Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.76**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G06R-07-PH** **Boatswain Creek**

Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co

Use(s): Aquatic Life

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

Boatswain Creek was assessed as not supporting of the Aquatic Life Use during the 2008 cycle based on pH standard exceedance rates of 3/4 at USGS station 0204243830, 2/4 at USGS station 02043790, and 7/15 at DEQ station 2-BTS002.62.

During the 2012 cycle, the exceedance rate at 2-BTS002.62 is 4/11. Monitoring at new National Park Service station 2-BTS-RICH-03-NPS was inconclusive (1/8).

Boatswain Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.76**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G06R-11-DO** **Bloody Run**

Location: Bloody Run from its headwaters to the its mouth at Gaines Mill Pond.

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Bloody Run was assessed as not supporting of the Aquatic Life Use during the 2004 cycle based on a dissolved oxygen exceedance rate of 3/3 at USGS station 0204243610.

Monitoring at National Park Service station 2-BDY-RICH-04-NPS. Although the dissolved oxygen violation rate was acceptable, no additional monitoring has been conducted at station 0204243610, therefore it remains impaired.

Bloody Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G06R-11-PH** **Bloody Run**

Location: Bloody Run from its headwaters to the its mouth at Gaines Mill Pond.

City / County: Hanover Co

Use(s): Aquatic Life

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

Bloody Run was assessed as not supporting of the Aquatic Life Use during the 2004 cycle based on pH exceedance rates of 4/4 at USGS stations 0204243610 and 0204243650.

Monitoring at National Park Service station 2-BDY-RICH-04-NPS, which is co-located with the previous USGS station 0204243650, had a pH violation rate of 4/8.

Bloody Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G06R-12-BAC** **Beaverdam Creek**

Location: Beaverdam Creek from its headwaters to its mouth.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Beaverdam Creek was initially assessed as not supporting the Recreation Use in the 2006 cycle based on E. coli exceedances at DEQ's station at the Route 156 bridge (2-BEV002.00). During the 2012 cycle, the exceedance rate is 3/14.

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.68**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G06R-13-BAC** **Boatswain Creek**

Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Boatswain Creek was initially assessed as not supporting of the Recreation Use during the 2006 cycle based on E. coli exceedances at 2-BTS002.62, located at the Watt House driveway. The exceedance rate is 3/12 during the 2012 cycle.

Boatswain Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.76**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G06R-14-BAC** **Chickahominy River**

Location: Segment begins at the Route 360 bridge over the Chickahominy River, and extends downstream to the Route 156 bridge.

City / County: Hanover Co Henrico Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, the segment was considered not supporting of the Recreation Use due to E. coli exceedances at 2-CHK062.57, which is located at the Route 360 bridge. The TMDL is due in 2020.

The exceedance rate is 6/37 during the 2012 cycle.

Chickahominy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.53**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G06R-14-PH** **Possum Run**

Location: Possum Run from its headwaters to its mouth at the Chickahominy River.

City / County: Charles City Co

Use(s): Aquatic Life

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

During the 2008 cycle, Possum Run was assessed as impaired of the Aquatic Life Use due to a pH exceedance rate of 2/3 at 2-POS002.62, which is a freshwater probabilistic monitoring station.

Possum Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.80**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07L-01-HG** **Chickahominy Lake**

Location: Chickahominy Lake in its entirety.

City / County: Charles City Co New Kent Co

Use(s): Fish Consumption

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

The VDH issued a Fish Consumption Advisory for Chickahominy Lake on 7/20/2006. No more than 2 meals per month of Largemouth Bass, Chain Pickerel, and Bowfin are recommended due to mercury in fish tissue.

Chickahominy Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,049.46**	

Sources:

Atmospheric Deposition - Toxics Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G07R-01-BAC** **Collins Run**

Location: Collins Run from its headwaters to approximately river mile 0.99.

City / County: Charles City Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The segment was assessed as not supporting of the Recreation Use in 2002 because of fecal coliform exceedances at two confined animal feeding operation special study locations, 2-CNR001.16 and 2-CNR001.54 (Route 614 bridge).

Additional monitoring was conducted during the 2010 cycle. The E. coli exceedance rate was 1/6 at 2-CNR001.54 and 2-CNR002.69, but 2/6 at 2-CNR001.58, therefore the segment remains listed and the impairment converted to E. coli. The original TMDL due date of 2014 is maintained.

During the 2012 cycle, the exceedance rates are as follows:
1/12 at 2-CNR001.54 (fully supporting)
3/12 at 2-CNR001.58
4/12 at 2-CNR002.69

Collins Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.49**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G07R-01-DO** **Collins Run**

Location: Collins Run from its headwaters to approximately river mile 0.99.

City / County: Charles City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The segment was assessed as not supporting of the Aquatic Life Use in the 2010 cycle because of a dissolved oxygen violation rate of 4/6 at 2-CNR002.69, which is located at the Route 155 bridge.

The exceedance rate was 4/12 during the 2012 cycle. Downstream stations 2-CNR001.54 and 2-CNR001.58 were acceptable (0/12.)

Collins Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-01-PH** **Collins Run**

Location: Collins Run from its headwaters to approximately river mile 0.99.

City / County: Charles City Co

Use(s): Aquatic Life

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

The segment was assessed as not supporting of the Aquatic Life Use in the 2012 cycle because of a pH violation rate of 3/12 at 2-CNR002.69, which is located at the Route 155 bridge. Downstream stations 2-CNR001.54 and 2-CNR001.58 were acceptable (0/12.)

Collins Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-02-DO** **Rumley Marsh**

Location: Rumley Marsh from its headwaters to Old Forge Pond. Below Old Forge Pond, the stream name is Jones Run.

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Special studies conducted in Rumley Marsh and Jones Run in 1994 identified summertime DO exceedances in Rumley Marsh at station 2-RUM002.46.

The segment was threatened in 1998 and downgraded in 2002. During the 2008 cycle, additional monitoring was conducted at 2-RUM004.38, which is located at the Route 617 bridge. The monitoring confirmed the impairment. The violation rate during the 2010 cycle was 7/15. In addition, station 2-RUM002.46 had a violation rate of 5/6 and station 2-RUM005.54 was 1/6 (IN).

During the 2012 cycle, the dissolved oxygen exceedance rates were as follows:
11/18 at 2-RUM002.46
11/27 at 2-RUM004.38
3/12 at 2-RUM005.54

Rumley Marsh **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.90**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-02-PH** **Rumley Marsh**

Location: Rumley Marsh from its headwaters to Old Forge Pond. Below Old Forge Pond, the stream name is Jones Run.

City / County: New Kent Co

Use(s): Aquatic Life

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

During the 2010 cycle, the segment was assessed as not supporting of the Aquatic Life Use due to pH violations at 2-RUM002.46 and 2-RUM005.54. During the 2012 cycle, the pH exceedance rates were as follows:

5/18 at 2-RUM002.46
4/28 at 2-RUM004.38
9/12 at 2-RUM005.54

Rumley Marsh **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.90**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-03-DO** **Pelham Swamp**

Location: Pelham Swamp from the confluence with Beus Swamp downstream to its mouth at Rumley Marsh.

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, the lower portion of Pelham Swamp was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 2-PEL000.77, which is located off of Route 604. The exceedance rate is 7/12 during the 2012 cycle.

Pelham Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.57**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-04-BAC** **Schiminoe Creek**

Location: Schiminoe Creek from its headwaters to its mouth at the Chickahominy River.

City / County: New Kent Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Schiminoe Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 3/11 at 2-SMN001.42, which is located at Route 60.

Schiminoe Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.22**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G07R-04-DO** **Schiminoe Creek**

Location: Schiminoe Creek from its headwaters to its mouth at the Chickahominy River.

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Schiminoe Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/11 at 2-SMN001.42, which is located at Route 60.

Schiminoe Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-04-PH** **Schiminoe Creek**

Location: Schiminoe Creek from its headwaters to its mouth at the Chickahominy River.

City / County: New Kent Co

Use(s): Aquatic Life

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

During the 2012 cycle, Schiminoe Creek was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 4/12 at 2-SMN001.42, which is located at Route 60.

Schiminoe Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-05-PH** **XAA - Rumley Marsh, UT**

Location: Unnamed tributary from its headwaters to its mouth at Rumley Marsh.

City / County: New Kent Co

Use(s): Aquatic Life

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

During the 2012 cycle, XAA was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 3/12 at 2CXAA000.08.

XAA - Rumley Marsh, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.75**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-06-DO** **XWS - Rumley Marsh, UT**

Location: Unnamed tributary from its headwaters to its mouth at Rumley Marsh.

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XWS was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/18 at 2-XWS000.85, which is located at the Route 155 bridge.

XWS - Rumley Marsh, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-06-PH** **XWS - Rumley Marsh, UT**

Location: Unnamed tributary from its headwaters to its mouth at Rumley Marsh.

City / County: New Kent Co

Use(s): Aquatic Life

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

During the 2012 cycle, XWS was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 4/18 at 2-XWS000.85, which is located at the Route 155 bridge.

XWS - Rumley Marsh, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G07R-07-PH** **XAB - Collins Run, UT**

Location: Unnamed tributary from its headwaters to its mouth at Collins Run.

City / County: Charles City Co

Use(s): Aquatic Life

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

During the 2012 cycle, XAB was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 2-XAB000.15, which is located off of Route 155.

XAB - Collins Run, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G08E-03-BAC** **Diascund Creek**

Location: The tidal Diascund Creek.

City / County: James City Co New Kent Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

Diascund Creek from the dam to its mouth was assessed as not supporting of the Recreation Use during the 2010 cycle due to an enterococci exceedance rate of 4/23 at 2-DSC003.19.

Diascund Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.272**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G08E-04-BAC** **Chickahominy River**

Location: The segment begins at Diascund Creek and extends downstream to the mouth at the James River

City / County: Charles City Co James City Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Chickahominy River below Diascund Creek was initially assessed as not supporting the Recreation Use due to enterococci exceedances at 2-CHK002.17. During the 2012 cycle, the violation rate is acceptable (1/32). However, the violation rate is 6/46 at 2-CHK006.14 and 3/11 at 2-CHK014.33, therefore the segment will remain listed.

Chickahominy River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**5.899**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G08E-05-BAC** **Gordon Creek**

Location: The tidal portion of Gordon Creek down to its mouth at the Chickahominy River.

City / County: James City Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

During the 2012 cycle, tidal Gordon Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 4/33 at 2-GOR000.35.

Gordon Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.296**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G08E-07-EBEN** **Chickahominy River, UT (XAC)**

Location: Tidal UT XAC

City / County: James City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

Station 2CXAC000.20 is a Coastal 2000 probabilistic monitoring station. During the 2010 cycle, Weight of Evidence assessment performed by CO indicated benthic alteration probably caused by the acute and chronic effects of sediment PAHs and possibly metals (scenario 1, category 5A).

Chickahominy River, UT (XAC) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.017**		

Sources:

Contaminated Sediments

James River Basin

Cause Group Code: **G08R-02-BAC** **Mill Creek**

Location: Mill Creek from its headwaters downstream to its tidal limit

City / County: James City Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Mill Creek was initially assessed as not supporting of the Recreation Use support goal in 2004 based on a fecal coliform violation rate of 3/13 recorded at 2-MCR002.38. Additional monitoring was conducted during the 2012 cycle. The impairment will convert to E. coli due to an exceedance rate of 2/12. The original TMDL due date of 2016 is maintained.

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.88**

Sources:

Non-Point Source Source Unknown

James River Basin

Cause Group Code: **G08R-02-DO** **Mill Creek**

Location: Mill Creek from its headwaters downstream to its tidal limit

City / County: James City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Mill Creek was initially assessed as not supporting of the Aquatic Life use support (ALUS) goal in 2004 based on DO exceedances at the Route 603 bridge (2-MCR002.38). During the 2012 cycle, the segment remains impaired for DO with an exceedance rate of 3/14.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.88**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G08R-04-DO** **Yarmouth Creek**

Location: The nontidal portion of Yarmouth Creek.

City / County: James City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Yarmouth Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/2 at 2-YRM004.96, which is located at Rt. 632.

Yarmouth Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.11**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09L-01-HG** **Diascund Creek Reservoir**

Location: Diascund Creek Reservoir

City / County: James City Co New Kent Co

Use(s): Fish Consumption

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

The 2010 cycle the segment was impaired for fish consumption use due to Mercury in fish tissue of Bass and Bowfin.
The 2012 cycle the segment was impaired for fish consumption use due to Mercury in fish tissue of Bass and Bowfin.

Diascund Creek Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,055.04**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G09R-01-BAC** **Beaverdam Creek**

Location: All of Beaverdam Creek, a tributary to Diascund Reservoir.

City / County: New Kent Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

In the 2012 cycle, Beaverdam Creek is impaired of the Recreation Use due to the following exceedance rates:

3/9 at 2-BDM003.16
4/20 at 2-BDM004.12
3/9 at 2-BDM004.60
5/9 at 2-BDM005.70

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

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G09R-01-DO** **Beaverdam Creek**

Location: All of Beaverdam Creek, a tributary to Diascund Reservoir.

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Beaverdam Creek has been assessed as not supporting of the Aquatic Life use because of dissolved oxygen standard exceedances at the Route 632 bridge (2-BDM004.12). The segment was initially considered fully supporting but threatened in the 1998 cycle, but was downgraded to impaired in the 2002 cycle. The DO TMDL is due in 2014.

During the 2012 cycle, additional monitoring was conducted throughout the creek. The exceedance rates were as follows:

2/11 at 2-BDM003.16
9/22 at 2-BDM004.12
7/11 at 2-BDM004.60
0/11 at 2-BDM005.70 (fully supporting)

Although the upstream station is fully supporting and is upstream of a swamp area, dark water was seen at this station, so it will remain incorporated with the downstream stations for this cycle.

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09R-01-PH** **Beaverdam Creek**

Location: All of Beaverdam Creek, a tributary to Diascund Reservoir.

City / County: New Kent Co

Use(s): Aquatic Life

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

During the 2012 cycle, Beaverdam Creek was assessed as not supporting of the Aquatic Life use because of pH exceedances. The exceedance rates were as follows:

2/11 at 2-BDM003.16
2/22 at 2-BDM004.12 (fully supporting)
3/11 at 2-BDM004.60
1/11 at 2-BDM005.70 (fully supporting)

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09R-02-BAC** **Diascund Creek**

Location: All of Diascund Creek from its headwaters to the Diascund Reservoir.

City / County: New Kent Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Diascund Creek was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 4/24 at the Route 628 bridge (2-DSC012.67). The TMDL is due in 2020. The exceedance rate was 3/15 during the 2012 cycle.

Diascund Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.88**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G09R-02-DO** **Diascund Creek**

Location: All of Diascund Creek from its headwaters to the Diascund Reservoir.

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Diascund Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen violation rate of 4/25 at the Route 628 bridge (2-DSC012.68). Natural conditions are suspected. During the 2012 cycle, the exceedance rates are as follows:
5/11 at 2-DSC011.33
4/27 at 2-DSC012.67
5/11 at 2-DSC014.53
4/11 at 2-DSC015.32

Diascund Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.88**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09R-02-PH** **Diascund Creek**

Location: All of Diascund Creek from its headwaters to the Diascund Reservoir.

City / County: New Kent Co

Use(s): Aquatic Life

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

During the 2012 cycle, Diascund Creek was assessed as not supporting of the Aquatic Life Use due to the following pH exceedance rates:

2/11 at 2-DSC011.33
1/28 at 2-DSC012.67 (fully supporting)
1/11 at 2-DSC014.53 (fully supporting)
2/11 at 2-DSC015.32

Diascund Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.88**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09R-03-DO** **XAL - Diascund Creek, UT**

Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XAL was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/11 at 2CXAL000.15.

XAL - Diascund Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G09R-03-PH** **XAL - Diascund Creek, UT**

Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co

Use(s): Aquatic Life

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

During the 2012 cycle, XAL was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2/11 at 2CXAL000.15.

XAL - Diascund Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09R-04-DO** **XAK - Diascund Creek, UT**

Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XAK was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 2CXAK000.08.

XAK - Diascund Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.91**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09R-05-DO** **XAJ - Diascund Creek, UT**

Location: Unnamed tributary from its headwaters to its mouth at Diascund Creek

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XAJ was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 2CXAJ000.69.

XAJ - Diascund Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.19**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G09R-06-BAC** **XAH - Beaverdam Creek, UT**

Location: Unnamed tributary from its headwaters to its mouth at Beaverdam Creek

City / County: New Kent Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, XAH was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/6 at 2CXAH000.35.

XAH - Beaverdam Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.23**

Sources:

Non-Point Source Source Unknown

James River Basin

Cause Group Code: **G09R-06-DO** **XAH - Beaverdam Creek, UT**

Location: Unnamed tributary from its headwaters to its mouth at Beaverdam Creek

City / County: New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, XAH was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/8 at 2CXAH000.35.

XAH - Beaverdam Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.23**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G10E-05-EBEN** **James River Mainstem - Chickahominy River to Hog Point**

Location: This cause encompasses the James River Mainstem, from the confluence with Chickahominy River (coincident with the watershed G10 line, at approximately RM 48.40) downstream to line between Hog Pt. and mouth College Creek on the north shore of the James River. CBP segment JMSOH.

City / County: Isle Of Wight Co James City Co Newport News City Surry Co Williamsburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. Also listed impaired in 2004 IR based on CBP-BIBI probabilistic estuarine benthic assessment. This segment was previously included (2004 IR) in TMDL ID: VAT-G10E-05. The TMDL due date is carried from the previous 2004 IR impairment identification date.

James River Mainstem - Chickahominy River to Hog Point **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**26.972**		

Sources:

Source Unknown

James River Basin

Cause Group Code: G10E-06-BAC **College Creek**

Location: This cause encompasses College Creek, from the end of tidal waters downstream to mouth (confluence with James River). North shore tributary to James River, located NE of Jamestown Isl. And west of Kingsmill area, in James City Co. CBP segment JMSOH.

City / County: James City Co Williamsburg City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data from stations 2-CLG000.23 (5 viol. / 34 obs.). TMDL due date is 2018. TMDL ID = VAT-G10E-06.

College Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.568**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G10R-01-BAC** **College Run**

Location: This cause encompasses College Run, from the convergence of the two upstream branches downstream to the confluence with the James River at Cobham Bay. Located north of Chippokes Plantation State Park, tributary to Cobham Bay (Surry County, PRO station).

City / County: Surry Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired due to exceedance of the criteria for Fecal Coliform bacteria (2 violates / 8 obs.). Need new data.

College Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.39**

Sources:

Source Unknown

James River Basin

Cause Group Code: G10R-02-BEN **Powhatan Creek**

Location: This cause encompasses Powhatan Creek, from the confluence with Long Hill Swamp and Chisel Run downstream to the beginning of tidal waters. Located west of the Five Forks area. North of Jamestown Island, north shore tributary to the James River.

City / County: James City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained from previous IR cycles, assessment is based on the stream's benthic population as measured by DEQ's Benthic-Macroinvertebrate Bioassessments program at station 2-POW006.77. Benthic data assessment (Spring - 2000 and Fall - 2000) resulted in a moderate impairment rating for this station.

Powhatan Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.35**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G10R-03-BAC** **Dark Swamp, UT (XHC)**

Location: The unnamed tributary XHC in its entirety.

City / County: Surry Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, the unnamed tributary to Dark Swamp is impaired of the Recreation Use due to an E. coli exceedance rate of 4/17 at 2-XHC000.12, which is located approx 0.6 miles downstream of the Surry WWTF.

Dark Swamp, UT (XHC) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.30**

Sources:

Agriculture	Municipal Point Source Discharges	Source Unknown

James River Basin

Cause Group Code: **G10R-03-DO** **Dark Swamp, UT (XHC)**

Location: The unnamed tributary XHC in its entirety.

City / County: Surry Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2010 cycle, the unnamed tributary to Dark Swamp was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at 2-XHC000.12, which is located approx 0.6 miles downstream of the Surry WWTF. The exceedance rate was 5/22 during the 2012 cycle.

Dark Swamp, UT (XHC) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.30**

Sources:

Agriculture	Municipal Point Source Discharges	Natural Conditions - Water Quality Standards Use Attainability Analyses Needed	Source Unknown

James River Basin

Cause Group Code: **G10R-04-BAC** **Unnamed tributary to Mill Creek**

Location: This cause encompasses the Unnamed tributary to Mill Creek. Located N of Lake Powell, between Jamestown Isl. and City of Williamsburg.

City / County: James City Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on Ecoli data from Station 2-XZK000.06 with 11 viol / 12 obs.

Unnamed tributary to Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.21**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11E-16-SF2** **Pagan River - Upstream of Chalmers Point**

Location: Described in VDH Notice and Description of Shellfish Condemnation.

City / County: Isle Of Wight Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfish Use is not supported based on the DSS restricted condemnation # 061-064 A (effective date 20081212). In the 2010 Assessment the Shellfish Use was removed in error based on the GIS polygon for Pagan River was referenced as administrative closure. The Pagan SF impairment is not nested within the bacteria impairment covered under TMDL (35579) 'Pagan River & Jones Creek', EPA approved 2/12/2008.

Pagan River - Upstream of Chalmers Point **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.178**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11E-18-SF** **Tylers Beach Boat Basin**

Location: Described in VDH Notice and Description of Shellfish Condemnation # 060-206 B. From end of tidal waters downstream to mouth. Located in the Bailey Beach area. Adjacent to the James River. Opposite Mulberry Island. NW corner of Burwell Bay. CBP segment JMSMH.

City / County: Isle Of Wight Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS shellfish condemnation # 060-206 B. 1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-18.

Tylers Beach Boat Basin **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.003**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G11E-20-BAC** **James River - Hilton Beach Area**

Location: This cause encompasses the north shore James River. NW of James River Bridge. Mainstem along north shoreline beach in Hilton Village area.

City / County: Newport News City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data from the VDH-Beach station VA747818 (3 viol. / 20 Geo-mean obs.) along with multiple swimming advisories between the years 2005-2010.

James River - Hilton Beach Area **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.110**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11L-01-CU** **Lee Hall Reservoir**

Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Copper / 5A

The Aquatic Life and Wildlife Uses are impaired based on exceedance of the DEQ copper (acute) criteria as reported from a USGS 2002 special study. Cu exceedances include 0204279210 (4 violates), 0204279224 (1 violates), 0204279230 (4 violates) and 0204279240 (4 violates).

Lee Hall Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:		**580.12**	

Sources:

Municipal (Urbanized High Density Area) Source Unknown

James River Basin

Cause Group Code: **G11L-01-HG** **Lee Hall Reservoir**

Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Fish Consumption

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

The Fish Consumption Use is impaired based on fish tissue metals data collected from 2005. The Mercury impairment was found in Largemouth Bass.

Lee Hall Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**290.06**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11L-01-PCB** **Lee Hall Reservoir**

Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis. Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on fish tissue data collected from 2005. The PCB impairment was found in Carp and Largemouth Bass.

Lee Hall Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**290.06**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11L-02-DO** **Lone Star Lake G**

Location: This cause encompasses the entirety of Lone Star Lake G. Upstream impounded portions of Chuckatuck Creek. Pond north and adjacent to Chuckatuck Creek. Water supply system composed of flooded borrow pits. Suffolk PWS component. Crane Lake.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. DO exceedance rate is 22.2 % (8 violates/36 obs.). DEQ monitoring station 2-LSL000.04 for Lone Star Lake G (Crane Lake)

Lone Star Lake G **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**89.61**	

Sources:

Source Unknown

James River Basin

Cause Group Code: G11L-03-DO **Lone Star Lake I**

Location: This cause encompasses the entirety of Lone Star Lake I. Upstream impounded portions of Chuckatuck Creek. Pond south and adjacent to Chuckatuck Creek. Water supply system composed of flooded borrow pits. Suffolk PWS component. Butler Lake.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Station 2- LSL000.20 has a violation rate of 20.5 % (7 violates / 34 obs.). Lone Star Lake I monitoring station 2-LSL000.20 (Butler Lake).

Lone Star Lake I **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**33.08**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11L-03-TP** **Lone Star Lake I**

Location: This cause encompasses the entirety of Lone Star Lake I. Upstream impounded portions of Chuckatuck Creek. Pond south and adjacent to Chuckatuck Creek. Water supply system composed of flooded borrow pits. Suffolk PWS component. Butler Lake.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Phosphorus (Total) / 5A

The Aquatic Life Use is impaired based on total phosphorus concentrations below the DEQ minimum allowable criteria. Lone Star Lake I pooled nutrient results: 0 viol /2 obs Chla & 2 viol/ 2 obs TP 2004, 2008. Both nutrients are assessed since algaecide was applied during the monitoring year. Exceedance of either criterion (Chla or TP) during the monitoring will determine the lake impaired for nutrients.

Lone Star Lake I **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**33.08**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11L-04-DO** **Lone Star Lake F**

Location: This cause encompasses the entirety of Lone Star Lake F. Upstream impounded portions of Chuckatuck Creek. Most southeast pond. Water supply system composed of flooded borrow pits. Suffolk PWS component. Crystal Lake.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. DO exceedance rate is 29.2 % (12 violates/ 41 obs.).

Lone Star Lake F **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**18.69**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11R-02-BEN** **Chuckatuck Creek**

Location: This cause encompasses Chuckatuck Creek, from the confluence of unnamed tributary (downstream of Rt 600) downstream to confluence of unnamed tributary (downstream of Rt 602, below BIO station @ 2-CKT005.72).Riverine portion southwest of Longview.

City / County: Isle Of Wight Co Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on a moderately impaired rating for freshwater benthic bioassessment. DEQ Streams Benthic-Macroinvertebrate Bioassessments station @ 2-CKT005.72 (Benthic rating of moderate impairment recorded Spring 2000 and Fall 2000]. This benthic impairment is retained from listing under previous IR reports.

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

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11R-03-BAC** **Champion Swamp**

Location: This cause encompasses a portion of Champion Swamp. Located southwest of Town of Smithfield. Western tributary to Cypress Creek. Portion of lower Champion Swamp, from split of stream upstream of State Hwy 620 downstream to the start of tidal waters in downstream Cypress Creek past pipeline marker on Topo.

City / County: Isle Of Wight Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impairment is retained (2 violates / 2 observations) based on exceedance of the DEQ Ecoli bacteria instantaneous maximum criteria measured at DEQ biomonitoring station 2-CPN004.81.

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

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11R-03-BEN** **Champion Swamp**

Location: This cause encompasses a portion of Champion Swamp. Located southwest of Town of Smithfield. Western tributary to Cypress Creek. Portion of lower Champion Swamp, from split of stream upstream of State Hwy 620 downstream to the start of tidal waters in downstream Cypress Creek past pipeline marker on Topo.

City / County: Isle Of Wight Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on freshwater benthic bioassessment IM [SI: S&F-07; MI: S-08&09; NI: F-05,08,09] at DEQ station 2-CPN004.81.

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

Sources:

Source Unknown

James River Basin

Cause Group Code: **G11R-04-BAC** **Pagan River (including Wrenns Millpond)**

Location: This cause encompasses Riverine portion of Pagan River beginning at the confluence of Warren Creek and in eastern trib. Proceeding downstream (including Wrenns Millpond) and downstream of pond to confluence with tidal waters.

City / County: Isle Of Wight Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on (7 viol / 39 obs.) based on Ecoli bacteria data meeting the applicable criteria monitored at DEQ (AQM) monitoring station 2-PGN010.07.

Pagan River (including Wrenns Millpond) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.30**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G12L-01-DO** **Lake Cahoon**

Location: This cause encompasses the entirety of Lake Cohoon. Southeast of Myrtle. West and upstream of Lake Meade, (portion of the headwater impoundment system of the Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. DEQ Monitoring Stations 2-LCN000.20, 2-LMD004.35, and 2-LMD005.55. Pooled DO data violation rate 31.2 % (20 violates/ 64 obs.).

Lake Cahoon **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**454.16**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G12L-02-DO** **Lake Meade**

Location: This cause encompasses the entirety of Lake Meade. Northwest of City of Suffolk. Headwater impoundments of Nansemond River. Downstream receptor of Lakes Cohoon & Kilby. Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO data is impaired with a violation rate of 32.2 % (77 violates/ 239 obs.).

Lake Meade **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**489.61**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G12L-02-TP** **Lake Meade**

Location: This cause encompasses the entirety of Lake Meade. Northwest of City of Suffolk. Headwater impoundments of Nansemond River. Downstream receptor of Lakes Cohoon & Kilby. Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Phosphorus (Total) / 5A

The Aquatic Life Use is impaired based on the Lake Meade pooled nutrient results: 2 viol / 2 obs TP 2007, 2009 (IM); Nutrients Impaired -Assess TP since algaecide application.

Lake Meade **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**489.61**	

Sources:

Source Unknown

James River Basin

Cause Group Code: G12L-03-CHLA **Speights Run Lake**

Location: This cause encompasses the entirety of Speights Run Lake. Northwest of Suffolk Municipal Airport. Southwest of Lake Kilby. Most southwest branch and upstream of Lake Kilby/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Chlorophyll-a / 5A

The Aquatic Life Use impairment is retained based on chlorophyll a concentrations below the DEQ minimum allowable criteria from 2010. Speights Run 2012 pooled nutrients results: 1 viol / 2 obs Chla 2009, 2008 (IM); Chla Assessed IM (no algaecide application).

Speights Run Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**117.81**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G12L-03-DO** **Speights Run Lake**

Location: This cause encompasses the entirety of Speights Run Lake. Northwest of Suffolk Municipal Airport. Southwest of Lake Kilby. Most southwest branch and upstream of Lake Kilby/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO violation rate is 42.8% (39 violates/ 91 obs.).

Speights Run Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**117.81**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G12L-04-DO** **Lake Kilby**

Location: This cause encompasses the entirety of Lake Kilby. Northwest of Suffolk Municipal Airport. South of Pitchkettle Creek. Most southwest branch of Lake Kilby/Pitchkettle Creek/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO data violation rate is 69.4 % (25 violates/ 36 obs.).

Lake Kilby **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**200.03**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G13E-07-PH** **Shingle Creek, Tributary to Nansemond River**

Location: From end of tidal waters (0.2 mi upstream of Portsmouth Blvd) downstream to Nansemond River. Headwaters connect to canals (Jericho Ditch) in Dismal Swamp. NE of Suffolk, near Rt 642. CBP segment JMSMH.

City / County: Suffolk City

Use(s): Aquatic Life

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

The Aquatic Life Use is impaired (TMDL ID = VAT-G13E-07) based on a site specific failure to meet the minimum pH criteria.(4.0 SU) at station 2-SGL001.00 (8/36).

Shingle Creek, Tributary to Nansemond River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.039**		

Sources:

Natural Sources	Source Unknown

James River Basin

Cause Group Code: **G14L-01-DO** **Lake Burnt Mills**

Location: This cause encompasses the entirety of Lake Burnt Mills. West of Chuckatuck. Upper northwest portion of Western Branch Reservoir system. Upstream of Rt 603. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO exceedance rate 40.4% (17 violates/ 42 obs.).

Lake Burnt Mills **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**637.99**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G14L-02-DO** **Western Branch Reservoir**

Location: This cause encompasses the entirety of Western Branch Reservoir. West of Chuckatuck. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO violation rate is 22.0 % (62 violates/ 281 obs.).

Western Branch Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**1,205.37**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G14L-02-TP** **Western Branch Reservoir**

Location: This cause encompasses the entirety of Western Branch Reservoir. West of Chuckatuck. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Phosphorus (Total) / 5A

The Aquatic Life Use is impaired based on pooled nutrient results: 2 viol/ 2 obs Chla & TP 2007,2009 (IM); (algaecide application).

Western Branch Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**1,205.37**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **G14L-03-DO** **Lake Prince Reservoir**

Location: This cause encompasses the entirety of Lake Prince Reservoir. Northwest of Suffolk, south of Town of Indika. Southwest branch of Western Branch Reservoir system. Upstream of Western Branch Reservoir. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co Norfolk City Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO exceedance rate is 31.8 % (59 violates / 185 obs.).

Lake Prince Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**708.85**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G14R-01-BEN** **Carbell Swamp - Upper**

Location: This cause encompasses the upper portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on benthic impairment as measured at the DEQ (BIO) freshwater benthic bioassessment monitoring station @ 2-CRL004.04 (2005 - 2009). Rating for freshwater benthic bioassessment [Benthic IM [MI: S-08 &09; SI: F-05&08; NI: F-06 &09] DEQ (BIO) freshwater benthic bioassessment monitoring station @ 2-CRL004.04.

Carbell Swamp - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.55**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G14R-01-PH** **Carbell Swamp - Upper**

Location: This cause encompasses the upper portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co Norfolk City

Use(s): Aquatic Life

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

The Aquatic Life Use is impaired based on pH concentrations below the DEQ minimum criteria (6.0 SU). DEQ freshwater benthic bioassessment monitoring station @ 2-CRL004.04 (2 violates / 5 observations).

Carbell Swamp - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.55**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **G14R-02-BAC** **Carbell Swamp - Lower**

Location: This cause encompasses the lower portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church), including confluent trib. at station originating from the NW. Begins at Branch & Joyner Millpond downstream to joining Lake Prince. Entire watershed is a portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co Norfolk City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on exceedance of the Ecoli bacteria instantaneous criteria (4 violates / 31 obs.) as monitored at the DEQ monitoring station 2-CRL001.83.

Carbell Swamp - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.86**

Sources:

Source Unknown

James River Basin

Cause Group Code: **G14R-02-DO** **Carbell Swamp - Lower**

Location: This cause encompasses the lower portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Lower segment of swamp. Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO concentrations below the DEQ minimum criteria (6 violates /17 obs.) at station 2-CRL001.83.

Carbell Swamp - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.86**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G15E-01-01-TCDD** **Elizabeth River Southern Branch and its tidal tributaries. CBP segment SBEMH.**

Location: This cause encompasses the entirety of the Southern Branch Elizabeth River and its tidal tributaries.

City / County: Chesapeake City Norfolk City Portsmouth City

Use(s): Fish Consumption

Cause(s) /
VA Category: Dioxin (including 2,3,7,8-TCDD) / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory within the Southern Branch Elizabeth River and its tidal tributaries for Dioxin in Blue Crab hepatopancreas contamination, issued by the VDH 1/23/09.

Elizabeth River Southern Branch and its tidal tributaries. CBP segment SBEMH.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Dioxin (including 2,3,7,8-TCDD) - Total Impaired Size by Water Type:	**3.137**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G15E-02-04-EBEN** **Eastern Branch Elizabeth River, Broad Creek and Unsegmented estuaries in EBEMH**

Location: This cause encompasses the entirety of the Eastern Branch Elizabeth River and Broad Creek. Located between Carolanne Farms and Tanglewood areas. Upper Eastern Branch, from headwaters to confluence of Broad Creek (RM 4.0). CBP segment EBEMH. BIBI segment EBEMHa.

City / County: Chesapeake City Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. This segment was previously included (2004 IR) in TMDL ID: VAT-G15E-01-03. The TMDL due date is carried from the previous 2004 IR impairment identification date.

Eastern Branch Elizabeth River, Broad Creek and Unsegmented estuaries in EBEMH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**2.345**		

Sources:

Contaminated Sediments Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **G15E-03-01-EBEN** **Elizabeth River Mainstem**

Location: This cause encompasses the entirety of the Elizabeth River Mainstem. CBP segment SBEMH. BIBI segment ELIMHa.

City / County: Norfolk City Portsmouth City

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. This segment was previously included (2004 IR) in TMDL ID: VAT-G15E-01-09. The TMDL due date is carried from the previous 2004 IR impairment identification date. Previous Use ID = VAT-G15E-01-09 for benthic impairment. This Cause Code (G15E-03-01-EBEN) relates to all benthic impairments within the Elizabeth River system.

Elizabeth River Mainstem **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**7.968**		

Sources:

Contaminated Sediments Source Unknown

James River Basin

Cause Group Code: **G15E-04-02-EBEN** **Western Branch Elizabeth River and Unsegmented estuaries in WBEMH**

Location: This cause encompasses the entirety of the Western Branch Elizabeth River and its tributaries. CBP segment WBEMH. BIBI segment WBEMHa.

City / County: Chesapeake City Portsmouth City

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use impairment for benthics is retained. For 2012 there is insufficient data to assess benthics, therefore the 2010 impairment will be retained. For 2010, the Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The benthic source/stressor tool yielded sediment contaminants as the suspected source for the impairment.

Western Branch Elizabeth River and Unsegmented estuaries in WBEMH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**2.728**		

Sources:

Source Unknown

James River Basin

Cause Group Code: G15E-06-01-BAC **Hampton River**

Location: This cause encompasses the entirety of Hampton River (less the Mill Point Creek Beach Area). Located between Cherry Acres & East Hampton areas of Hampton, north shore tributary to Hampton Roads Harbor.

City / County: Hampton City Newport News City Norfolk City Portsmouth City

Use(s): Recreation

Cause(s) / VA Category: Enterococcus / 5A

The Recreation Use is assessed as impaired based on exceedance of the instantaneous criteria for Enterococcus bacteria at station 2-HAI000.64 (3 violates / 12 obs.). The impairment is added for the 2010 IR under ID = VAT-G15E-06-01. TMDL due date is 2022.

Hampton River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.551**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G15E-06-02-BAC** **James River - Anderson Park Beach**

Location: This cause encompasses the area located NE of Newport News Point, along the northern shore of Hampton Roads Harbor. CBP segment JMSPH.

City / County: Hampton City Newport News City Norfolk City Portsmouth City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on the Enterococcus bacteria data from the VDH-Beach station VA523358 (2 viol. /21 Geo-mean obs.) and swimming advisories.

James River - Anderson Park Beach **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.010**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **G15E-06-03-BAC** **Hoffler Creek**

Location: This cause encompasses the entirety of Hoffler Creek. Located along south shore of Hampton Roads Harbor. Entirety of Hoffler Creek. South shore trib to James River west of Craney Isl. (at mouth of Elizabeth R). CBP segment JMSMH.

City / County: Suffolk City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is assessed as impaired based on exceedance of the instantaneous criteria for Enterococcus bacteria at station 2-HOF000.44 (10 violate / 21 obs.). The impairment is added for the 2008 IR under ID = VAT-G15E-06-03. TMDL due date is 2020.

Hoffler Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.057**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **H01R-01-HG** **James River**

Location: James River from Balcony Falls Dam downstream to Holcomb Rock Dam

City / County: Amherst Co Bedford Co Rockbridge Co

Use(s): Fish Consumption

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

This initial 2010 303(d) Listing is based on 2005 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/info/mercury.html for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

2-JMS279.41 (Blue Ridge Parkway Bridge) - The initial 2010 303(d) Listing is based on 2005 fish tissue analysis where mercury (Hg) is found in two species; smallmouth bass at 0.46 ppm and largemouth bass at 0.40 ppm; each in excess of the new WQS TV based 0.3 ppm. There are no additional data within the 2012 data window.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**15.55**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H03R-01-BEN** **Blackwater Creek**

Location: Blackwater Creek from the confluence of Tomahawk and Burton Creeks to the mouth at the James River.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-BKW000.40
2007 Bio - IM
Habitat assessment scores at this site were low for epifaunal substrate, sediment deposition, bank stability and bank vegetative protection. Blackwater Creek is an urban stream with many non-point sources of pollution, in addition to scouring and high sediment loads during rain events. It has a uniform stream bottom with little instream habitat.
2-BKW004.87
2007, 2009-2010 Bio - IM
This section of Blackwater Creek has an excellent riparian zone for an urban area, but has poor bank stability, increased embeddedness and sediment deposition, and marginal epifaunal substrate.

Blackwater Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.30**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H03R-03-BEN** **Ivy Creek**

Location: Ivy Creek mainstem from its headwaters downstream to its confluence with Blackwater Creek.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station IDs:
2-IVA000.05
2007 - IM - Ivy Creek had very low flow during the spring 2007 sampling event. Ivy Creek is an urban stream with obvious dumping of trash and debris, including bricks, tires, and metal objects. The upstream portion of the sample reach has homes, lawns, and construction present up to the edges of the banks.
2-IVA005.75
2007 - FS
Ivy Creek flows through a city park and has high sediment deposition, however, satellite imagery shows that much of the upstream riparian zone is wooded or consists of fields and low intensity residential areas. Additional development will threaten the biological integrity of this stream.
2-IVA012.13
2007 - IM
Heavy, fresh sediment deposition noted in stream at time of sampling. Available habitat was heavily embedded in sediment. This watershed is being rapidly developed and will likely degrade further due to increased runoff from new neighborhoods.

Ivy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**20.80**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H03R-04-PCB** **James River**

Location: The James River from Big Island dam (below Blue Ridge Parkway) downstream to the I-95 bridge James River Bridge in Richmond including its tributaries Hardware River up to Rt. 6 bridge and Slate River up the Rt. 676 bridge.

City / County:					
	Albemarle Co	Amherst Co	Appomattox Co	Bedford Co	Buckingham Co
	Campbell Co	Chesterfield Co	Cumberland Co	Fluvanna Co	Goochland Co
	Henrico Co	Lynchburg City	Nelson Co	Powhatan Co	Richmond City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The rivers are considered impaired of the Fish Consumption Use due to a VDH fish consumption restriction for PCBs. No more than two meals/month of gizzard shad, carp, American eel, flathead catfish, or quillback carpsucker are recommended. Visit the VDH website for more details:
http://www.vdh.state.va.us/HHControl/fishingadvisories.asp

A portion of the segment was first listed in the 2004 segment but was expanded during the 2006 cycle based on the current condemnation (12/13/2004). The original 2016 TMDL due date was maintained.

The impairment is based on the results of DEQ's fish tissue monitoring program which indicated PCB exceedances at multiple stations including 2-JMS157.28, 2BJMS118.99, 2-JMS127.50, 2CJMS110.00 and 2-JMS258.54 with PCBs in 4 Species, 2-JMS213.00 (2005 FT/Sediment) with PCBs in 3 Species and 2-JMS176.63 (2005 FT/Sediment) with PCBs in 2 Species.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**201.78**

Sources:

Contaminated Sediments Source Unknown

James River Basin

Cause Group Code: **H03R-05-BEN** **Burton Creek**

Location: Burton Creek from its headwaters to its mouth on Tomahawk Creek.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-BUN000.04 - 2007 Bio Station
Burton Creek suffers from heavy algal growth in addition to fine sediments covering the stream bottom. Habitat assessment scores were low for bank stability and bank vegetative protection. An abundance of trash was noted in the stream at the time of sampling.

Burton Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.45**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H03R-06-BEN** **Judith Creek**

Location: Judith Creek from its headwaters to the confluence with the James River.

City / County: Bedford Co Lynchburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-JTH001.52 - 2008-2010 Bio - FS
2-JTH006.53 - 2008 Bio - IM
This stream is small and has unstable banks with little vegetative protection.

Judith Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.54**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H03R-07-BEN** **Tomahawk Creek**

Location: Tomahawk Creek from its headwaters to its confluence with Burton Creek.

City / County: Lynchburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-THK000.03 - 2007,2009 Bio - IM
Tomahawk Creek is an urban stream with highly embedded substrate and unstable banks.

Tomahawk Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.89**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H05R-01-BAC** **James River**

Location: The confluence with Wreck Island Creek to Tye River

City / County: Amherst Co Appomattox Co Buckingham Co Campbell Co Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-JMS229.14 (Ambient, Trend)
E. coli - 5/40 Violation Rate

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.21**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H05R-03-BAC** **Beaver Creek**

Location: Beaver Creek mainstem from its mouth on the James River upstream to an unnamed tributaries mouth at the Rt. 501 Bridge.

City / County: Campbell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-BCR000.20 (Ambient)
E. coli - 3/24 Violation Rate

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.50**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H05R-05-BAC** **Stonewall Creek**

Location: Stonewall Creek from its headwaters to its mouth on the James River

City / County: Appomattox Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-STW001.72 (Ambient)
E. coli - 2/9 Violation Rate

Stonewall Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.04**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H05R-06-BAC** **Little Beaver Creek**

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

City / County: Campbell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-LTJ000.16 (James River TMDL Site)
E. coli - 3/12 Violation Rate

Little Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.83**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H05R-07-BAC** **Walkers Ford Creek**

Location: Walkers Ford Creek from its headwaters to its mouth on the James River.

City / County: Amherst Co Appomattox Co Buckingham Co Campbell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-WKF000.72 (Ambient)
E. coli - 2/12 Violation Rate

Walkers Ford Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.24**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H05R-08-BAC** **Beck Creek**

Location: Beck Creek from the confluence of the North and South Forks of Stovall Creek to its mouth.

City / County: Amherst Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-BEK000.10 (Ambient)
E. coli - 6/15 Violation Rate

Beck Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.08**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H05R-09-BAC** **Partridge Creek**

Location: Partridge Creek from its headwaters to the mouth.

City / County: Amherst Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-PDG000.12 (Ambient)
E. coli - 5/15 Violation Rate

Partridge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.01**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H06R-01-BAC** **Wreck Island Creek**

Location: Wreck Island Creek from its headwaters to its mouth on the James River.

City / County: Appomattox Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station IDs:
2-WIC000.40 (Ambient)
E. coli - 4/24 Violation Rate
2-WIC012.60 (James River TMDL Monitoring)
E. coli - 6/12 Violation Rate

Wreck Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.34**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H06R-01-BEN** **Phelps Branch**

Location: Phelps Branch from the State Route 659 crossing to its mouth on North Creek.

City / County: Appomattox Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station IDs:
2-PLP002.08 (2008 Bio)
IM
Incised stream. Past cattle access likely, though they are currently fenced out of stream. Good riffles but algae covered most rocks. High rate of sediment deposition.

Phelps Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.07**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H06R-02-BAC** **North Creek**

Location: North Creek from its headwaters to its confluence with Wreck Island Creek.

City / County: Appomattox Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-NOT001.59 (James River TMDL Monitoring)
E. coli - 10/12 Violation Rate

North Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.80**

Sources:

Source Unknown

James River Basin

Cause Group Code: H07R-01-BAC **Bent Creek**

Location: Bent Creek mainstem from its mouth on the James River upstream to its headwaters.

City / County: Appomattox Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-BTC000.16 (Ambient)
E. coli - 6/21 Violation Rate

Bent Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.46**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H08R-01-BAC** **Davids Creek**

Location: David Creek from the confluence with Stevens Run to the mouth.

City / County: Appomattox Co Buckingham Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-DVD000.23 (Ambient)
E. coli - 4/15 Violation Rate

Davids Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.19**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H09R-01-PH** **Montebello Spring Branch**

Location: Montebello Spring Branch from the spring downstream to its confluence with Mill Creek. (Start Mile: .01 End Mile: 0.00 Total Impaired Size: .01 Miles)

City / County: Nelson Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: 2-XXM000.01 (2 violations of 3 samples for pH in 2008. This site was not monitored in the 2012 cycle and the assessment will carry forward to the 2012 cycle). Initial Listing Date: 2004.

Montebello Spring Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.10**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H09R-02-BAC** **Hat Creek**

Location: Hat Creek from the headwaters downstream to its confluence with the Tye River. (Start Mile: 9.58 End Mile: 0.00 Total Impaired Size: 9.58 Miles)

City / County: Nelson Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment remains impaired due to violations of the e-coli bacteria WQS at station: 2-HAT000.14 (8 violations of 18 samples for e-coli). Initial Listing Date: 2004.

Hat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.58**

Hat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.58**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H09R-02-BEN** **Hat Creek**

Location: Hat Creek from the headwaters downstream to its confluence with the Tye River. (Start Mile: 9.58 End Mile: 0.00 Total Impaired Size: 9.58 Miles)

City / County: Nelson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-HAT000.14 (Impaired for VSCI). Initial Listing Date: 2012.

Hat Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.58**

Sources:

Non-Point Source

James River Basin

Cause Group Code: H09R-03-BAC **Tye River**

Location: Tye River from its confluence with Hat Creek downstream to its confluence with the James River. (Start Mile: 24.26 End Mile: 0.00 Total Impaired Size: 24.26 Miles) This segment was lengthened in 2012 as a segment upstream was not supporting) (Added 8.32 miles)

City / County: Amherst Co Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-TYE020.67 (5 violations of 36 for e-coli); 2-TYE008.77 (2 violations of 14 samples for e-coli) and 2-TYE000.30 (2 violations of 8 samples for e-coli). Initial Listing Date: 2004. Upstream segment added in 2012.

Tye River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**24.26**

Tye River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.61**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H09R-04-BEN** **Tye River**

Location: Tye River from its confluence with Silver Creek downstream to its confluence with Hat Creek. (Start Mile: 31.84 End Mile: 24.26 Total Impaired Size: 7.58 Miles)

City / County: Nelson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-TYE028.94 (Impaired for VSCI).
Initial Listing Date: 2012

Tye River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.58**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H10R-01-BAC** **Piney River**

Location: Piney River from a point 13.3 miles upstream of the Tye River downstream to its confluence with the Tye River. (Start Mile: 13.30 End Mile: 0.00 Total Impaired Size: 13.30 Miles)

City / County: Amherst Co Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-PNY005.29 (9 violations of 61 for e-coli) and 2-PNY009.39 (2 violations of 12 samples for e-coli). Initial Listing Date: 2008; This segment was lengthened in 2010

Piney River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.30**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H11L-01-DO** **Stonehouse Creek Reservoir**

Location: Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
2-SHS001.00 (Lake Station)
DO - 4/29 Violation Rate

Stonehouse Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**33.53**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **H11L-01-PH** **Stonehouse Creek Reservoir**

Location: Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co

Use(s): Aquatic Life

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

Station ID:
2-SHS001.00 (Lake Station)
pH - 14/89 Violation Rate

Stonehouse Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**33.53**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **H11L-02-DO** **Thrashers Creek Reservoir**

Location: Thrashers Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
2-TRH000.40 (Lake Station)
DO - 5/34 Violation Rate

Thrashers Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**31.96**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **H11L-02-PH** **Thrashers Creek Reservoir**

Location: Thrashers Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co

Use(s): Aquatic Life

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

Station ID:
2-TRH000.40 (Lake Station)
pH - 22/103 Violation Rate

Thrashers Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**31.96**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **H11R-01-BAC** **Buffalo River**

Location: Buffalo River from the confluence of Franklin Creek to the confluence with Rutledge Creek

City / County: Amherst Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station IDs:
2-BUF013.53 (Ambient)
E. coli - 2/12 Violation Rate
2-BUF023.21 (Ambient)
E. coli - 5/27 Violation Rate

Buffalo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.38**

Sources:

Source Unknown

James River Basin

Cause Group Code: H11R-01-BEN **Long Branch**

Location: Long Branch from its headwaters to the mouth at Buffalo River

City / County: Amherst Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-LOB000.37 (2001 Probabilistic Monitoring)
IM - Seasonal difference noted for biological sampling.
2009-2010 Bio TMDL Sampling
This stream has embedded riffles, noticeable sediment deposition, and is bordered on one side by a cow pasture.

Long Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.40**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H11R-02-BAC** **Mill Creek**

Location: Mill Creek from its headwaters to the backwaters of Mill Creek Reservoir.

City / County: Amherst Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-MIN002.25 (Citmon Follow-up)
E. coli - 9/19 Violation Rate

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

Sources:

Source Unknown

James River Basin

Cause Group Code: **H11R-02-BEN** **Buffalo River**

Location: Buffalo River from its confluence with Long Branch downstream to its confluence with Franklin Creek.

City / County: Amherst Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-BUF026.43 (Bio)
IM - Algae dominant, potential nutrient enrichment. Pasture on left bank, agricultural watershed.

Buffalo River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.96**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H12R-01-BAC** **Rutledge Creek**

Location: Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.

City / County: Amherst Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-RTD003.08 (Ambient)
E. coli - 4/12 Violation Rate

Rutledge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.16**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H12R-01-BEN** **Rutledge Creek**

Location: Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.

City / County: Amherst Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-RTD003.08 (Bio)
IM - 2007 Bio
This site was highly embedded with unstable banks and poor bank vegetative protection. Available habitat was covered with periphyton and filamentous algae.

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

Sources:

Source Unknown

James River Basin

Cause Group Code: **H12R-03-BAC** **Buffalo River**

Location: Rocky Creek to its mouth on the Tye River.

City / County: Amherst Co Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-BUF002.10 (Ambient)
E. coli - 6/48 violation rate

Buffalo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.78**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H12R-04-BAC** **Turner Creek**

Location: Turner Creek from its headwaters to the mouth on the Buffalo River

City / County: Amherst Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-TNR000.25 (Ambient)
E. coli - 3/9 Violation Rate

Turner Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.36**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H13R-01-BAC** **Rucker Run**

Location: Rucker Run from the headwaters downstream to its confluence with the Tye River. (Start Mile: 18.26 End Mile: 0.00 Total Impaired Size: 18.26 Miles)

City / County: Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment remains impaired due to violations of the e-coli bacteria WQS. Data in the 2012 cycle indicate were insufficient information status (1 violation of 6 samples) thus the listing carries forward to 2012. Initial Listing Date: 2004.

Rucker Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.26**

Rucker Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**18.26**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H14R-01-HG** **James River**

Location: James River from the Tye River to the Rockfish River

City / County: Buckingham Co Nelson Co

Use(s): Fish Consumption

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

Station ID:
2-JMS213.00 (2005 FT/Sediment)
Hg 2 Species

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**21.44**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H15R-01-BAC** **South Fork Rockfish River**

Location: South Fork Rockfish River from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 11.6 End Mile: 0.00 Total Impaired Size: 11.6 Miles)

City / County: Nelson Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RFS001.00 (3 violations of 15 samples for e-coli). Initial Listing Date: 2004.

South Fork Rockfish River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.59**

South Fork Rockfish River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.59**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H15R-02-BAC** **North Fork Rockfish River**

Location: North Fork Rockfish River from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 7.25 End Mile: 0.00 Total Impaired Size: 7.25 Miles)

City / County: Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RFN000.52 (4 violations of 12 samples for e-coli) and 2-RFN002.83 (3 violations of 11 samples for e-coli in 2010, 0 of 3 in 2012, no new data). Initial Listing Date: 2006.

North Fork Rockfish River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.25**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H15R-03-BAC** **Taylor Creek**

Location: Taylor Creek from the headwaters downstream to a major tributary above the confluence with the North Fork of Perry Creek. (Start Mile: 4.52 End Mile: 0.00 Total Impaired Size: 4.52 Miles)

City / County: Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-TLR000.50 (5 violations of 6 samples for e-coli). Initial Listing Date: 2012.

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

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H15R-03-BEN** **Taylor Creek**

Location: Taylor Creek from the headwaters downstream to a major tributary above the confluence with the North Fork of Perry Creek. (Start Mile: 4.52 End Mile: 0.00 Total Impaired Size: 4.52 Miles)

City / County: Nelson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-TLR000.03 (Impaired for VSCI) and TLR000.52 (Impaired for VSCI) Initial Listing Date: 2008.

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

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H16R-01-BAC** **Rockfish River**

Location: Rockfish River from the headwaters downstream to its confluence with Davis Creek. (Start Mile: 29.56 End Mile: 23.48 Total Impaired Size: 6.08 Miles) Mileage corrected in 2012.

City / County: Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RKF026.42 (3 violations of 12 samples for e-coli in 2010, 1 of 3 in 2012, no new data, impaired carried forward to 2012). Initial Listing Date: 2006.

Rockfish River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.98**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H16R-02-BAC** **Beaver Creek**

Location: Beaver Creek from the confluence of its two headwater branches downstream to its confluence with the Rockfish River. (Start Mile 7.30 End Mile: 0.00 Total Impaired Size: 7.30 Miles)

City / County: Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2-BVR000.83 (2 violations of 12 samples for e-coli). Initial Listing Date: 2012.

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.30**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H16R-03-BAC** **Cove Creek**

Location: Cove Creek from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 10.42 End Mile: 0.00 Total Impaired Size: 10.42 Miles)

City / County: Albemarle Co Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2-COV003.44 (7 violations of 12 samples for e-coli). Initial Listing Date: 2012.

Cove Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.42**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H16R-04-BAC** **Rockfish River**

Location: Rockfish River from its confluence with Davis Creek downstream to its confluence with Hog Creek. (Start Mile: 23.48 End Mile: 6.09 Total Impaired Size: 17.39 Miles)

City / County: Nelson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at stations: 2-RKF007.28 (2 violations of 12 samples for e-coli) and 2-RKF014.71 (2 violations of 12 samples for e-coli). Initial Listing Date: 2012

Rockfish River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.39**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H17L-01-DO** **Totier Creek Reservoir**

Location: Totier Creek Reservoir (37.23 Acres)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to violations of the dissolved oxygen WQS in the Epilimnion at station: 2-TOT001.01 (5 violations of 30 samples for dissolved oxygen). Initial Listing Date: 2012.

Totier Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**37.23**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **H17R-02-BAC** **James River**

Location: Rockfish River to Rivanna River.

City / County: Albemarle Co Buckingham Co Cumberland Co Fluvanna Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-JMS189.31 (Ambient)
E. coli - 4/35 Violation Rate
2-JMS176.63 (Ambient)
E. coli - 5/37 Violation Rate

James River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**36.86**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H17R-05-BEN** **Totier Creek**

Location: Totier Creek from the RWSA-Scottsville Public Water Intake downstream to its confluence with the James River. (Start Mile: .75 End Mile: 0.00 Total Impaired Size: .75 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthic at station: 2-TOT000.08 (Impaired for VSCI). Carries forward from 2008. Initial Listing Date: 2006.

Totier Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.73**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H20R-01-BAC** **Bear Garden Creek**

Location: Bear Garden Creek from its headwaters to its mouth on the James River.

City / County: Buckingham Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
2-BGC000.58 (Ambient)
E. coli - 2/12 Violation Rate
Delist FC for EC

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

Sources:

Source Unknown

James River Basin

Cause Group Code: **H20R-02-BEN** **North Creek**

Location: North Creek from headwaters to the first unnamed tributary confluence.

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-NOR003.59 (2007-2008 Bio)
IM - This stream has unstable banks, a high rate of sediment deposition, and substrate covered with abundant filamentous algae. The sample collected in the fall of 2008 showed improved conditions. Monitoring at this site is ongoing.

2-NOR003.28 (2007-2008 Bio)
This site is characterized by bedrock and cobble riffles that are embedded in sediment, and algae covers most of the substrate. Monitoring at this site is ongoing.
OE - Carryover TP

Ongoing benthic assessments to determine status in response to the upgrade at the Fork Union Military Academy STP. Impaired segment has changed in 2008 to reflect corrections made to station location and creek delineation. Old impairment - 1.24 miles (downstream of 2008 impairment)

North Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.25**

Sources:

Municipal Point Source Discharges

James River Basin

Cause Group Code: **H21L-01-DO** **Troublesome Reservoir**

Location: Troublesome Reservoir

City / County: Buckingham Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
2-TBM000.92 (Lake)
Dissolved Oxygen - 4/32 Violation Rate

Troublesome Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**52.68**	

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Dam or Impoundment

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H23L-02-PH** **Beaver Creek Reservoir**

Location: Beaver Creek Reservoir (Total Impaired Size: 95.54 Acres)

City / County: Albemarle Co

Use(s): Aquatic Life

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

This lake is impaired due to violations of the pH WQS at station: 2-BVR002.19 (20 violations of 46 samples for pH in 2010, this data is now outside the assessment data window for 2012, however, the impairment carries to 2012.). Initial Listing Date: 2006.

Beaver Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**95.54**	

Sources:

Atmospheric Deposition - Acidity

James River Basin

Cause Group Code: **H23R-01-BEN** **Broad Axe Run**

Location: Broad Axe Run from the headwaters downstream to its confluence with the Mechums River. (Start Mile: 1.95 End Mile: 0.00 Total Impaired Size: 1.95 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-BRX000.66 (Impaired for VSCI). Initial Listing Date: 2004.

Broad Axe Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.95**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H23R-02-BEN** **Lickinghole Creek**

Location: Lickinghole Creek from the headwaters downstream to its confluence with the Mechums River. (Start Mile: 8.46 End Mile: 0.00 Total Impaired Size: 8.46 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-LKN000.02 (Impaired for VSCI) and 2-LKN-LKN01-SW (Impaired for VSCI based on Level III benthic data from StreamWatch). Initial Listing Date: 2010.

Lickinghole Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.46**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H23R-03-BEN** **Mechums River**

Location: Mechums River from the headwaters downstream to its confluence with Lickinghole Creek. (Start Mile: 24.5 End Mile: 10.44 Total Impaired Size: 14.06 Miles)

City / County: Albemarle Co Nelson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MCM018.92 (Impaired for VSCI). Initial Listing Date: 2004.

Mechums River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.06**

Sources:

Source Unknown

James River Basin

Cause Group Code: H23R-04-BEN **Slabtown Branch**

Location: Slabtown Branch from the headwaters downstream to its confluence with Lickinghole Creek. (Start Mile: 2.33 End Mile: 0.00 Total Impaired Size: 2.33 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-SLB-SLB01-SW (Impaired for VSCI based on Level III benthic data from StreamWatch). There are no new data available for assessment in 2012, thus the impairment carries forward to 2012. Initial Listing Date: 2010

Slabtown Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.33**

Sources:

Golf Courses Non-Point Source

James River Basin

Cause Group Code: **H23R-06-BEN** **Parrott Branch X-trib**

Location: Parrott Branch X-trib from the headwaters downstream to its confluence with Parrott Branch. (Start Mile: 1.16 End Mile: 0.00 Total Impaired Size: 1.16 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XPT-XPT01-SW (Impaired for VSCI based on Level III benthic data from StreamWatch). Initial Listing Date: 2010

Parrott Branch X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.16**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H23R-07-BEN** **Spring Creek**

Location: Spring Creek from the headwaters downstream to the upper end of Lake Albemarle. (Start Mile 3.33 End Mile: 0.00 Total Impaired Size: 3.33 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-XSI-XSI01-SW (Impaired for VSCI). Initial Listing Date: 2012

Spring Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.33**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H24R-01-DO** **North Fork Moormans River**

Location: North Fork Moormans River and tributaries from the headwaters downstream to the Charlottesville Reservoir. (Start Mile: 10.97 End Mile: 0.00 Total Impaired Size: 10.97 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to violations of the dissolved oxygen WQS. This was due to two violations of the DO WQS at USGS 203143670 in the 2004 cycle. No additional data is available for assessment and this impairment must carry forward to the 2012 cycle. Initial Listing Date: 2004.

North Fork Moormans River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.96**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H24R-02-BEN** **X-trib to Doyles River**

Location: X-trib to Doyles River from the headwaters downstream to its confluence with the Doyles River. (Start Mile: 1.95 End Mile: 0.00 Total Impaired Size: 1.95 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2_XDL-XDY01-SW (Impaired for VSCI). Initial Listing Date: 2012

X-trib to Doyles River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.95**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H25R-01-BAC** **Buck Mountain Creek**

Location: Buck Mountain Creek from the headwaters downstream to its confluence with the South Fork Rivanna River. (Start Mile: 9.92 End Mile 0.00 Total Impaired Size: 9.92 Miles)

City / County: Albemarle Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-BKM002.01 (2 violations of 12 samples for e-coli). Initial Listing Date: 2010

Buck Mountain Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.92**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H25R-02-BEN** **Piney Creek X-trib**

Location: Piney Creek X-trib from its headwaters downstream to its confluence with Piney Creek. (Start Mile: 3.05 End Mile: 0.00 Total Impaired Size: 3.05 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-XPY-XPY02-SW (Impaired for VSCI). Initial Listing Date: 2012.

Piney Creek X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.05**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H26R-02-PH** **Ivy Creek**

Location: Ivy Creek from the headwaters downstream to its confluence with Little Ivy Creek. (Start Mile: 11.41 End Mile: 6.19 Total Impaired Size: 5.22 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: 2-IVC010.20 (2 violations of 6 samples for pH in 2010, 0 of 6 in 2012, no new data in 2012, thus impairment carries forward to 2012). Initial Listing Date: 2006.

Ivy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.22**

Sources:

Atmospheric Deposition - Acidity

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H26R-03-BEN** **Ivy Creek**

Location: Ivy Creek from the headwaters downstream to its confluence with the South Fork Rivanna River Reservoir. (Start Mile: 11.41 End Mile: 0.00 Total Impaired Size: 11.41 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-IVC005.19 (Impaired for VSCI) and 2-IVC010.20 (Impaired for VSCI). Initial Listing Date: 2008. (This segment was lengthened in 2010)

Ivy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.41**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H26R-04-BEN** **South Fork Rivanna River**

Location: South Fork Rivanna River from the RWSA SF Rivanna River Public Water Intake downstream to its confluence with the Rivanna River. (Start Mile: 3.38 End Mile: 0.00 Total Impaired Size: 3.38 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-RRS001.81 (Impaired for VSCI), 2-RRS-RVN31-SW (Impaired for VSCI) and 2-RRS-RVN35-SW (Impaired for VSCI). Initial Listing Date: 2010.

South Fork Rivanna River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.38**

Sources:

Dam or Impoundment	Municipal (Urbanized High Density Area)	Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H26R-05-BEN** **Powell Creek**

Location: Powell Creek from the headwaters downstream to its confluence with the South Fork Rivanna River. (Start Mile: 2.26 End Mile: 0.00 Total Impaired Size: 2.26 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-PLC001.49 (Impaired for VSCI), 2-PLC-PWL01-SW (Impaired for VSCI) and 2-PWC-PWL03-SW (Impaired for VSCI). Initial Listing Date; 2010

Powell Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.26**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H26R-06-BEN** **Naked Creek**

Location: Naked Creek from the headwaters downstream to its confluence with the South Fork Rivanna Reservoir. (Start Mile: 2.7 End Mile 0.00 Total Impaired Size: 2.7 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-NKD-NKD02-SW (Impaired for VSCI). Initial Listing Date: 2010.

Naked Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.70**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H26R-07-BEN** **South Fork Rivanna River X-trib**

Location: South Fork Rivanna River X-trib from the headwaters downstream to its confluence with the South Fork Rivanna River. (Start Mile: 1.86 End Mile: 0.00 Total Impaired Size: 1.86 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XRV-XZW01-SW (Impaired for VSCI). Initial Listing Date: 2010

South Fork Rivanna River X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.86**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H26R-08-BEN** **Fishing Creek**

Location: Fishing Creek and tributaries from the headwaters downstream to its confluence with the South Fork Rivanna Reservoir. (Start Mile: 4.96 End Mile: 0.00 Total Impaired Size: 4.96 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-FSH-FSH01-SW (Impaired for VSCI). Initial Listing Date: 2012.

Fishing Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.96**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H27R-01-BEN** **Flat Branch X-trib**

Location: Flat Branch X-trib from the headwaters downstream to its confluence with Flat Branch. (Start Mile: 2.01 End Mile: 0.00 Total Impaired Size: 2.01 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-XKL000.37 (Impaired for VSCI). Initial List Date: 2010.

Flat Branch X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.01**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H27R-02-BAC** **Swift Run**

Location: Swift Run from its confluence with Welsh Run downstream to its confluence with the North Fork Rivanna River. (Start Mile: 1.74 End Mile: 0.00 Total Impaired Size: 1.74 Miles)

City / County: Albemarle Co Greene Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-SFR000.60 (2 violations of 12 samples for e-coli). Initial Listing Date: 2010

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

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H27R-02-BEN** **Swift Run**

Location: Swift Run from its confluence with Welsh Run downstream to its confluence with the North Fork Rivanna River. (Start Mile: 1.74 End Mile: 0.00 Total Impaired Size: 1.74 Miles)

City / County: Albemarle Co Greene Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-SFR000.60 (Impaired for VSCI) and 2-SFR-SFR01-SW (Impaired for VSCI). Initial Listing Date: 2012

Swift Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.74**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H27R-03-BEN** **Preddy Creek North Branch**

Location: Preddy Creek North Branch and tributary from the headwaters downstream to its confluence with Preddy Creek. (Start Mile: 11.91 End Mile: 0.00 Total Impaired Size: 11.91)

City / County: Albemarle Co Greene Co Orange Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-PRD004.42 (Impaired for VSCI), 2-PRD006.35 (Impaired for VSCI) and 2-PRD-PRD01-SW (Impaired for VSCI). Initial Listing Date: 2010

Preddy Creek North Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.91**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H27R-05-BEN** **Marsh Run**

Location: Marsh Run from the headwaters downstream to its confluence with the North Fork Rivanna River. (Start Mile: 3.61 End Mile: 0.00 Total Impaired Size: 3.61 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MAR-XZY01-SW (Impaired for VSCI). Initial Listing Date: 2010

Marsh Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.61**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H27R-06-BEN** **Blue Run**

Location: Blue Run from the headwaters downstream to its confluence with Swift Run. (Start Mile: 7.5 End Mile: 0.00 Total Impaired Size: 7.5 Miles)

City / County: Greene Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-BLU-BLU02-SW (Impaired for VSCI). Initial Listing Date: 2012.

Blue Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.50**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H28L-01-PH** **Ragged Mountain Reservoir**

Location: Ragged Mountain Reservoir (Total Impaired Size: 70.74 Acres)

City / County: Albemarle Co

Use(s): Aquatic Life

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

This lake is impaired due to violations of the pH WQS at station: 2-XLV002.27 (14 violations of 95 samples for pH). Initial Listing Date: 2008.

Ragged Mountain Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**70.74**	

Sources:

Atmospheric Deposition - Acidity

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H28R-02-BEN** **Moores Creek**

Location: Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to the RWSA Moores Creek STP bridge. (Start Mile: 6.51 End Mile: 0.58 Total Impaired Size: 5.93 Miles)

City / County: Albemarle Co Charlottesville

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MSC000.60 (Impaired for VSCI). Initial Listing Date: 2008.

Moores Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.93**

Sources:

Municipal (Urbanized High Density Area) Non-Point Source

James River Basin

Cause Group Code: **H28R-04-BEN** **Moores Creek X-trib**

Location: Moores Creek X-trib from the headwaters downstream to its confluence with Moores Creek. (Start Mile: 1.57 End Mile: 0.00 Total Impaired Size: 1.57 Miles)

City / County: Charlottesville

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XRC001.15 (Impaired for VSCI) and 2-XRC-XRC01-SW (Impaired for VSCI). Initial Listing Date: 2006.

Moores Creek X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.57**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H28R-05-BEN** **Meadow Creek**

Location: Meadow Creek from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 4 End Mile: 0.00 Total Impaired Size: 4 Miles)

City / County: Albemarle Co Charlottesville

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MWC000.60 (Impaired for VSCI) and 2-MWC-MWC03-SW (Impaired for VSCI). Initial Listing Date: 2006.

Meadow Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.00**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H28R-07-BAC** **Schenks Branch**

Location: Schenks Branch and tributaries from the headwaters downstream to its confluence with Meadow Creek. (Start Mile: 1.13 End Mile: 0.00 Total Impaired Size: 1.13 Miles)

City / County: Charlottesville

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at stations: 2-SNK000.88 (12 violations of 12 samples for e-coli) and 2-XSN000.08 (11 violations of 12 samples for e-coli). Initial Listing Date: 2010.

Schenks Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.13**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H28R-07-BEN** **Schenks Branch**

Location: Schenks Branch and tributaries from the headwaters downstream to its confluence with Meadow Creek. (Start Mile: 1.13 End Mile: 0.00 Total Impaired Size: 1.13 Miles)

City / County: Charlottesville

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-SNK000.88 (Impaired for VSCI); 2-XSN000.08 (Impaired for VSCI), 2-XSN000.18, (Impaired for VSCI), 2-SNK-SHK02-SW (Impaired for VSCI) and 2-SNK-SHV01-SW (Impaired for VSCI). Initial Listing Date: 2008.

Schenks Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.13**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H28R-08-BEN** **Biscuit Run**

Location: Biscuit Run and tributaries from the tributary at the mobile home park downstream to its confluence with Moores Creek. (Start Mile 4.27 End Mile: 0.00 Total Impaired Size 4.27 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-BSC-BSC01-SW (Impaired for VSCI). Initial Listing Date: 2010

Biscuit Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.27**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

James River Basin

Cause Group Code: **H28R-09-BEN** **Morey Creek**

Location: Morey Creek from the headwaters downstream to its confluence with Moores Creek. (Start Mile: 2.52 End Mile: 0.00 Total Impaired Size: 2.52 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MOY-MRY01-SW (Impaired for VSCI). Initial Listing Date: 2010.

Morey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.52**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H28R-10-BEN** **Town Branch**

Location: Town Branch and tributary from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 1.20 End Mile: 0.00 Total Impaired Size: 1.20 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-TWN-TWN01-SW (Impaired for VSCI). Initial Listing Date: 2010.

Town Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.20**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H28R-11-BEN** **Meadow Creek X-trib**

Location: Meadow Creek X-trib beginning near Rothery Street downstream to its confluence with Meadow Creek. (Start Mile: 1.88 End Mile 0.00 Total Impaired Size: 1.88 Miles)

City / County: Charlottesville

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XMW-XMW01-SW (Impaired for VSCI). Initial Listing Date: 2010.

Meadow Creek X-trib **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.88**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

James River Basin

Cause Group Code: **H28R-12-BEN** **X-trib to Moores Creek**

Location: X-trib to Moores Creek from the outfall of the Ragged Mountain Reservoir downstream to Moores Creek. (Start Mile: 2.17 End Mile: 0.00 Total Impaired Size: 2.17 Miles)

City / County: Albemarle Co Charlottesville

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-XMR-XMR01-SW (Impaired for VSCI). Initial Listing Date: 2012.

X-trib to Moores Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.17**

Sources:

Dam or Impoundment Non-Point Source

James River Basin

Cause Group Code: **H29R-03-BAC** **Buck Island Creek**

Location: Buck Island Creek from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 8.98 End Mile: 0.00 Total Impaired Size: 8.98 Miles)

City / County: Albemarle Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-BID002.11 (4 violations of 20 samples for e-coli) and 2-BID005.83 (6 violations of 9 samples for e-coli). Initial Listing Date: 2008.

Buck Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.98**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H29R-03-BEN** **Buck Island Creek**

Location: Buck Island Creek from the 5 mile upper limit of the PWS designation for the Lake Monticello Service Authority Public Water Intake downstream to its confluence with the Rivanna River. (Start Mile: 2.58 End Mile: 0.00 Total Impaired Size: 2.58 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-BID-BKI01-SW (Impaired for VSCI). Initial Listing Date: 2010

Buck Island Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.58**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H29R-04-BEN** **Carroll Creek**

Location: Carroll Creek and tributaries from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 9.12 End Mile: 0.00 Total Impaired Size: 9.12 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-CRR000.27 (Impaired for VSCI) and 2-CRR-CRL01-SW (Impaired for VSCI). Initial Listing Date: 2010.

Carroll Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.12**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H30R-01-BEN** **Mechunk Creek**

Location: Mechunk Creek from the headwaters downstream to the DOC water intake near the Route 250 bridge crossing. (Start Mile: 18.99 End Mile: 7.01 Total Impaired Size: 11.98 Miles)

City / County: Albemarle Co Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at stations: 2-MCK007.47 (Impaired for VSCI) and 2-MCK-MCK02-SW (Impaired for VSCI). Initial Listing Date: 2012.

Mechunk Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.98**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H30R-02-BEN** **East Prong Beaverdam Creek**

Location: East Prong Beaverdam Creek and tributary from the headwaters downstream to its confluence with Beaverdam Creek. (Start Mile: 3.57 End Mile: 0.00 Total Impaired Size: 3.57 Miles)

City / County: Fluvanna Co Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-BEP-BVE01-SW (Impaired for VSCI). Initial Listing Date: 2012.

East Prong Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.57**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H30R-03-BEN** **Jacks Branch**

Location: Jacks Branch and tributary from the headwaters downstream to its confluence with Mechunk Creek. (Start Mile 6.99 End Mile 0.00 Total Impaired Size: 6.99 Miles)

City / County: Albemarle Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-JAK-JCK01-SW (Impaired for VSCI). Initial Listing Date: 2012.

Jacks Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.99**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H31R-02-BEN** **Carys Creek**

Location: Carys Creek from the headwaters downstream to the confluence with a major tributary upstream of the Rivanna River. (Start Mile: 1.69 End Mile: 0.00 Total Impaired Size: 1.69 Miles)

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-CRY000.69 (Impaired for VSCI) and 2-CRY-CYC01-SW (Impaired for VSCI). Initial Listing Date: 2010

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

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H31R-03-BEN** **X-trib to Boston Creek**

Location: X-trib to Boston Creek from the headwaters downstream to its confluence with Boston Creek. (Lake Monticello) (Start Mile: 1.74 End Mile: 0.00 Total Impaired Size: 1.74 Miles)

City / County: Albemarle Co Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XYX-XYX01-SW (Impaired for VSCI). Initial Listing Date: 2010.

X-trib to Boston Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.74**

Sources:

Municipal (Urbanized High Density Area) Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H31R-04-BEN** **X-trib to Rivanna River**

Location: X-trib to the Rivanna River from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: .98 End Mile: 0.00 Total Impaired Size .98 Miles)

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XRN-XZZ01-SW (Impaired for VSCI). Initial Listing Date: 2010

X-trib to Rivanna River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.98**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

James River Basin

Cause Group Code: **H32L-01-DO** **Fluvanna Ruritan Lake**

Location: Fluvanna Ruritan Lake (Total Impaired Size: 51.13 Acres)

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

This lake is impaired due to violations of the DO WQS at station: 2-CFK004.34 (6 violations of 42 samples for DO). Initial Listing Date: 2012.

Fluvanna Ruritan Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**51.13**	

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H32R-01-BEN** **Middle Fork Cunningham Creek**

Location: Middle Fork Cunningham Creek and tributary from the headwaters downstream to its confluence with an unnamed tributary originating near Antioch. (Start Mile: 6.81 End Mile: 3.08 Total Impaired Size: 3.73 Miles)

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

This segment had a fully supporting for VSCI benthic assessment during the 2010 cycle. This benthic impairment has been determined to be natural (drought). The segment remains not supporting as two unimpaired benthic assessments are required to de-list. Initial Listing Date: 2004.

Middle Fork Cunningham Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.73**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H32R-02-BAC** **Middle Fork Cunningham Creek**

Location: Middle Fork Cunningham Creek and tributary from the headwaters downstream to its confluence with Cunningham Creek. (Start Mile: 6.81 End Mile: 0.00 Total Impaired Size: 6.81 Miles)

City / County: Fluvanna Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-CNM002.25 (6 violations of 18 samples for e-coli in 2010, 1 of 9 in 2012, no new data, remained impaired) and 2-CNM004.16 (2 violations of 12 samples for e-coli in 2010, 1 of 9 in 2012, no new data, remained impaired). Initial Listing Date: 2004.

Middle Fork Cunningham Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.81**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **H32R-02-BEN** **Middle Fork Cunningham Creek**

Location: Middle Fork Cunningham Creek from its confluence with an unnamed tributary originating near Antioch downstream to its confluence with Cunningham Creek. (Start Mile: 3.08 End Mile: 0.00 Total Impaired Size: 3.08 Miles)

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-CNM-CNM07-SW (Impaired for VSCI), 2-CNM001.75 (Impaired for VSCI), 2-CNM002.25 (Impaired for VSCI); 2-CNM-CNM05-SW (Impaired for VSCI) and 2-CNM-CNM07-SW (Impaired for VSCI). Initial Listing Date: 2010

Middle Fork Cunningham Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.08**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H32R-03-BAC** **Middle Fork Cunningham Creek X-trib**

Location: Middle Fork Cunningham Creek X-trib from the headwaters downstream to its confluence with the Middle Fork Cunningham Creek. (Start Mile: 3.60 End Mile: 0.00 Total Impaired Size: 3.60 Miles)

City / County: Fluvanna Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-XPA000.57 (2 violations of 12 samples for e-coli). Initial Listing Date: 2008.

Middle Fork Cunningham Creek X-trib **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.60**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H32R-04-BEN** **X-trib to North Fork Cunningham Creek**

Location: X-trib to North Fork Cunningham Creek from the headwaters downstream to its confluence with the North Fork Cunningham Creek. (Start Mile: .60 End Mile: 0.00 Total Impaired Size: .60 Miles)

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XCF-XCF01-SW (Impaired for VSCI). Initial Listing Date: 2010

X-trib to North Fork Cunningham Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.60**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source

James River Basin

Cause Group Code: **H32R-05-BEN** **Cunningham Creek North Fork**

Location: North Fork Cunningham Creek from the Fluvanna Ruritan Lake outfall downstream to its confluence with Cunningham Creek. (Start Mile: 3.89 End Mile: 0.00 Total Impaired Size: 3.89 Miles)

City / County: Albemarle Co Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station 2-CFK001.31 (Impaired for VSCI). Initial Listing Date; 2012.

Cunningham Creek North Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.89**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H32R-06-BEN** **Cunningham Creek**

Location: Cunningham Creek from the confluence of the Middle/South Fork Cunningham Creek downstream to its confluence with the Rivanna River. (Start Mile: 5.46 End Mile: 0.00 Total Impaired Size (5.46 Miles)

City / County: Fluvanna Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at stations: 2-CXB000.86 (Impaired for VSCI) and 2-CXB-CXB02-SW (Impaired for VSCI). Initial Listing Date: 2012.

Cunningham Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.46**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **H33L-01-DO** **Powhatan Lake**

Location: Upper and lower

City / County: Powhatan Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2012 cycle the segment became a reservoir. The segment was impaired for DO with a pooled rate of 5/25.

Powhatan Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**62.83**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **H33R-02-DO** **Deep Creek**

Location: Segment begins at the confluence of Deep Creek with Sallee Creek, and extends downstream to the Route 684 bridge.

City / County: Powhatan Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Deep Creek from Maxey Mill Creek to the Route 684 bridge (rm 3.00) was assessed as impaired of the Aquatic Life Use because of a DO exceedance rate of 2/12 at 2-DCR003.00. The TMDL is due in 2020, but natural conditions are suspected.

The DO exceedance rates at other stations were acceptable in the 2010 cycle (2/26 at 2-DCR007.93 and 1/11 at 2-DCR013.89), therefore the upstream segment was shortened to the confluence with Sallee Creek.

Deep Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.37**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: H34R-02-BEN **Little Byrd Creek**

Location: Segment comprises all of Little Byrd Creek, from its headwaters to its mouth at Byrd Creek.

City / County: Goochland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Little Byrd Creek was assessed as impaired of the Aquatic Life Use due to an impaired benthic community at freshwater probabilistic monitoring station 2-LTP002.69.

No additional data was collected during the 2010 or 2012 cycles.

Little Byrd Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.02**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H34R-06-BEN** **Ransome Creek**

Location: Ransome Creek from its headwaters to its mouth at Little Byrd Creek.

City / County: Goochland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Ransome Creek was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community in 2005 at freshwater probabilistic monitoring station (2-RSM001.88).

Ransome Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.36**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H36R-01-BEN** **Willis River**

Location: Willis River from its confluence with Buffalo Creek to the northern Cumberland State Forest Boundary.

City / County: Cumberland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-WLS024.61 (2001-2002 Probmon)
IM Benthic Assessment

Willis River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.88**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H36R-02-BEN** **Randolph Creek**

Location: Randolph Creek from the headwaters to the upstream limit of Sports Lake.

City / County: Buckingham Co Cumberland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-RND003.57 (2001 Probmon)
IM - Habitat assessment indicates sediment impacts.

Randolph Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**11.65**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H37R-03-DO** **Big Lickinghole Creek**

Location: The mainstem of Big Lickinghole Creek from its headwaters downstream to the confluence with the unnamed tributary located between Routes 609 and 600.

City / County: Goochland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, the upstream segment of Big Lickinghole Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 5/11 at 2-BLG012.33 (the Route 609 bridge).

Big Lickinghole Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.34**

Sources:

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

James River Basin

Cause Group Code: **H38R-01-PH** **Little Creek**

Location: Little Creek below its confluence with Cheneys Creek.

City / County: Goochland Co

Use(s): Aquatic Life

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

Little Creek was impaired of the Aquatic Life Use during the 2012 cycle due to a pH violation rate of 2/12 at 2-LLI000.58, which is located off of Route 607.

Little Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **H38R-07-DO** **Branch Creek**

Location: Branch Creek from its headwaters to its mouth at Fine Creek.

City / County: Powhatan Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Branch Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/10 at the Route 615 bridge (2-BNH001.76).

Branch Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.49**

Sources:

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

James River Basin

Cause Group Code: **H39R-01-PH** **Broad Branch**

Location: Broad Branch from its headwaters to the dam above Route 623.

City / County: Goochland Co

Use(s): Aquatic Life

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

In 2006, Broad Branch was assessed as not supporting the Aquatic Life Use due to three high pH exceedances in the summer of 2003 at 2-BOD003.31, which is located downstream of a pond draining a golf course. The TMDL is due in 2018.

Broad Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.59**

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **H39R-03-PH** **UT to Tuckahoe Creek**

Location: Headwaters to mouth at Tuckahoe Creek.

City / County: Goochland Co

Use(s): Aquatic Life

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

During the 2006 cycle, the segment was assessed as impaired of the Aquatic Life use due to a pH exceedance rate of 2/13 at 2-XUT000.62, which is located at Lower Tuckahoe Road. The exceedances were acidic during the winter and spring months. The TMDL is due in 2018.

No additional data was collected since the 2006 cycle.

UT to Tuckahoe Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.81**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **H39R-05-BEN** **Powhite Creek**

Location: Powhite Creek from its headwaters to its mouth at the James River.

City / County: Chesterfield Co Richmond City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Powhite Creek was assessed as not supporting of the Aquatic Life use goal due to impairment of the benthic community at station 2-PWT001.97, which is a freshwater probabilistic monitoring station.

Powhite Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.05**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-06-DO** **Reedy Creek**

Location: Segment comprises Reedy Creek from its headwaters to the tributary above Roanoke Street.

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle Reedy Creek was assessed as not supporting the Aquatic Life Use due to dissolved oxygen exceedances at the 44th Street bridge and at the Deter Road bridge, 2-RDD001.57 and 2-RDD003.61, respectively.

The violation rates were 3/26 at 2-RDD001.57 and 3/12 at 2-RDD003.61 during the 2012 cycle. Dissolved oxygen is acceptable in the lower portion of Reedy Creek (0/27 at 2-RDD000.19 and 0/13 at 2-RDD000.99), therefore the segment will be shortened to end at the tributary above Roanoke Street.

Reedy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.37**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-06-PH** **Reedy Creek**

Location: Reedy Creek from the tributary upstream of Roanoke Street downstream to Forest Hill Avenue where the creek enters a park.

City / County: Richmond City

Use(s): Aquatic Life

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

During the 2010 cycle, the portion of Reedy Creek around station 2-RDD000.99 was assessed as impaired of the Aquatic Life Use due to elevated pH levels. The exceedance rate was 2/13 during the 2010 cycle.

Reedy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.60**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-07-DO** **James River, UT (XZE)**

Location: The tributary from its headwaters to its mouth at the James River.

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2010, the tributary was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 5/12 at station 2-XZE000.19, which is located at a private drive downstream of Tarrington.

James River, UT (XZE) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.30**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-08-DO** **Salles Creek, UT**

Location: The tributary from its headwaters to its mouth at Salles Creek.

City / County: Chesterfield Co Goochland Co Henrico Co Powhatan Co Richmond City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, the unnamed tributary was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at 2-SAL001.93, which is located at Route 711.

The violation rate was 3/17 during the 2012 cycle.

Salles Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **H39R-08-PH** **Salles Creek, UT**

Location: The tributary from its headwaters to its mouth at Salles Creek.

City / County: Chesterfield Co Goochland Co Henrico Co Powhatan Co Richmond City

Use(s): Aquatic Life

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

During the 2010 cycle, the unnamed tributary was assessed as not supporting of the Aquatic Life Use due to pH exceedances at 2-SAL001.93, which is located at Route 711. The exceedance rate was 9/19 during the 2012 cycle.

Salles Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **H39R-09-DO** **James River**

Location: Segment begins at the Boulevard Bridge and extends downstream to the fall line of the James River.

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

In 2002, the James River from the Boulevard Bridge downstream to the fall line was assessed as not supporting the Aquatic Life Use because stations 2-JMS112.37 and 2-JMS111.48, which were located below CSOs, had exceedances of the dissolved oxygen exceedance rate. The DO TMDL was due in 2014.

During the 2010 cycle, dissolved oxygen monitoring was acceptable at these stations (0/11 and 1/10, respectively), as well as at all other stations within the segment, therefore it was delisted.

The violation rate was 4/30 at 2-JMS111.48 during the 2012 cycle, therefore it will be relisted. All other stations were acceptable.

James River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.91**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-11-HG** **James River**

Location: The James River from the rivermile 128.14 near the confluence with Norwood Creek downstream to the confluence with Tuckahoe Creek.

City / County: Goochland Co Powhatan Co

Use(s): Fish Consumption

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

The segment was assessed as not supporting of the Fish Consumption Use in the 2010 cycle due to mercury exceedances in redbreast sunfish and quillback carpsucker in 2003 and smallmouth bass in 2005. The monitoring occurred at station 2-JMS127.50, which is located at the end of Route 652 at Watkins Landing.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**4.36**

Sources:

Atmospheric Deposition - Toxics Source Unknown

James River Basin

Cause Group Code: **H39R-13-BEN** **Stony Run**

Location: Stony Run from its headwaters to the extent of backwater at the pond.

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle the segment was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community at 2-SNJ001.88 (downstream of Church Road).

Stony Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.01**

Sources:

Non-Point Source Source Unknown

James River Basin

Cause Group Code: H39R-14-BEN **Jones Creek**

Location: Jones Creek from its headwaters downstream to its mouth at the extent of backwater of Woodberry Pond.

City / County: Powhatan Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Jones Creek was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community at 2005 freshwater probabilistic monitoring station 2-JOH004.23.

Jones Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.04**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-15-BEN** **Stony Run, UT (XYT)**

Location: The unnamed tributary from its headwaters to its mouth at Stony Run.

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle the segment was assessed as impaired of the Aquatic Life Use due to impairment of the benthic communities at stations 2-XYT000.04 and 2-XYT000.29, which were located downstream and upstream of the Barrington pipeline spill.

Stony Run, UT (XYT)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.18**

Sources:

Non-Point Source Source Unknown

James River Basin

Cause Group Code: **H39R-16-HG** **James River**

Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

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

The James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use in the 2010 cycle due to mercury exceedances in 1 sp. in 2004 at 2-JMS109.98 and 3 sp. in 2003, 2 sp. in 2004 & 2 sp in 2006 at 2-JMS110.00.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**2.91**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

James River Basin

Cause Group Code: **H39R-17-CDANE** **James River**

Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) /
VA Category: Chlordane / 5A

The James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use in the 2010 cycle due to chlordane exceedances in 1 sp. in 2003 and 2 sp. in 2005 (carp and striped bass) at 2-JMS110.00.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			**2.91**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-17-DDE** **James River**

Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) /
VA Category: DDE / 5A

The James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use in the 2010 cycle due to DDE exceedances in carp in 2002 and blue catfish in 2003 at 2-JMS110.00.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDE - Total Impaired Size by Water Type:			**2.91**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-17-DDT** **James River**

Location: The James River from the Boulevard Bridge to the fall line at approximately the railroad trestle above Mayos Bridge.

City / County: Richmond City

Use(s): Fish Consumption

Cause(s) /
VA Category: DDT / 5A

The James River from the Boulevard Bridge to the fall line was assessed as not supporting of the Fish Consumption Use in the 2010 cycle due to DDT exceedances in carp in 2002, blue catfish in 2003, and striped bass in 2005 at 2-JMS110.00.

James River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDT - Total Impaired Size by Water Type:			**2.91**

Sources:

Source Unknown

James River Basin

Cause Group Code: **H39R-19-DO** **Deep Run**

Location: Deep Run from the dam at river mile 1.47 to its mouth at Tuckahoe Creek.

City / County: Henrico Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Deep Run was impaired of the Aquatic Life Use during the 2012 cycle due to a dissolved oxygen exceedance rate of 2/10 at 2-DPR001.00, which is located at the Route 6 bridge.

Deep Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.49**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I01R-01-TEMP** **Jackson River**

Location: Jackson River from its confluence with Dry Branch downstream to the upper end of Lake Moomaw. (Start Mile: 84.84 End Mile: 56.81 Total Impaired Size: 28.03 Miles). This impairment was lengthened in 2010 with the addition of an impaired upstream assessment unit.

City / County: Bath Co Highland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

This segment is impaired due to violations of the temperature WQS at station: 2-JKS058.60 (8 violations of 36 samples for temperature) and 2-JKS074.27 (3 violations of 12 samples for temperature). Initial Listing Date: 2004. This impairment is believed to be natural.

Jackson River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**28.03**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **I01R-02-TEMP** **Bolar Run**

Location: Bolar Run from the Bolar Spring downstream to its confluence with the Jackson River. (Start Mile: 2.00 End Mile: 0.00 Total Impaired Size: 2.00 Miles). This impairment was shortened following review of WQS and an upstream mountainous zone assessment unit was de-listed.

City / County: Bath Co Highland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

This segment is impaired due to violations of the temperature WQS at station: 2-BOL000.97 (3 violations of 12 samples for temperature in 2008, 0 violations of 3 samples for temperature in 2010, no data in 2012, impairment carries forward). Initial Listing Date: 2006.

Bolar Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.99**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: I01R-03-BAC **Jackson River**

Location: Jackson River from the headwaters downstream to its confluence with Castle Run. (Start Mile: 96.37 End Mile: 69.93 Total Impaired Size: 26.44 Miles)

City / County: Bath Co Highland Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-JKS086.01 (2 violations of 8 samples for e-coli); 2-JKS090.90 (3 violations of 8 samples for e-coli) and 2-JKS093.96 (2 violations of 7 samples for e-coli). Initial Listing Date: 2008.

Jackson River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**26.42**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I02R-01-TEMP** **Back Creek**

Location: Back Creek from its confluence with East Back Creek downstream to its confluence with the Jackson River. (Start Mile: 25.64 End Mile: 0.00 Total Impaired Size: 25.64 Miles)

City / County: Bath Co Highland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: USGS 02011500 (3 violations of 12 samples for temperature), 2-BCC004.71 (14 violations of 68 samples for temperature) and 2-BCC010.31 (3 violations of 12 samples for temperature). Initial Listing Date: 2010.

Back Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**25.64**

Sources:

Source Unknown

James River Basin

Cause Group Code: **I02R-02-BAC** **Back Creek**

Location: Back Creek from the headwaters downstream to its confluence with East Back Creek. (Start Mile: 39.36 End Mile: 25.64 Total Impaired Size: 13.72 Miles)

City / County: Highland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2-BCC026.08 (2 violations of 12 samples for e-coli).
Initial Listing Date: 2010

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.72**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I02R-03-TEMP** **Little Back Creek**

Location: Little Back Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 13.62 End Mile: 0.00 Total Impaired Size: 13.62 Miles)

City / County: Bath Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 2-LTB000.01 (2 violations of 11 samples for temperature). Initial Listing Date: 2012.

Little Back Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**13.62**

Sources:

Source Unknown

James River Basin

Cause Group Code: **I04R-01-BAC** **Falling Spring**

Location: Falling Spring Creek mainstem from its mouth to confluence of an unnamed tributary located at 37°52'48" / 79°54'52".

City / County: Alleghany Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station 2-FAS001.08 (Rt. 640 Bridge at Falling Spring Community) reports two Escherichia coli (E.coli) exceedances of the 235 cfu/100 ml instantaneous criterion from seven samples within the 2008 and 2010 data windows. The exceeding values are 250 and 580 cfu/100 ml. This 2008 initial 303(d) Listing is for 4.77 miles in Alleghany County. There are no additional data beyond the 2008 IR. There are three non-exceeding values remaining in the 2012 data window.

Falling Spring **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.77**

Sources:

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

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I09R-01-BAC** **Smith Creek**

Location: Smith Creek mainstem from its mouth on the Jackson River upstream 1.20 miles; the beginning of the WQS natural trout section.

City / County: Alleghany Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2-SMH000.08 (Ridgeway Street - Clifton Forge) There are no additional data beyond the 2006 Integrated Report (IR) and no Escherichia coli (E.coli) data available. The 2004 303(d) Listed waters (1.17 miles) remain. Fecal coliform bacteria (FC) exceeded the former 400 cfu/100 ml instantaneous criterion in eight of 16 observations with values ranging from 500 to 3500 cfu/100 ml. Three of three FC samples exceed in 2010 based on the former criterion ranging from 500 to 1600 cfu/100 ml. The 2008 data window produces the same end results where FC exceeds the former instantaneous criterion in seven of 15 observations with a range of exceedance from 500 to 3500 cfu/100 ml. Escherichia coli (E.coli) will replace fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters] when data become available.

Smith Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.17**

Sources:

- Municipal (Urbanized High Density Area)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I09R-01-DO** **Jackson River**

Location: Jackson River mainstem from the Westvaco main processing outfall downstream to just above the Lowmoor community.

City / County: Alleghany Co Covington City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The original 1998 IDs, VAW-I04R and VAW-I09R, 1996 303(d) Listed dissolved oxygen impairment was combined into one in 2002 for 11.19 miles.

2010 Assessment station locations are:
2-JKS013.29 - Off Rt. 696 above Lowmoor (I09R)
2-JKS018.68 - Rt. 18 Bridge at Covington (I09R)
2-JKS022.15 - Industrial Park behind Wal-Mart
2-JKS023.61 - City Park - Covington at gage (I09R)

Diurnal swings in dissolved oxygen (DO) cause nonsupport of the aquatic life use for a total of 11.19 miles extending from river mile 24.21 (I04R- 0.46 miles) to 13.02 (I09R- 10.73 miles) (37°46'49.59 / 079°55'40.00").

The DO impairment remains for final determination of Use Support via the TMDL Study. 2012 flow adjusted trend analysis finds a significant increasing trend for dissolved oxygen.

2-JKS023.61- Zero excursions of the 4.0 mg/l minimum DO criterion are found from 46 measurements in 2012. The 2010 assessment reports no DO excursions of the minimum criterion from 48 measurements within the ambient monitoring program. The 2008 assessment also found no DO measurements in excess of the DO minimum criterion from 52 observations. However diurnal effects have been noted in previous assessments. The 2004 IR reports DO exceeds the WQS minimum of 4.0 mg/l in six of 26 1998 special study observations as well as those described below at 2-JKS022.15.

Both the 2006 and 2012 flow adjusted trend analysis reveals significant declining trends in total phosphorus and total nitrogen at 2-JKS023.61. However elevated total phosphorus (TP) levels continue with the 2012 assessment where TP results produce five of 41 samples greater than 0.20 mg/l- 'Observed Effect. Elevated TP samples range from 0.24 to 0.52 mg/l. The 2010 assessment finds six of 40 observations above 0.20 mg/l- 'Observed Effect'. Excessive values range from 0.28 to 0.40 mg/l. 2008 elevated TP levels are found in 17 of 51 samples with a maximum value of 1.40 mg/l and minimum of 0.23 mg/l. 2006 TP concentrations are elevated in 25 of 48 samples with excessive values also ranging from 0.23 to 1.40 mg/l.

2-JKS022.15- 2004 IR reports 1998 DO Recordings find 222 excursions of the minimum 4.0 mg/l WQS criterion from 481 measurements; Diurnal affects are noted. These data are older than 5 years.

2-JKS018.68- Twenty-five DO measurements find no excursions of the 4.0 mg/l minimum criterion within the 2012 data window. No excursions of the minimum criterion are found from 20 observations for the 2010 assessment. DO data within the 2008 data window find no excursions of the 4.0 mg/l minimum criterion from 10 measurements. However diurnal effects have been noted in previous assessments.

2012 TP data greater than 0.20 mg/l are two of 22 measurements.; elevated at 0.22 and 0.30 mg/l. Two of 16 TP samples are elevated above 0.20 mg/l with the 2010 assessment. Excessive values range from 0.22 to 0.30 mg/l. 2008 TP assessment results find no elevated TP levels from nine observations with no additional data beyond the 2006 IR. The 2006 IR reports six of 18 observations in excess of 0.20 mg/l. TP excursions ranged from 0.30 to 0.70 mg/l.

2-JKS013.29- No excursions of the 4.0 mg/l minimum DO criterion are found within the 2012 data window from 9 measurements. 2010 DO data report no exceeding values from eight observations. Ambient data within the 2008 assessment data window report no excursions of the WQS minimum criteria for DO. However diurnal effects have been noted in previous assessments.

One elevated TP value (0.43 mg/l) is greater than 0.20 mg/l from nine samples in 2012. Only two TP samples are within the 2010 data window with none greater than 0.20 mg/l. The 2008 IR reports elevated TP above 0.20 mg/l in six of 12 samples with excessive values ranging from 0.29 to 1.41 mg/l- 'Observed Effect'.

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Jackson River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**11.19**

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges

James River Basin

Cause Group Code: I09R-01-PCB **Jackson River**

Location: The Jackson River from the Covington water intake downstream to just above the Lowmoor community.

City / County: Alleghany Co Covington City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The 2008 Integrated Report produces the initial 303(d) Listing of these waters for a total of 12.43 miles.

2-JKS023.88 (Covington City Park) 2005 fish tissue collections find exceedances above the former WQS based PCB TV of 54 ppb (VDH 50) from a single species. Two carp are found with tissue values of 66.4 (68.0 cm) and 71.3 ppb (61.31 cm). Application of the new WQS of 20 ppb adds three additional carp sizes (63.9 cm) exceeding at 28.81 ppb, (63.2 cm) at 35.96 and (51-58 cm) at 37.48 ppb.

Jackson River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**12.43**

Sources:

Source Unknown

James River Basin

Cause Group Code: I09R-02-BAC **Jackson River**

Location: Jackson River mainstem from the Covington water intake downstream to just below the Lexington Avenue Bridge.

City / County: Alleghany Co Covington City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The original 3.36 mile waters were 1998 303(d) listed for fecal coliform (FC) bacteria and delisted for bacteria October 2005 as approved by the U.S. EPA (Fed. ID - NA) where only one exceedance from 24 observations are reported via the 2006 Integrated Report (IR) for Escherichia coli (E. coli) bacteria.

The bacteria impairment returned with the 2008 IR based on E. coli excursions at 2-JKS023.61. Data within the 2010 data window results in an additional extension of the impairment from stations 2-JKS018.68 and 2-JKS015.60. The impairment extends a total of 12.43 miles.

2-JKS023.61 (Covington City Park) Seventeen of 37 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2012 data window. Excessive values range from 250 cfu/100 ml to greater than 2000. 2010 results produce nine of 33 Escherichia coli (E. coli) observations in excess of the instantaneous criterion. Exceeding values range from 320 to 1400 cfu/100 ml. 2008 IR found four of 27 E. coli observations in excess of the instantaneous criterion. Exceeding values range from 250 to 1400 cfu/100 ml.

2-JKS018.68 (Rt. 8 Bridge at Covington) There are no additional E.coli data within the 2012 data window. Three of 12 E. coli observations exceed 235 cfu/100 ml ranging from 550 to 380 cfu/100 ml in 2010.

2-JKS015.60 (K-Mart Parking Lot, SE corner) There are no additional E.coli data within the 2012 data window. 2010 E. coli observations exceed the 235 cfu/100 ml criterion in two of 12 observations. Exceeding values range from 250 to 450 cfu/100 ml.

Jackson River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.43**

Sources:

Municipal (Urbanized High Density Area)	Sanitary Sewer Overflows (Collection System Failures)	Urban Runoff/Storm Sewers

James River Basin

Cause Group Code: **I09R-02-TEMP** **Wilson Creek**

Location: Wilson Creek from the headwaters downstream to the upper end of Douthat Lake pool. (Start Mile: 13.78 End Mile: 7.26 Total Impaired Size: 6.52 Miles)

City / County: Bath Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

This segment is considered impaired due to violations of the temperature WQS. This is carried from the 2006 assessment as no new data are available in the 2012 cycle as well and is believed to be natural. Initial Listing Date: 2004.

Wilson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.52**

Sources:

Drought-related Impacts Source Unknown

James River Basin

Cause Group Code: I09R-03-BAC **Jackson River**

Location: Jackson River mainstem from the US 60 crossing downstream to the Jackson River confluence with the Cowpasture River.

City / County: Alleghany Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is not supported due to Escherichia coli (E.coli) excursions of the WQS instantaneous criterion within the 2012 data window.

2-JKS000.38 (Rt. 727 Bridge near Iron Gate) E.coli observations find four excursions of the 235 cfu/100 ml instantaneous criterion from 36 samples. Exceedances range from 250 cfu/100 ml to 480.

Jackson River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.19**

Sources:

Sanitary Sewer Overflows (Collection System Failures)

Urban Runoff/Storm Sewers

Wet Weather Discharges (Non-Point Source)

James River Basin

Cause Group Code: **I10R-01-BAC** **Potts Creek**

Location: Potts Creek mainstem from the mouth of Paint Bank Branch downstream to the Hamilton Branch confluence on Potts Creek.

City / County: Alleghany Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

2-POT030.66- (Above Rt. 18 Bridge near Campsite) There are no additional data beyond the 2008 Integrated Report (IR). No excursions of the instantaneous criterion are found from the three remaining observations within the 2012 IR. The 2006 initial 303(d) Listing of these 9.51 mile waters reports Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in two of eight samples at 380 and greater than 2000 cfu/100 ml. The 2010 IR finds the same excursions as in 2008 where E.coli exceeds the criterion in two of 11 samples with the same exceedance range as 2006.

Potts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.51**

Sources:

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

James River Basin

Cause Group Code: I10R-01-PH **Potts Creek**

Location: Potts Creek mainstem from the confluence of Paint Bank Branch downstream to the mouth of Hamilton Branch on Potts Creek.

City / County: Alleghany Co

Use(s): Aquatic Life

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

2-POT030.66- (Above the Route 18 Bridge near campsite). The 2004 Integrated Report (IR) records the initial 303(d) Listing of these waters where two of four pH measurements exceed the WQS alkaline criterion of 9.0 SU at 9.1 and 9.2 SU. The 2012 data window has only three data points to assess and are insufficient for de-listing. The 2010 IR finds zero of 12 measurements indicating full support; however, there are no additional data beyond the 2008 IR (data window 2001 to 2006). The 2006 IR records one of 10 measurements exceeding the alkaline criterion at 9.2 SU. The 2008 IR records the same excursion as 2006 from 13 pH measurements. The impaired 9.51 mile waters remain for pH alkaline conditions as current data are insufficient for delisting. Potts Creek has historically had pH measurements in the range of 8.5 to 9.5. The high (alkaline) pH does not appear to have an adverse effect on the benthic community.

Potts Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**9.51**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: I10R-01-TEMP **Potts Creek**

Location: Potts Creek from the Paint Bank Branch confluence downstream to the Alleghany / Craig County Line.

City / County: Alleghany Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

2-POT030.66- (Above the Route 18 Bridge near campsite). There are no additional data beyond the 2008 Integrated Report. No excursions of the Class V 21°C criterion are found from three remaining measurements within the 2012 data window. The 2010 (12 measurements) and 2008 (13 measurements) Integrated Reports find the same temperature excursions as in the 2006 IR initial 303(d) Listing where the Class V Temp criterion of 21 °C exceeds in three of 12 measurements. Temperature exceedances occur in July and September of 2003 and 2004 ranging from 21.7 to 23 °C.

Potts Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**5.54**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **I13R-01-BAC** **Bullpasture River**

Location: Bullpasture River from the headwaters downstream to just below its confluence with the Davis Run. (Start Mile: 24.17 End Mile: 12.31 Total Impaired Size: 11.86 Miles) This impairment length was shortened in 2010, lower section fully supporting.

City / County: Bath Co Highland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is considered impaired due to violations of the e-coli bacteria standard at stations: 2-BLP015.32 (4 violations of 20 samples for e-coli). Initial Listing Date: 2006.

Bullpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.86**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I13R-02-TEMP** **Bullpasture River**

Location: Bullpasture River from the headwaters downstream to its confluence with the Cowpasture River. (Start Mile: 24.17 End Mile: 0.00 Total Impaired Size: 24.17 Miles)

City / County: Bath Co Highland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at stations: 2-BLP000.79 (8 violations of 66 samples for temperature) and 2-BLP015.32 (3 violations of 20 samples for temperature). Initial Listing Date: 2012.

Bullpasture River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**24.17**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I14R-04-PH** **Laurel Run**

Location: Laurel Run from the headwaters downstream to its confluence with Dry Run. (Start Mile: 2.04 End Mile: 0.00 Total Impaired Size: 2.04 Miles)

City / County: Bath Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA VT10 (2 violations of 14 samples for pH) Data now outside the 2012 assessment data window, however, the impairment carries forward. Initial Listing Date 2006.

Laurel Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.04**

Sources:

Atmospheric Deposition - Acidity

James River Basin

Cause Group Code: **I16R-01-PH** **Porters Mill Creek**

Location: Porters Mill Creek from the headwaters downstream to its confluence with Mill Creek. (Start Mile: 4.98 End Mile: 0.00 Total Impaired Size: 4.98 Miles)

City / County: Bath Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA VT15 (10 violations of 14 samples for pH) in 2010. This data is now outside the assessment data window for 2012, however, the impairment carries forward to 2012. Initial Listing Date: 2006.

Porters Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.98**

Sources:

Atmospheric Deposition - Acidity

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I19R-01-BAC** **Craig Creek**

Location: Craig Creek mainstem from the mouth of Turnpike Creek extending downstream to the Rt. 311 crossing located downstream of the Abbott community.

City / County: Craig Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

2-CRG062.29- (Rt. 311 Bridge nearest New Castle). The 2004 Listing basis is three of 27 fecal coliform (FC) samples exceeding the former 400 cfu/100 ml WQS instantaneous criterion. The maximum reported is 1100 cfu/100 ml with the remaining values at 900 and 500. These 2004 7.79 mile 303(d) Listed waters remain impaired for bacteria. The 2010 and 2012 assessments find two of 12 Escherichia coli (E.coli) samples exceeding the current 235 cfu/100 ml WQS instantaneous criterion. E.coli exceeding values are 280 and 400 cfu/100 ml. Data within the 2008 window finds one FC excursion (1100 cfu/100 ml) of the former instantaneous criterion of 400 cfu/100 ml from 15 samples. The 2006 IR also reports FC exceeds the former instantaneous criterion in one of 21 samples with the same exceeding value. Ultimately Escherichia coli (E.coli) will replace fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Craig Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.79**

Sources:

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

James River Basin

Cause Group Code: **I19R-01-BEN** **Craig Creek, UT (XZQ)**

Location: Unnamed Tributary (XZQ) from its headwaters downstream to its confluence with Craig Creek.

City / County: Craig Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

6578 (USFS). The 2008 Integrated Report (IR) initially lists this stream as impaired for the Aquatic Life Use for 1.06 miles due to contravention of the WQS General Standard (Benthic). US Forest Service station 6578 scores this stream 10 poor/fair using the MAIS method of benthic assessment in 2005. The Forest Service notes the stream is in a Timber Sale area.

Craig Creek, UT (XZQ) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.06**

Sources:

Silviculture Harvesting

James River Basin

Cause Group Code: **I20R-01-TEMP** **Meadow Creek**

Location: Meadow Creek mainstem from just above the Rt. 42 crossing downstream to the Meadow Creek confluence on Craig Creek.

City / County: Craig Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

2-MEO000.38- (Rt. 311 Bridge). There are no additional data within the 2012 Data Window and the impairment remains. Temperature data within both the 2010 and 2008 data windows (thru 2005) find temperature excursions of the 20°C natural trout water criterion. Three of 15 measurements in 2008 and three of 12 measurements in 2010. Exceedances occur in July '03 (20.1°C) & '04 (21.1°C) and Sept. '03 at 21.2°C. The 2006 Integrated Report (IR) initially reported four temperature excursions of the Class VI 20 °C criterion from 19 measurements resulting in the original 303(d) Listing. Temperature excursions occurred three times in the month of July (2000, 2003 & 2004) and September 2003. The maximum exceedance, 21.6 °C, occurred on July 10, 2000. The 2.53 mile Aquatic Life Use impairment remains.

Meadow Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**2.53**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: I21R-01-BAC **Johns Creek**

Location: Johns Creek mainstem from near Lovers Leap upstream of New Castle downstream to its confluence with Craig Creek.

City / County: Craig Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The 2004 initially 303(d) Listed bacteria impairment remains. These waters lack sufficient data to delist the Recreation Use for bacteria as 12 Escherichia coli (E.coli) observations are required and therefore remains 303(d) Listed for bacteria. Ultimately E.coli will replace fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

2-JOB000.39 (Rt. 615 Bridge near USGS Gaging Station)- The 2012 and 2010 assessments find no excursions of either fecal coliform (FC) or Escherichia coli (E.coli) from nine observations each (2005 thru 2006). Data within the 2008 data window (2001 thru 2006) reveal no excursions of the former instantaneous criterion for FC or current E.coli instantaneous criterion of 235 cfu/100 ml from nine observations each; as in the 2006 IR. However the 2004 IR reports FC exceeds the former 400 cfu/100 ml WQS instantaneous criterion in two of 18 samples at 1500 cfu/100 ml and 600.

Johns Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.19**

Sources:

Municipal (Urbanized High Density Area)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I22R-01-BAC** **Barbours Creek**

Location: Barbours Creek from just downstream of the Rt. 617 and 611 junction at the mouth of Valley Branch on downstream to its mouth on Craig Creek. (New Castle Quad).

City / County: Craig Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The 7.08 mile bacteria impairment initially 303(d) Listed in 2004 remains.

2-BAR000.60- (Rt. 614 Bridge) There are no additional bacteria data beyond the 2004 Integrated Report (IR). The 2004 IR reports the maximum fecal coliform (FC) of 1100 cfu/100 ml and a second at 500; both exceed the former WQS instantaneous criterion of 400 cfu/100 ml from 18 samples. The 2006 IR finds no excursions of the former WQS FC instantaneous criterion from nine samples. The 2008 data window finds no excursions of the aforementioned from 3 samples. There are no bacteria data within the 2010 or 2012 assessment data windows.

Barbours Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.08**

Sources:

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

James River Basin

Cause Group Code: **I22R-01-PH** **Mill Creek**

Location: Mill Creek mainstem from ~2.0 miles upstream of its mouth on Craig Creek upstream to its headwaters and above the upstream most pond.

City / County: Craig Co

Use(s): Aquatic Life

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

2-MIU002.97 (Upstream of Upper pond and downstream of former iron mine). Two 2010 observations each of pH are in excess of the WQS acidic minimum criterion of 6.0 Standard Units (SU) at 5.2 and 5.4 SU. This is a 2012 initial Listing.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.95**

Sources:

Mine Tailings

James River Basin

Cause Group Code: **I22R-01-TEMP** **Barbours Creek**

Location: Barbours Creek from its mouth on Craig Creek upstream to the I23 Watershed Boundary located just downstream of the Rt. 617 and 611 junction at the mouth of Valley Branch.

City / County: Craig Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

The original 7.08 mile temperature impairment continues with the 2012 Integrated Report (IR). The 2006 IR extended the impairment 6.29 miles (2-BAR010.10 - I23R) from the initial 2002 303(d) Listing (2-BAR000.60 - I22R). The 6.29 mile upstream extension is de-listed with the 2012 Integrated Report with station 2-BAR010.10 recording no exceeding Class VI temperatures of the 20°C WQS criterion from 15 observations.

2-BAR000.60- (Rt. 614 Bridge) There are no additional data beyond the 2004 IR. The 2004 assessment finds temperature exceeds the WQS 20°C natural trout water criterion in three of 18 observations with a maximum of 22°C on 7/10/00. Each of the remaining two temperature excursions occur on 7/08/98 (20.6°C) and 7/12/99 (20.5°C). The 2006 IR data window reveals one of nine temperature measurements in excess of the Class VI criterion. The 2008 data window finds no excursions from three measurements. There are no additional data within the 2010 assessment data window.

Barbours Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**7.08**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **I22R-02-BAC** **Craig Creek**

Location: Craig Creek from the mouth of Johns Creek downstream to Barbours Creek confluence with Craig Creek

City / County: Craig Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

2-CRG048.53 (Below New Castle STP) - The 2012 initial 303(d) Listing results from Escherichia coli (E.coli) exceedances from two of 12 samples within the 2012 Data Window. Values in excess of the 235 cfu/10 ml instantaneous criterion are 320 and 700 cfu/100 ml. A downstream station 2-CRG042.34 (Rt. 614 Bridge) records a single exceedance of greater than 2000 cfu/100 ml from 12 samples. The exceedance indicates potential for impairment although not impaired via Guidance.

Craig Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.31**

Sources:

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

James River Basin

Cause Group Code: I22R-02-BEN **Mill Creek**

Location: Mill Creek mainstem from its headwaters downstream to its confluence with Craig Creek.

City / County: Craig Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The waters remain 303(d) Listed based on the original US Forest Service (USFS) site data. DEQ stations 2-MIU001.75 and 2-MIU002.97 are insufficient to de-list a portion of Mill Creek and also indicate an intermittent nature in the upper portions of Mill Creek.

The original 2004 Listing is based on US Forest Service sites 6515 located approximately 2.90 miles from the Mill Creek mouth on Craig Creek. And USFS station 6514 is located approximately 1.70 miles upstream from the Mill Creek mouth. Station 6516 is located in the headwaters of Mill Creek. There are no additional USFS data within the 2012 data window

MAIS survey scores within the 2008 and 2010 data windows:
6515- USFS MAIS survey- Bio 'UI' Two surveys, 2002 and 2005, scoring 10 and 16 respectively. 2004 assessment Single survey '98 scoring 10.

6514- USFS MAIS survey- Bio 'UI' One 2005 survey scoring 8.

Additional collections made at 6516, 6515 and 6514 outside 2004, 2006 and 2008 data windows find impairment at each site. Mill Creek assessed as a 'Water of Concern' in 2002 assessment based on these surveys. DEQ 2004 cursory site visit agrees with USFS MAIS surveys. Therefore Mill Creek is assessed impaired for General Standard - Benthic in 2004 for 5.99 miles.

2-MIU002.97 (Upstream of upper pond and downstream of a former iron mine) - Two 2010 Virginia Stream Condition Index (VSCI) surveys scores of spring NA and fall 53.5. The VSCI score at this station was 53.5. The benthic assemblage collected at this site indicates tolerance to acid stream conditions (pH = 5.4) as well as intermittent/headwater stream conditions (low numbers of mayflies and low %Scrapers). The spring sample resulted in only 12 organisms collected in a 2 mi2 area of substrate; whereas, several hundred organisms are typically collected with similar effort. Due to the low number collected, an assessment score could not be calculated for spring. The fall sample had a low density of benthic macroinvertebrates but enough to calculate an SCI score. This assemblage was dominated by Stoneflies from the family Capniidae (genus Allocapnia) which are tolerant of acid conditions and intermittent stream flow.
The stream substrates at this site were stuck together by what appeared to be iron bacteria that had dried when the stream was dry in 2010. Local residents said the stream was dry until a rain event occurred one-two weeks prior to the fall 2010 survey. VDEQ biologists are scheduled to sample this site in 2011 to increase data used for assessment and will reserve judgment until the 2014 assessment cycle. The VSCI was not designed to assess intermittent streams and therefore may not be a valid assessment of this portion of Mill Creek.

2-MIU001.75 (Downstream of lower pond)- Two 2010 VSCI surveys scoring spring 53.2 and fall 70.36 for a average score of 61.8. A VSCI score of 60 or greater is considered full support. Iron bacteria are observed on stream substrates and on some of the organisms indicating a slight impact from the iron precipitating out of the soils around the stream. VDEQ will sample this site in 2011 to provide sufficient data for de-listing or impairment retention for this portion of Mill Cr. Assessment judgment is reserved until the 2014 assessment cycle.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.99**

Sources:

Impacts from Abandoned Mine Lands (Inactive) Mine Tailings

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I22R-04-BAC** **Little Patterson Creek**

Location: Little Patterson Creek from just upstream of the Rt. 684 (Sugar Tree Hollow Rd.) crossing downstream to its confluence with Patterson Creek.

City / County: Botetourt Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The 2004 Integrated Report (IR) initially 303(d) Lists the 3.64 mile fecal coliform (FC) bacteria impairment. Escherichia coli replaces the fecal coliform impairment with the 2012 IR.

Station 2-LIP001.00 (Rt. 682 Bridge - Sugartree Hollow Rd.) Five of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2012 Data Window. Exceeding values range from 250 to 1300 cfu/100 ml. The 2004 IR reports FC exceeds the former 400 cfu/100 ml WQS instantaneous criterion in two of nine samples. The two exceedances are 2800 (2001) and 2100 cfu/100 ml (2001). In both the 2006 and 2008 assessments FC exceeds in two of 12 samples with the same excursions as in previous cycles. No additional data extended into the 2010 data window where 3 observations did not exceed.

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

Sources:

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

James River Basin

Cause Group Code: I24R-01-BAC **Lapsley Run**

Location: Lapsley Run from its confluence with the James River upstream to its headwaters.

City / County: Botetourt Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

2-LAP001.20 (Rt. 726 Bridge) The 2010 and 2012 assessments find the same results as in the 2008 assessment. There are no additional data. Escherichia coli (E.coli) exceed the WQS instantaneous criterion of 235 cfu/100 ml in three of nine samples. These excursions cause the 2008 initial 303(d) Listing of these waters for 8.40 miles. E.coli values in excess of the criterion are: 800, 420 and 250 cfu/100 ml.

Lapsley Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.40**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: I25R-01-BAC **Catawba Creek**

Location: Catawba Creek from the confluence of Little Catawba Creek on Catawba Creek on downstream to the Catawba Creek confluence with the James River.

City / County: Botetourt Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Three Catawba Creek stations find non-supporting fecal coliform (FC) bacteria results. Two of the stations below (2-CAT000.34 & 2-CAT023.83) have sufficient Escherichia coli (E.coli) data to assess. Ultimately Escherichia coli (E.coli) will replace fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].
The waters remain impaired for the Recreation Use.

The original 2002 FC bacteria impairment was extended both upstream and downstream with the 2004 assessment. The extension downstream is from the Fincastle POTW to the Catawba Creek confluence with the James River (11.19 miles). The upstream extension is from the confluence of Little Catawba Creek downstream to the Roanoke Cement intake on Catawba Creek (1.14 miles). The original 2002 11.87 mile impairment began at the Roanoke Cement Co. water intake on Catawba Creek (37°28'12"/80°00'18") extending downstream to the Town Branch confluence with Catawba Creek (37°31'01"/79°52'45"). Current Escherichia coli (E.coli) data are insufficient within the 2012 Data Window to delist these waters.

2-CAT023.83- (Rt. 779 Bridge near Gage) There are no additional data within the 2012 data window. 2010 data report two of 12 E.coli observations in excess of the 235 cfu/100 ml instantaneous criterion with data through 2008. Exceeding values are 280 and 480 cfu/100 ml. FC exceeds in four of 12 observations with additional data through May 2003 in 2008. Each excursion is in excess of the former WQS 400 cfu/100 ml instantaneous criterion. The maximum exceedance is 1900 cfu/100 ml and the minimum is 500 (2004 upstream extension). The 2006 Integrated Report (IR) finds FC exceeds in four of 12 observations. The maximum exceedance is 1900 cfu/100 ml and the minimum is 500. Exceedance range is the same as in 2004 where FC exceeds in three of nine observations.

2-CAT014.63- (Rt. 606 Bridge, Botetourt Co.) There are no E.coli data within the 2010 or 2012 data windows. The 2008 IR finds FC exceeds the former WQS criterion in four of 14 observations with additional data through May 2003. The 2006 IR reports FC exceeds in six of 20 observations. Exceedances range from 500 to the maximum of 1300 cfu/100 ml (original 2002 303(d) Listing). FC exceeds in seven of 27 observations ranging from 500 to the maximum of 2000 cfu/100 ml in 2004.

2-CAT000.34- (Bridge near Salisbury Furnace) The 2010 assessment reports one Escherichia coli (E.coli) exceedance of the 235 cfu/100 ml WQS instantaneous criterion from 12 samples. The single exceeding value is 620 cfu/100 ml. Three of 12 FC observations exceed the former WQS instantaneous criterion of 400 cfu/100 ml in the 2008 assessment with additional data through May 2003. Values exceeding the WQS criterion range from 1100 cfu/100 ml to greater than 8000 (2004 downstream extension).

Catawba Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**24.21**

Sources:

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

James River Basin

Cause Group Code: **I25R-01-BEN** **Catawba Creek**

Location: Catawba Creek from Buchanan Branch downstream to the mouth of Little Catawba Creek.

City / County: Botetourt Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The impaired waters are partially de-listed for 9.16 miles with the 2012 assessment. 3.16 miles remain impaired.

2-CAT026.55 (Off Rt. 779 North of Catawba) This 2008 initial 303(d) Listing for General Standard (Benthic) impairment is based on two 2003 Virginia Stream Condition Index (VSCI) surveys scoring spring 36.4 and fall 56.9. More taxa, including a higher percentage of mayflies were collected in the fall sample. Also, fewer midge larvae (Chironomidae) were present in the fall sample helping to improve the benthic community score. The land use adjacent to and immediately upstream of the station is open pasture. The riparian zone is impacted by the pastures and bank erosion due to cattle access as well as poor bank vegetative protection.

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

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat

James River Basin

Cause Group Code: **I26R-01-BEN** **Mill Creek, UT (XUL)**

Location: Mill Creek, UT (XUL) from just downstream of the Rt. 11 crossing upstream to its headwaters.

City / County: Botetourt Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2-XUL001.67 (Downstream of Rt. 799 (Ammen Rd.) crossing) - Both the 2012 and 2010 Integrated Report (IR) finds the benthic community impaired for 5.32 miles from two 2008 Virginia Stream Condition Index (VSCI) surveys. VSCI scores are spring 33.9 and fall 50.9. This is a small second order tributary to Mill Creek. The average VSCI score for all samples was 42.4 indicating a benthic community with many organisms that are tolerant of pollution. Habitat scores indicate a stream reach with badly eroded stream banks, poor vegetative protection on the banks and in the riparian zone excessive deposits of sand and fine sediment on the stream bottom. The watershed consists of pastures, crop fields, and some residential areas.

Mill Creek, UT (XUL) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.31**

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Wet Weather Discharges (Non-Point Source)

James River Basin

Cause Group Code: **I26R-03-TEMP** **Ellis Run**

Location: Ellis Run mainstem from the Rt. 645 crossing downstream to its confluence with Back Creek.

City / County: Botetourt Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

2-ELS000.08- (Rt. 643 Bridge) Only three measurements remain within the 2012 data window with no exceeding values. Temperature data within the 2010 window find one of 13 measurements exceeding the Class V- Stockable Trout water criterion of 21°C on 7/13/2004. There are no additional data beyond the 2008 IR. Both the 2006 (15 measurements) and 2008 IR (18 measurements) report two temperature exceedances at 21.7°C on 6/12/02 and 22.7°C on 7/13/2004. These results produce the 1.67 mile impairment and 2006 initial 303(d) Listing.

Ellis Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.67**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **I28R-01-BAC** **Cedar Creek**

Location: Cedar Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 11.49 End Mile: 0.00 Total Impaired Size: 11.49 Miles)

City / County: Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment remains impaired due to violations of the e-coli WQS at station: 2-CEC000.04 (4 violations of 24 samples for e-coli) and 2-CEC003.60 (13 violations of 24 samples for e-coli). Initial Listing Date: 2002.

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.49**

Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.49**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I30R-01-BAC** **Calfpasture River**

Location: Calfpasture River from its confluence with Tizzle Branch downstream to its confluence with Hamilton Branch. (Start Mile: 26.52 End Mile: 23.72 Total Impaired Size: 2.8 Miles) The extents of this impairment were adjusted due to changes in the NWBD boundaries in 2010. The impairment length was shortened in 2012 as a downstream assessment unit returned to fully supporting status for bacteria.

City / County: Augusta Co Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-CFP024.20 (3 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Calfpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.80**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I30R-02-BAC** **Mill Creek**

Location: Mill Creek from a point approximately 2.2 miles upstream of its confluence with the Calfpasture River downstream to its confluence with the Calfpasture River. (Start Mile: 2 End Mile: 0.00 Total Impaired Size: 2 Miles) Upstream segment of this impairment de-listed in 2010.

City / County: Bath Co Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MIT000.04 (2 violations of 18 samples for e-coli in 2010, 0 of 15 samples in 2012, however, no new data are available for assessment and impairment carries forward). Initial Listing Date: 2006.

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.99**

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.99**

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

James River Basin

Cause Group Code: I30R-03-PH **Piney Branch**

Location: Piney Branch from the headwaters downstream to its confluence with Guys Run. (Start Mile: 2.24 End Mile: 0.00 Total Impaired Size: 2.24 Miles)

City / County: Rockbridge Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: UVA RB08 (12 violations of 12 samples for pH) in 2010. This data is now outside the assessment data window for 2012, however, the impairment carries forward to 2012. Initial Listing Date: 2006.

Piney Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.24**

Sources:

Atmospheric Deposition - Acidity

James River Basin

Cause Group Code: I32R-03-BAC **Little Calfpasture River**

Location: Little Calfpasture River from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 22.28 End Mile: 11.96 Total Impaired Size: 10.32 Miles)

City / County: Augusta Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-LCF013.93 (2 violations of 12 samples for e-coli). Initial Listing Date: 2004.

Little Calfpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.31**

Little Calfpasture River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**10.31**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I33R-01-BAC** **Cedar Grove Branch**

Location: Cedar Grove Branch from the headwaters downstream to its confluence with the Maury River. (Start Mile: 4.66 End Mile: 0.00 Total Impaired Size: 4.66 Miles)

City / County: Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-CGB001.80 (10 violations of 23 samples for e-coli). Initial Listing Date: 2004.

Cedar Grove Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.66**

Cedar Grove Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.66**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I33R-03-BAC** **Kerrs Creek**

Location: Kerrs Creek from the headwaters downstream to its confluence with the Maury River. (Start Mile: 11.57 End Mile: 0.00 Total Impaired Size: 11.57 Miles)

City / County: Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at stations: 2-KRR001.54 (4 violations of 12 samples for e-coli) and 2-KRR008.16 (2 violations of 6 samples for e-coli). Initial Listing Date: 2012.

Kerrs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.57**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I35R-02-BAC** **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the Maury River. (Start Mile: 8.59 End Mile: 0.00 Total Impaired Size: 8.59 Miles)

City / County: Rockbridge Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MIS000.04 (2 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.59**

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.59**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I35R-03-BAC** **Woods Creek**

Location: Woods Creek and tributary from the headwaters downstream to its confluence with the Maury River. (Start Mile: 5.71 End Mile: 0.00 Total Impaired Size: 5.71 Miles)

City / County: Lexington City Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2AWDS000.10 (3 violations of 12 samples for e-coli). Initial Listing Date: 2012.

Woods Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.71**

Sources:

Municipal (Urbanized High Density Area) Non-Point Source

James River Basin

Cause Group Code: **I35R-03-BEN** **Woods Creek**

Location: Woods Creek and tributary from the headwaters downstream to its confluence with the Maury River. (Start Mile: 5.71 End Mile: 0.00 Total Impaired Size: 5.71 Miles)

City / County: Lexington City Rockbridge Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-WDS000.12 (Impaired for VSCI), 2-WDS002.08 (Impaired for VSCI) and 2-WDS002.17 (Impaired for VSCI). Initial Listing Date: 2008.

Woods Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.71**

Sources:

Municipal (Urbanized High Density Area) Non-Point Source

James River Basin

Cause Group Code: **I36R-02-BEN** **Moores Creek**

Location: Moores Creek and tributaries from the headwaters downstream to its confluence with the South River. (Start Mile: 8.39 End Mile: 0.00 Total Impaired Size: 8.39 Miles)

City / County: Rockbridge Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-MRC002.14 (Impaired for VSCI); 2-MRC003.82 (Impaired for VSCI) and 2-MRC004.21 (Impaired for VSCI). Initial Listing Date 2006.

Moores Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.39**

Sources:

Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I36R-03-PH** **Saint Marys River**

Location: Saint Marys River from a point 1.78 miles above its confluence with Cellar Hollow downstream to its confluence with South River. (Start Mile: 1.78 End Mile: 0.00 Total Impaired Size: 1.78 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

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

This segment is impaired due to violations of the pH WQS at station: 2-SMR001.52 (3 violations of 17 samples for pH). Initial Listing Date: 2006.

Saint Marys River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.78**

Sources:

Atmospheric Deposition - Acidity

James River Basin

Cause Group Code: **I36R-03-TEMP** **Saint Marys River**

Location: Saint Marys River from a point 1.78 miles above its confluence with Cellar Hollow downstream to its confluence with South River. (Start Mile: 1.78 End Mile: 0.00 Total Impaired Size: 1.78 Miles)

City / County: Augusta Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 2-SMR001.52 (3 violations of 17 samples for temperature). Initial Listing Date: 2010.

Saint Marys River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.78**

Sources:

Source Unknown

James River Basin

Cause Group Code: **I36R-04-TEMP** **Irish Creek**

Location: Irish Creek from its confluence with Nettle Creek downstream to its confluence with the South River. (Start Mile: 8.1 End Mile: 0.00 Total Impaired Size: 8.1 Miles)

City / County: Rockbridge Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 2-ISH000.02 (2 violations of 11 samples for temperature). Initial Listing Date: 2010.

Irish Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**8.10**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I36R-05-BEN** **Marl Creek**

Location: Marl Creek and tributaries from the headwaters downstream to its confluence with the South River. (Start Mile: 6.87 End Mile: 0.00 Total Impaired Size: 6.87 Miles)

City / County: Rockbridge Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MRL002.62 (Impaired for VSCI). Initial Listing Date: 2012.

Marl Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.87**

Sources:

Agriculture Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I36R-06-BAC** **South River**

Location: South River from its confluence with Moores Creek downstream to its confluence with Irish Creek. (Start Mile: 13.23 End Mile: 5.58 Total Impaired Size: 7.65 Miles)

City / County: Augusta Co Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2-STH011.28 (2 violations of 11 samples for e-coli). Initial Listing Date; 2012.

South River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.65**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: I37R-02-PCB **Maury River**

Location: Maury River from its confluence with the South River downstream to its confluence with the James River. (Start Mile: 17.42 End Mile: 0.00 Total Impaired Size: 17.42 Miles)

City / County: Buena Vista City Rockbridge Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to the presence of PCB's in fish tissue at stations: 2-MRY011.23 (01 PCBs 3 sp 05 PCBs 3 sp) and 2-MRY011.86 (04 PCBs) This data now outside the 2012 assessment data window, however, the impairment carries forward to 2012. Initial Listing Date: 2006. VDH Fish Consumption Advisory

Maury River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**17.42**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **I37R-03-BAC** **Maury River**

Location: Maury River from its confluence with Indian Gap Run downstream to its confluence with the James River. (Start Mile: 12.84 End Mile: 0.00 Total Impaired Size: 12.84 Miles) This impairment was shortened in 2012 as an upstream assessment unit returned to fully supporting status.

City / County: Buena Vista City Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-MRY000.09 (3 violations of 12 for e-coli) (1 of 3 in 2012, no new data); 2-MRY005.39 (2 violations of 11 samples for e-coli) (1 of 3 in 2012, no new data). Impairment carries to 2012. Initial Listing Date: 2006.

Maury River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.84**

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I38L-01-PH** **Lexington Reservoir**

Location: Lexington Reservoir (Total Impaired Size: 22.76 Acres)

City / County: Rockbridge Co

Use(s): Aquatic Life

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

The lake is impaired due to violations of the pH WQS at 2-MOR003.60 (18 violations of 108 samples for pH). Initial Listing Date: 2010.

Lexington Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**22.76**	

Sources:

Atmospheric Deposition - Acidity

James River Basin

Cause Group Code: **I38R-01-BAC** **Buffalo Creek**

Location: Buffalo Creek from its confluence with North/South Fork Buffalo Creek downstream to its confluence with the Maury River. (Start Mile: 15.51 End Mile: 0.00 Total Impaired Size: 15.51 Miles)

City / County: Rockbridge Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-BLD000.22 (2 violations of 11 samples for e-coli; 1 of 3 in 2012, no new data, thus impairment carries forward). Initial Listing Date: 2004.

Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.51**

Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**15.51**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I38R-02-BAC** **Colliers Creek**

Location: Colliers Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 13.77 End Mile: 0.00 Total Impaired Size: 13.77 Miles)

City / County: Rockbridge Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2-CLL001.99 (2 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Colliers Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.77**

Colliers Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**13.77**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I38R-02-BEN** **Colliers Creek**

Location: Colliers Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 13.77 End Mile: 0.00 Total Impaired Size: 13.77 Miles)

City / County: Rockbridge Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for benthics at station: 2-CLL003.21 (Impaired for VSCI). Initial Listing Date: 2010.

Colliers Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**13.77**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **I38R-03-BAC** **South Fork Buffalo Creek**

Location: South Fork Buffalo Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 13.24 End Mile: 0.00 Total Impaired Size: 13.24 Miles)

City / County: Botetourt Co Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2-BSF000.15 (4 violations of 12 samples for e-coli).
Initial Listing Date: 2010

South Fork Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.24**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: **I38R-04-BAC** **North Fork Buffalo Creek**

Location: North Fork Buffalo Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 7.28 End Mile: 0.00 Total Impaired Size: 7.28 Miles)

City / County: Rockbridge Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli WQS at station: 2-BFN000.07 (2 violations of 12 samples for e-coli). Initial Listing Date: 2012.

North Fork Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.28**

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl

James River Basin

Cause Group Code: J01R-09-BEN **Crane Creek**

Location: Crane Creek from its headwaters to its mouth on Vaughans Creek

City / County: Appomattox Co Buckingham Co Cumberland Co Prince Edward Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-CNE000.96 (2008 Bio)
IM - Dairy cows have access to stream, though it is a very wooded area. Habitat consisted of numerous log jams, some good cobble riffles and some gravel riffles. The riffles weren't very embedded but sedimentation was high throughout the rest of the stream. Nitrogen concentrations in the stream were high, indicating a nutrient problem.

Crane Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.94**

Sources:

Source Unknown

James River Basin

Cause Group Code: **J03L-04-DO** **Goodwin Lake**

Location: Goodwin Lake

City / County: Prince Edward Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
2-XEP000.44 (2004 Goodwin Lake)
Dissolved Oxygen - 3/17 Violation Rate
Non-187 Lake - No nutrients assessed.

Goodwin Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**12.42**	

Sources:

Source Unknown

James River Basin

Cause Group Code: **J04R-01-BEN** **Bush River**

Location: Bush River from its headwaters to the confluence with Mountain Creek.

City / County: Prince Edward Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station IDs:
2-BSR017.69 (2008 Bio)
IM Benthic Assessment - This site was monitored in order to supplement probabilistic monitoring data from probabilistic monitoring site 2-BSR018.10, which can only be accessed via private land and cannot be revisited. Bush River has evidence of extremely high flows with very high sedimentation occurring instream. The habitat assessment scores very low for bank stability and bank vegetative protection. In the fall of 2008 a new clear-cut was noted on the right bank. The riffles had become more embedded, reducing available habitat for benthic macro invertebrates.
2-BSR018.10 (2005 Probmon)
J Rating Benthic Assessment - Condition of stream drastically different seasonally, therefore an accurate assessment is not possible without additional data. This site was part of the probabilistic monitoring program and can only be accessed via private land, therefore it will not be revisited. Seasonal difference noted. Abundant algal floc dominated riffles in spring but was not present in fall.

Bush River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.82**

Sources:

Source Unknown

James River Basin

Cause Group Code: J04R-02-BEN **Mountain Creek**

Location: Mountain Creek from its headwaters to its mouth on Bush River.

City / County: Prince Edward Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-MTC001.24 (Ambient, Bio)
IM - 2008 Bio
This monitoring station was characterized by sluggish flow, marginal habitat, considerable sediment deposition, and unstable banks with little vegetative protection.

Mountain Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.72**

Sources:

Source Unknown

James River Basin

Cause Group Code: J05R-01-BEN **Briery Creek**

Location: Briery Creek from the Briery Creek Lake Dam to the confluence with the Bush River.

City / County: Prince Edward Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
2-BRI007.80 (2004 Probmon)
Impaired Benthic Assessment - Fixed, stable habitat within stream reach. Sediments are frequently disturbed during high flow events. Briery Creek Reservoir is upstream of the sample reach. Flow modifications due to upstream dam may be affecting the benthic community.

Briery Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.10**

Sources:

Source Unknown

James River Basin

Cause Group Code: **J10R-01-BEN** **UT to Appomattox River**

Location: Mainstem to Appomattox

City / County: Amelia Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle this segment is impaired for aquatic life use due to benthic impairment at fresh water probabilistic monitoring station 2-XUE000.31

During the 2010 cycle this segment is impaired for aquatic life use due to benthic impairment at fresh water probabilistic monitoring station 2-XUE000.31.

During the 2012 cycle this segment will remain impaired for aquatic life use due to benthic impairment at fresh water probabilistic monitoring station 2-XUE000.31 because there is no new data in the data window.

UT to Appomattox River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.49**

Sources:

Source Unknown

James River Basin

Cause Group Code: **J10R-02-DO** **Goodes Creek**

Location: from the dam of the pond located at approximately 2.73 miles from the mouth to the Appomattox

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle the segment was impaired for low DO with a violation rate of 2/14, and assessed as Category 5C.

During the 2012 cycle the segment was impaired for low DO with a violation rate of 3/23.

Goodes Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **J10R-03-DO** **Smacks Creek**

Location: Headwaters to mouth

City / County: Amelia Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The 2012 cycle the segment was impaired at station 2-SMK006.57 for DO with a violation rate of 3/9.

Smacks Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.77**

Sources:

Natural Sources

James River Basin

Cause Group Code: **J11R-03-DO** **Bland Creek**

Location: Bland Creek from its headwaters to the confluence with Cellar Creek

City / County: Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle the segment was impaired for Low D.O. with a violation rate of 2/12.

During the 2012 cycle the segment was impaired for Low D.O. (10/35).

Bland Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **J11R-03-PH** **Bland Creek**

Location: Bland Creek from its headwaters to the confluence with Cellar Creek

City / County: Nottoway Co

Use(s): Aquatic Life

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

During the 2010 cycle the segment was impaired for low pH with violation a rate of 2/12.

During the 2012 cycle the segment was impaired for low pH(4/36).

Bland Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.35**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **J11R-04-DO** **Cellar Creek**

Location: From the confluence of Bland Creek to the mouth at Deep Creek

City / County: Amelia Co Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle the segment was impaired for D.O. with a violation rate of 5/35.

Cellar Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.71**

Sources:

Natural Sources

James River Basin

Cause Group Code: **J11R-04-PH** **Cellar Creek**

Location: From the confluence of Bland Creek to the mouth at Deep Creek

City / County: Amelia Co Nottoway Co

Use(s): Aquatic Life

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

During the 2010 cycle the segment was impaired for pH with a violation rate of 2/12.

During the 2012 cycle the segment was impaired for pH with a violation rate of 4/36.

Cellar Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.71**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: J12R-01-BEN **Winticomack Creek**

Location: Winticomack Creek from Long Branch to its mouth at the Appomattox River.

City / County: Amelia Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle the segment was impaired for Benthics at station 2-WTK001.50.

During the 2012 cycle the segment was remain listed as impaired for Benthics. There has been no new data since the 2010 cycle

Winticomack Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.96**

Sources:

Source Unknown

James River Basin

Cause Group Code: **J12R-06-PH** **Horsepen Branch**

Location: Headwaters to mouth

City / County: Amelia Co

Use(s): Aquatic Life

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

Horsepen Branch is assessed as not supporting for aquatic life use goals based on a dissolved oxygen violation rate 2/15 and a pH violation rate of 6/15 at the Rt. 622 bridge (2-HOI001.85).

Source of the DO and pH violations may be attributed to natural conditions

For 2008 it was assessed as not supporting for aquatic life based on a DO and pH violations at station at HoI001.85, violation rate was 1/15 for DO and 7/15 for pH.

For the 2010 cycle the segment was impaired for pH with a violation rate of 5/12 and the DO was fully supporting and delisted

For the 2012 cycle there was no data within the 5 year window so the pH violation will remain the same.

Horsepen Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.37**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: J14R-01-PH **Cattle Creek**

Location: Cattle Creek from headwaters to the limit with Lake Chesdin

City / County: Chesterfield Co

Use(s): Aquatic Life

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

In 2010 cycle the DEQ station 2-CCC001.15 was added and was impaired for pH with a violation rate of 2/12. The Chesterfield Co station was also impaired for pH. The Chesterfield data was not acceptable for an impairment but were assessed as an observed effect for low pH. The low pH could be due to natural conditions.

In 2012 cycle station 2-CCC001.15 was impaired for pH with a violation rate of 2/16. The Chesterfield Co station was also impaired for pH. The Chesterfield data was not acceptable for an impairment but were assessed as an observed effect for low pH. The low pH could be due to natural conditions.

Cattle Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.16**

Sources:

Natural Sources

James River Basin

Cause Group Code: J14R-02-PH **Stoney Creek**

Location: Stoney Creek from headwaters to the limit with Lake Chesdin

City / County: Chesterfield Co

Use(s): Aquatic Life

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

In 2010 cycle the DEQ station 2-STY001.96 was added and was impaired for pH with a violation rate of 8/10. The Chesterfield Co station was also impaired for pH. The Chesterfield data was not acceptable for an impairment but were assessed as an observed effect for low pH. The low pH could be due to natural conditions.

In 2012 cycle station 2DSTY001.96 was impaired for pH with a violation rate of 9/14. The Chesterfield Co station was also impaired for pH. The Chesterfield data was not acceptable for an impairment but were assessed as an observed effect for low pH. The low pH could be due to natural conditions.

Stoney Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.22**

Sources:

Natural Sources

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **J15E-01-EBTOX** **Appomattox River**

Location: Tidal Appomattox River from the confluence of Walthall Channel to the end of APPTF

City / County: Chesterfield Co Hopewell City Prince George Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Sediment Bioassays for Estuarine and Marine Water / 5A

WOE was performed in 2006 at station 2SAPP001.91 Was Category 5A scenario 1. The segment was also shortened to split WOE samples.

Appomattox River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sediment Bioassays for Estuarine and Marine Water - Total Impaired Size by Water Type:	**1.474**		

Sources:

Source Unknown

James River Basin

Cause Group Code: **J15R-01-BEN** **Appomattox River**

Location: Appomattox River from the Lake Chesdin dam downstream to the Confluence with Rohoic Creek

City / County: Chesterfield Co Dinwiddie Co Petersburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The segment was shortened from 7.502 miles to 5.13 miles. The segment is impaired for Benthics at station 2DAPP015.51.

Appomattox River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.13**

Sources:

Source Unknown

James River Basin

Cause Group Code: **J15R-02-BEN** **Oldtown Creek**

Location: Oldtown Creek from the confluence with Big Branch downstream to its tidal limit.

City / County: Chesterfield Co Colonial Heights City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

For the 2010 cycle the segment was impaired for Benthics at station 2-OTC001.54.

For the 2012 cycle the segment was impaired for Benthics at station 2-OTC001.54.

Oldtown Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.10**

Sources:

Source Unknown

James River Basin

Cause Group Code: **J15R-05-BEN** **Rohoic Creek**

Location: Mainstem Rohoic Creek from headwaters to mouth including tributaries

City / County: Dinwiddie Co Petersburg City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2012 cycle the segment became impaired for Benthics.

Rohoic Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.78**

Sources:

Non-Point Source

James River Basin

Cause Group Code: **J15R-08-PH** **Oldtown Creek**

Location: Headwaters to the confluence of Big Branch

City / County: Chesterfield Co

Use(s): Aquatic Life

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

For the 2010 Cycle the segment was impaired for pH with a violation rate of 2/10 at station 2-OTC005.38.

For the 2012 Cycle the segment was impaired for pH with a violation rate of 2/14 at station 2-OTC005.38.

Oldtown Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.61**

Sources:

Natural Sources

James River Basin

Cause Group Code: **J16R-02-DO** **Blackman Creek**

Location: Mainstem from its headwaters to its mouth at the confluence of Deep Creek and Horsepen Creek

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The segment is considered impaired of the Aquatic Life Use based on a dissolved oxygen violations at the Route 668 bridge (2-BCM000.79). In addition, phosphorus was listed as an observed effect in the segment.

The DO standards violation rate for Blackman Creek was 6/12 at the Rt. 668 bridge. However, it is suspected the low DO is due to natural conditions of the watershed. Therefore, for the 2006 cycle, Blackman Creek is assessed as Cat. 5C.

The segment also had observed effects for violation in Total Phosphorus standards with exceedances of 2/12.

The 2008 cycle the violation rate for DO was 6/12.

no new data for the 2010 cycle.

There is no new data for the 2012 cycle.

Blackman Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.45**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **J16R-02-PH** **Blackman Creek**

Location: Mainstem from its headwaters to its mouth at the confluence of Deep Creek and Horsepen Creek

City / County: Chesterfield Co

Use(s): Aquatic Life

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

The segment is considered impaired of the Aquatic Life Use based on a pH violations at the Route 668 bridge (2-BCM000.79). In addition, phosphorus was listed as an observed effect in the segment.

the pH violation rate was 3/12 at the Rt. 668 bridge. However, it is suspected the low pH is due to natural conditions of the watershed. Therefore, for the 2006 cycle, Blackman Creek is assessed as Cat. 5C.

The segment also had observed effects for violation in Total Phosphorus standards with exceedances of 2/12.

The 2008 cycle the violation rate for pH was 4/12.

no new data for the 2010 cycle.

There is no new data for the 2012 cycle.

Blackman Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.45**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **J17L-01-DO** **Swift Creek Lake**

Location: Swift Creek Lake

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

In 2006 the reservoir was impaired for DO in bottom waters during summer months due to stratification and the lake being drained in 2003. The Trophic State Index (TSI) is acceptable except for Secchi TSI = 67 (TSI >60). Since the Secchi TSI is larger than the Phos and Chl_a TSIs, the Secchi TSI is ignored and the segment is considered naturally impaired due to stratification.

For 2008 cycle there was no new data; Swift Creek Lake does not have defined nutrient criteria therefore the segment was moved to Cat 5A.

During the 2010 cycle the segment was impaired for DO with a violation rate of 9/58.

No new data since the 2010 cycle, the DO impairment remains.

Swift Creek Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**102.42**	

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Dam or Impoundment

James River Basin

Cause Group Code: **J17R-01-BEN** **Swift Creek**

Location: Swift Creek from the Swift Creek Lake dam downstream to its confluence with Licking Creek.

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

For the 2010 cycle the segment was impaired for Benthics at station 2-SFT019.02.

During the 2012 cycle the segment was impaired at station 2-SFT019.02 for Benthics.

Swift Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.10**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

James River Basin

Cause Group Code: **J17R-01-DO** **Swift Creek**

Location: Swift Creek from the Swift Creek Lake dam downstream to its confluence with Licking Creek.

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

In 1998, Swift Creek was assessed as threatened of the Aquatic Life Use due to dissolved oxygen violations. In 2002, the segment was considered partially supporting of the Aquatic Life use support goal based on water quality monitoring performed at the Route 655 bridge (2-SFT019.15). During the year 2004 cycle, the segment continued to show dissolved oxygen problems.

In 2006, the DO violation rate was 3/22 at the Rt. 655 bridge. However, it is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assessed as Cat. 5C.

In 2008 cycle, the DO violation rate was 4/26 at the Rt. 655 bridge. However, it is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assesses as Cat. 5C.

In the 2010 cycle the segment remained impaired for DO with a violation rate of 5/33. It is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assesses as Cat. 5A.

During the 2012 cycle the segment was impaired for DO at station 2-SFT019.15. However, it is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assessed as Cat. 5C.

Swift Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.10**

Sources:

Dam or Impoundment

James River Basin

Cause Group Code: **J17R-03-PH** **Franks Branch**

Location: The mainstem of Franks Branch

City / County: Chesterfield Co

Use(s): Aquatic Life

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

The segment was assessed as not supporting for aquatic life use due to a pH violation rate of 3/12 at the Rt. 626 bridge, 2-FNK001.12.

There was a pH violation rate of 16/23 recorded Chesterfield Co at both WQ-10 and WQ-11. These data are not acceptable for an impairment but will be assessed as an observed effect for low pH.

for the 2008 cycle the segment was assessed again as not supporting for aquatic life use due to a pH violation rate of 3/12. there was also a pH violation rate of 16/23 recorded for Chesterfield Co at both WQ-10 and WQ-11. These data sets are not acceptable for an impairment but will be assessed as an observed effect for low pH.

For the 2010 cycle the segment was assessed as not supporting for Aquatic Life use due to a pH violation rate of 3/15 at station 2-FNK001.12, the 2 Chesterfield stations WQ-10 and WQ-11 also had low pH.

During the 2012 cycle there was no new data so the pH remains impaired.

Franks Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.02**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **J17R-05-PH** **Church Branch**

Location: From headwaters to the mouth at Franks Branch

City / County: Chesterfield Co

Use(s): Aquatic Life

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

For the 2008 cycle the violation rate for pH was 8/8. This segment was assessed as Insufficient information with observed effects of pH, since methodology used for samples was uncertain.

For the 2010 cycle the segment was impaired for pH with a violation rate of 8/9 at station 2-CUR001.58.

For the 2012 cycle the segment was impaired for pH with a violation rate of 12/13 at station 2-CUR001.58.

Church Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.56**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **J17R-06-BEN** **Nuttree Branch**

Location: The mainstem of Nuttree Branch

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2012 cycle the segment was impaired for Benthics.

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

Sources:

Non-Point Source

James River Basin

Cause Group Code: **J17R-06-DO** **Nuttree Branch**

Location: The mainstem of Nuttree Branch

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

For the 2010 cycle 2 new stations were added Station 2-NUT002.22 was impaired for DO (2/9).

During the 2012 cycle the segment was impaired for DO(2/13).

Nuttree Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.31**

Sources:

Natural Sources

James River Basin

Cause Group Code: **J17R-06-PH** **Nuttree Branch**

Location: The mainstem of Nuttree Branch

City / County: Chesterfield Co

Use(s): Aquatic Life

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

for the 2006 cycle the pH violation rate recorded by Chesterfield Co was 4/20. However the data are not acceptable for an impairment, therefore the segment was assessed as fully supporting with an observed effect for low pH.

for the 2008 cycle the pH violation rate recorded by Chesterfield Co was 4/20. However the data are not acceptable for an impairment, therefore the segment was assessed as fully supporting with an observed effect for low pH.

For the 2010 cycle 2 new stations were added Station 2-NUT002.22 was impaired for pH (2/9).

During the 2012 cycle the segment was impaired for pH(2/13).

Nuttree Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.31**

Sources:

Natural Sources

James River Basin

Cause Group Code: **J17R-07-PH** **Second Branch**

Location: Second Branch from Headwaters downstream to confluence with Mann Creek

City / County: Chesterfield Co

Use(s): Aquatic Life

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

For the 2010 cycle the segment was impaired for pH at station 2-SEC008.84(A) with a violation rate of 4/12. The Chesterfield Co. stations are impaired with observed effects for pH and DO.

For the 2012 cycle the segment is impaired for pH at station 2-SEC008.84(A) with a violation rate of 4/16. The Chesterfield Co. and ACB stations are impaired with observed effects for pH and DO.

Second Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.84**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

James River Basin

Cause Group Code: **J17R-08-DO** **Swift Creek**

Location: Swift Creek from the Swift Creek Reservoir dam downstream to its confluence with Reedy Creek.

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

For the 2010 cycle 2 DEQ stations were added and both stations were impaired for DO.

For the 2012 cycle the segment still remains impaired for DO and there has been no new data since 2010 cycle.

Swift Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.66**

Sources:

Dam or Impoundment

James River Basin

Cause Group Code: **J17R-09-BEN** **Swift Creek**

Location: Swift Creek from Reedy Branch to the limit of Swift Creek Lake

City / County: Chesterfield Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

For the 2010 cycle the segment was impaired for Benthics at station 2-SFT025.32.

For the 2012 cycle the segment was impaired for Benthics at station 2-SFT025.32.

Swift Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.79**

Sources:

Source Unknown

James River Basin

Cause Group Code: J17R-10-PH **Timsbury Creek**

Location: Timsbury Creek from headwaters to mouth at Swift Creek

City / County: Chesterfield Co

Use(s): Aquatic Life

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

During the 2010 cycle the segment was impaired for pH with a violation rate of 3/11 at station 2-TBY001.54. Station WQ-04 is also impaired for pH.

During the 2012 cycle the segment was impaired for pH with a violation rate of 3/15 at station 2-TBY001.54.

Timsbury Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.65**

Sources:

Natural Sources

James River Basin

Cause Group Code: **J17R-11-PH** **Long Swamp**

Location: The mainstem of Long Swamp

City / County: Chesterfield Co

Use(s): Aquatic Life

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

For the 2010 cycle the segment was assessed as not supporting for Aquatic Life use due to a pH violation rate of 6/11.

For the 2012 cycle there was no new data since 2010 cycle so the pH violation remains.

Long Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.65**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E01R-01-BEN** **Thumb Run, East Branch**

Location: Begins at the headwaters of East Branch Thumb Run and continues downstream until the confluence of East Branch to the mainstem Thumb Run.

City / County: Fauquier Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A biological monitoring event in 2008 at station 3-THM001.40 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Thumb Run, East Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.88**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E02R-01-BEN** **Great Run**

Location: Begins at the confluence with an unnamed tributary to Great Run at rivermile 7.20, approximately 0.6 rivermile downstream from Route 802, and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One biological monitoring event, at station 3-GRT001.70, in 2008 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Great Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.87**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E03R-01-TEMP** **Hughes River**

Location: Begins at the upper crossing of Route 707 near the confluence of Rocky Run and continues downstream until the crossing of Route 231.

City / County: Madison Co Rappahannock Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

Instantaneous temperature criterion for stockable trout waters excursions (2 of 6 samples - 33.3%) from station 3-HUE007.31, at the lower crossing of Route 707.

Hughes River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.11**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E06R-02-BEN** **Battle Run**

Location: Begins at the confluence with an unnamed tributary to Battle Run, at rivermile 2.27, and continues downstream until the confluence with the Thornton River.

City / County: Rappahannock Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of 2 biological monitoring events in 2010 at station 3-RIP000.22, at Route 609, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Battle Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.15**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E08R-01-BEN** **Marsh Run**

Location: Begins at the confluence with Craig Run and continues downstream until the confluence with Harpers Run, at approximately rivermile 2.4.

City / County: Fauquier Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2008 at station 3-MAH004.18 at Route 668 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Marsh Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.87**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E08R-02-DO** **Browns Run**

Location: Begins at the confluence with an unnamed tributary to Browns Run, near the Route 17 bridge, and continues downstream until the confluence with Marsh Run.

City / County: Fauquier Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Sufficient excursions below the instantaneous dissolved oxygen criterion (4 of 12 samples - 33.3%) were recorded at DEQ's ambient water quality monitoring station (3-BOS000.72) at the Route 653 (Morganburg Road).

Browns Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.38**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E09R-01-BEN** **Mountain Run**

Location: Begins at the Route 15/29 bridge crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2003 and one of two biological monitoring events in 2004 at station 3-MTN003.31 (downstream of Route 672) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these four samples (2010 Assessment). Two biological monitoring events in 2006 at station 3-MTN018.83 (downstream of the Route 15/29 bypass) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Mountain Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.33**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E09R-01-PCB** **Mountain Run**

Location: Begins at the Route 15/29 bridge crossing near Culpeper City and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month. The affected stretch of Mountain Run extends roughly 19 miles, from the Route 15/29 bridge crossing near Culpeper City downstream until the confluence with the Rappahannock River.

Additionally, exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue was recorded in recorded in two species of fish (4 total samples) - American eel (2006) and yellow bullhead catfish (2006) at monitoring station 3-MTN005.79.

Mountain Run **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**19.33**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E09R-02-BEN** **Jonas Run**

Location: Begins at the confluence with an unnamed tributary to Jonas Run (XDZ), at approximately rivermile 3.74, and continues downstream until the confluence with Mountain Run.

City / County: Culpeper Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of two biological monitoring events in 2009 at station 3-JOA001.60, at Route 684, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Jonas Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.71**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E10R-01-BEN** **Sumerduck Run**

Location: Begins at the confluence with an unnamed tributary to Sumerduck Run, approximately 0.55 rivermile upstream of Route 632, and continues downstream until the confluence with another unnamed tributary, at Route 631.

City / County: Fauquier Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2009 and at station 3-SMR004.81, at Route 632, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Sumerduck Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.78**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E10R-02-BAC** **Sumerduck Run**

Location: Begins at the confluence of an unnamed tributary to Sumerduck Run, at Route 631, and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Sufficient excursions from the maximum E. coli bacteria criterion (3 of 15 samples - 20.0%) were recorded at DEQ's ambient water quality monitoring station (3-SMR002.60) at the Route 615 crossing.

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

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E11R-01-BEN** **Conway River**

Location: Segment begins at the confluence with an unnamed tributary to the Conway River, approximately 0.6 rivermile upstream from Route 230, and continues downstream until the confluence with the Rapidan River.

City / County: Greene Co Madison Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of 3 biological monitoring events in 2007 and 2008 at Station 3-CON002.26 located at Route 230 resulted in VSCI scores which indicate an impaired macroinvertebrate community.

Conway River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.90**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E13R-01-BEN** **Beautiful Run**

Location: Begins at an unnamed tributary at rivermile 3.44, and continues downstream to another unnamed tributary, upstream of Route 620.

City / County: Madison Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of two biological monitoring events in 2010 at station 3-BFL002.90, at Route 616, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

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

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E14R-01-TEMP** **Robinson River**

Location: Begins at the confluence with the Rose River, just downstream of Route 670, and continues downstream until the crossing of Route 231, rivermile 21.58.

City / County: Madison Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

2010 Assessment: Instantaneous temperature criterion excursions (4 of 25 samples - 16.0%) from station 3-ROB024.06, at Route 649.

Robinson River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**2.92**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E14R-02-TEMP** **Rose River**

Location: Begins at rivermile 2.6, approximately 0.36 rivermile downstream from the confluence with Strother Run, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

2010 Assessment: Instantaneous temperature criterion excursions (3 of 28 samples - 10.7%) from station 3-ROE000.75, at a private road.

Rose River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**2.46**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E15R-01-BEN** **Great Run**

Location: Begins at the headwaters of Great Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of two biological monitoring events in 2009 and one of two biological monitoring events in 2010, at station 3-GRA002.01 indicated an impaired macroinvertebrate community.

Great Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.41**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E17R-01-BEN** **Brook Run**

Location: Begins at the confluence with an unnamed tributary to Brook Run. At Route 647, and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One biological monitoring events in 2009 at station 3-BRK002.64 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Brook Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.45**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E18R-01-HG** **Rapidan River**

Location: Begins at the confluence with Flat Run and continues downstream to the confluence with the Rappahannock River.

City / County: Culpeper Co Orange Co Spotsylvania Co

Use(s): Fish Consumption

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

The fish consumption use is impaired for mercury in fish tissue. Three excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in three species of fish (3 total samples) collected in 2006 at monitoring station 3-RAP006.53 (American eel, rock bass, smallmouth bass).

Rapidan River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**10.26**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E19L-01-HG** **Motts Run Reservoir**

Location: Includes the entirety of Motts Run Reservoir.

City / County: Spotsylvania Co

Use(s): Fish Consumption

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

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury (Hg) fish consumption advisory. The advisory, dated 8/31/07, limits consumption of largemouth bass to no more than two meals per month. The affected area includes the entirety of Motts Run Reservoir.

Motts Run Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**137.17**	

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: E20E-03-PCB **Rappahannock River**

Location: Extends from the I-95 bridge above Fredericksburg downstream to the mouth of the river near Stingray Point, including its tributaries Hazel Run up to the I-95 bridge crossing and Claiborne Run up to the Route 1 bridge crossing.

City / County:				
Caroline Co	Essex Co	Fredericksburg City	King George Co	Lancaster Co
Middlesex Co	Richmond Co	Spotsylvania Co	Stafford Co	Westmoreland Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel, blue catfish, carp, channel catfish, croaker, gizzard shad, and anadromous (coastal) striped bass consumption to no more than two meals per month.

Rappahannock River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**128.866**		**8.59**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E20R-01-BEN** **Falls Run**

Location: Begins at the headwaters of Falls Run and continues downstream until the confluence with the Rappahannock River.

City / County: Stafford Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2009 at station 3-FAL000.13 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Falls Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.98**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E20R-02-BEN** **Hazel Run**

Location: Begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Fredericksburg City Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2009 at station 3-HAL002.72, upstream of Route 1, resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Hazel Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.38**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E20R-03-PH** **Massaponax Creek**

Location: Begins at the confluence with an unnamed tributary to Massaponax Creek, just upstream of Route 1, and continues downstream until the confluence with another unnamed tributary, at rivermile 2.68.

City / County: Spotsylvania Co

Use(s): Aquatic Life

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

Sufficient excursions below the lower limit of the pH criterion range (3 of 27 samples - 11.1%) were recorded at DEQ's ambient water quality monitoring station (3-MAP007.97) at the Route 1 crossing.

Massaponax Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.93**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E20R-04-PH** **Deep Run**

Location: Begins at the headwaters of Deep Run, and continues downstream to the confluence with an unnamed tributary at rivermile 2.19, downstream of Route 638.

City / County: Spotsylvania Co

Use(s): Aquatic Life

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

Sufficient excursions below the lower limit of the pH criterion range (3 of 6 samples - 50.0%) were recorded at NPS's water quality monitoring station (3DEP-06-NPS) at the Lee Drive bridge crossing.

Deep Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.51**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-01-BEN** **Muddy Creek**

Location: Begins at the confluence with an unnamed tributary to Muddy Creek, approximately 0.7 rivermile downstream from Route 218, and continues downstream until the confluence with the Rappahannock River.

City / County: King George Co Stafford Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events at station 3-MUY003.63, at Route 602, in 2007 resulted in a VSCI score that indicates an impaired macroinvertebrate community.

Muddy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.39**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-02-BEN** **Ware Creek**

Location: Begins at the headwaters of Ware Creek and continues downstream until the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road.

City / County: Caroline Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: One biological monitoring event in 2002 at station 3-WAE005.95 (Fort A.P. Hill) resulted in a MACS score which indicates an impaired macroinvertebrate community.

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

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-02-PH** **Ware Creek**

Location: Begins at the headwaters of Ware Creek and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co

Use(s): Aquatic Life

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

Sufficient excursions below the lower limit of the pH criterion range (5 of 17 samples - 29.4%) were recorded at DEQ's ambient water quality monitoring station (3-WAE000.72) at the Route 17 crossing, and, (2008 Assessment) 2 of 2 samples - 100% exceeded the criterion at DEQ's ambient water quality monitoring station (3-WAE005.95).

Ware Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E21R-03-BAC** **Gingoteague Creek**

Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Sufficient excursions from the maximum E. coli bacteria criterion (3 of 7 samples - 42.9%) were recorded at DEQ's ambient water quality monitoring station (3-GIN002.64) at the Route 625 crossing.

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

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-03-BEN** **Gingoteague Creek**

Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of two biological monitoring events in 2010 at station 3-GIN002.64 resulted in a MACS score which indicates an impaired macroinvertebrate community.

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

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-03-PH** **Gingoteague Creek**

Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (2 of 9 samples - 22.2%) from station 3-GIN002.64, at Route 625.

Gingoteague Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.38**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E21R-04-BEN** **Mill Creek**

Location: Begins at the confluence with an unnamed tributary, at rivermile 9.5, and continues downstream until the confluence with Peumansend Creek, at rivermile 6.06.

City / County: Caroline Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2004 at station 8-MTA012.09 (upstream of Route 646) resulted in a MACS score which indicates an impaired macroinvertebrate community.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.38**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-05-PH** **Mount Creek**

Location: Begins at the confluence with West Branch and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co

Use(s): Aquatic Life

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

Sufficient excursions below the lower limit of the pH criterion range (14 of 18 samples - 77.8%) were recorded at DEQ's ambient water quality monitoring station (3-MTC001.94) at the Route 17 crossing.

Mount Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.98**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E21R-07-BAC** **Mill Creek**

Location: Begins at the confluence with Peumansend Creek, at rivermile 6.06, and continues downstream until the tidal waters of Mill Creek.

City / County: Caroline Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Sufficient excursions from the maximum E. coli bacteria criterion (4 of 20 samples - 20.0%) were recorded at DEQ's ambient water quality monitoring station (3-MIC0001.66) at the Route 17 bridge crossing.

Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.17**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-07-PH** **Mill Creek**

Location: Begins at the confluence with Peumansend Creek, at rivermile 6.06, and continues downstream until the tidal waters of Mill Creek.

City / County: Caroline Co

Use(s): Aquatic Life

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

Sufficient excursions below the lower limit of the pH criterion range (3 of 20 samples - 15.0%) were recorded at DEQ's ambient water quality monitoring station (3-MIC001.66) at the Route 17 crossing.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E21R-08-DO** **Goldenvale Creek**

Location: Begins at the confluence with Doctor Branch and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: Caroline Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Excursions below the instantaneous dissolved oxygen criterion (2 of 8 samples - 25.0%) from station 3-GLL001.98, at Route 17.

Goldenvale Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E21R-08-PH** **Goldenvale Creek**

Location: Begins at the confluence with Doctor Branch and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: Caroline Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (4 of 8 samples - 50.0%) from station 3-GLL001.98, at Route 17.

Goldenvale Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E21R-09-PH** **Hugh Run**

Location: Segment begins at the headwaters of Hugh Run and continues downstream until the confluence with the Rappahannock River.

City / County: King George Co

Use(s): Aquatic Life

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

Sufficient excursions below the minimum dissolved oxygen criterion (2 of 2 samples - 100.0%) were recorded at DEQ's ambient water quality monitoring station (3-HUH001.19) to assess this stream segment as not supporting of the aquatic life use goal for the 2010 water quality assessment.

Hugh Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.29**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E21R-10-BAC** **Jetts Creek**

Location: Segment begins at the confluence of Boom Swamp with Jetts Creek, and continues downstream to the end of the free flowing waters.

City / County: King George Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Sufficient excursions from the maximum E. coli bacteria criterion (3 of 12 samples - 25.0%) were recorded at DEQ's ambient water quality monitoring station (3-JET003.49) at the Route 625 bridge crossing to assess this stream segment as not supporting the recreation use goal for the 2010 water quality assessment.

Jetts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.84**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-11-BAC** **Portobago Creek**

Location: Segment begins at the confluence of two intermittent tributaries around rivermile 6.66 and extends downstream to the end of the free-flowing waters.

City / County: Caroline Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Sufficient excursions from the maximum E. coli bacteria criterion (3 of 11 samples - 27.3%) were recorded at DEQ's ambient water quality monitoring station (3-PBC003.09) at the Route 17 bridge crossing.

Portobago Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.66**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E21R-11-DO** **Portobago Creek**

Location: Segment begins at the confluence of two intermittent tributaries around rivermile 6.66 and extends downstream to the end of the free-flowing waters.

City / County: Caroline Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Sufficient excursions below the lower limit of the DO criterion range (3 of 12 samples - 25.0%) were recorded at DEQ's ambient water quality monitoring station (3-PBC003.09) at the Route 17 bridge.

Portobago Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22E-01-EBEN** **Rappahannock River**

Location: The oligohaline mainstem of the Rappahannock River

City / County: Essex Co Richmond Co Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

During the 2010 cycle, the oligohaline portion of the mainstem Rappahannock indicated benthic impairment based on the Chesapeake Bay Benthic Index of Biological Integrity.

The segment remains impaired in the 2012 cycle.

Rappahannock River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**6.281**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E22E-02-EBEN** **Rappahannock River**

Location: The mesohaline mainstem of the Rappahannock River

City / County: Essex Co Lancaster Co Middlesex Co Richmond Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

In 2004 the mesohaline portion of the mainstem Rappahannock indicated benthic impairment based on the Chesapeake Bay Benthic Index of Biological Integrity. The impairment was attributed to low oxygen and the benthic impairment was treated as a confirmation of the impairment. The mainstem remained impaired in the 2006 cycle, however due to guidance changes the segment was 303(d) listed for estuarine bioassessments.

The segment remains impaired in the 2012 cycle.

Rappahannock River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**110.198**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E22E-08-CHLR** **Rappahannock River**

Location: The lower tidal freshwater Rappahannock River downstream of Devils Elbow.

City / County: Essex Co King George Co Westmoreland Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Chloride / 5C

During the 2004 cycle, the lower tidal freshwater area downstream of Devils Elbow at Toby Point and Green Bay (rivermile 70.52) and the transitional area of the Rappahannock River were assessed as not supporting the Aquatic Life and Wildlife Uses based on chloride exceedances at multiple stations, including 3-RPP064.40.

During the 2010 cycle, the Water Quality Standards were revised during Triennial Review. The freshwater-transitional zone boundary was moved upstream to rivermile 57.85. In addition, the chloride standard was removed in transitional waters. The standard still applies in freshwater areas and station 3-RPP064.40 remains in the freshwater area, therefore this impairment has been shortened to extend from Devils Elbow at Toby Point and Green Bay to the transitional zone boundary. The Rappahannock River below the new transitional boundary was delisted.

No additional monitoring has been conducted.

Rappahannock River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chloride - Total Impaired Size by Water Type:	**5.121**		

Rappahannock River **Wildlife**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chloride - Total Impaired Size by Water Type:	**5.121**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-02-DO** **Farmers Hall Creek**

Location: Farmers Hall Creek from its headwaters to its mouth at tidal Occupacia Creek

City / County: Essex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Farmers Hall Creek was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 3-FAR002.88. The exceedance rate at 3-FAR004.38 was acceptable (0/11).

Farmers Hall Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.00**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-02-PH** **Farmers Hall Creek**

Location: Farmers Hall Creek from its headwaters to its mouth at tidal Occupacia Creek

City / County: Essex Co

Use(s): Aquatic Life

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

In 2006, Farmers Hall Creek was assessed as not supporting of the Aquatic Life Use support goal based on pH violations at the Route 631 bridge (3-FAR002.88). The TMDL is due in 2018.

Additional monitoring was conducted during the 2012 cycle; the impairment was confirmed due to the following exceedance rates:

6/11 at 3-FAR002.88
4/11 at 3-FAR004.38

Farmers Hall Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.00**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-03-MIREX** **Occupacia Creek and Tributaries**

Location: Occupacia Creek from the headwaters to Hunters Millpond dam, and all tributaries entering above the tidal limit.

City / County: Essex Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Mirex / 5A

During the 2010 cycle, it was determined that station 3-BLK001.92 failed the water quality standard for Mirex in two 2002 SPMD values.

Occupacia Creek and Tributaries **Wildlife**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mirex - Total Impaired Size by Water Type:			**98.10**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E22R-04-PH** **Elmwood Creek**

Location: The nontidal portion of Elmwood Creek.

City / County: Essex Co

Use(s): Aquatic Life

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

Elmwood Creek was assessed as not supporting the Aquatic Life Use based on a pH exceedance rate of 4/10 at 3-ELM002.23, which is located at the Route 17 bridge.

No additional data has been collected.

Elmwood Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.03**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-05-BAC** **Baylors Creek**

Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Baylors Creek was assessed as impaired of the Recreation Use due to an E.coli exceedance rate of 2/16 at the Route 17 bridge (3-BAY002.62).

No additional data has been collected.

Baylors Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.10**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E22R-05-DO** **Baylors Creek**

Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Baylors Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/16 at the Route 17 bridge (3-BAY002.62). Natural conditions are suspected.

No additional data has been collected.

Baylors Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-05-PH** **Baylors Creek**

Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co

Use(s): Aquatic Life

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

During the 2008 cycle, Baylors Creek was assessed as impaired of the Aquatic Life Use due to a pH exceedance rate of 6/16 at the Route 17 bridge (3-BAY002.62).

No additional data has been collected.

Baylors Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-06-BAC** **Peedee Creek**

Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Peedee Creek was assessed as not supporting of the Recreation Use due to E. coli exceedances at the Route 640 bridge (3-PEE004.46). The violation rate was 7/34 during the 2012 cycle.

Peedee Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.31**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E22R-06-DO** **Peedee Creek**

Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Peedee Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at the Route 640 bridge (3-PEE004.46). The exceedance rate was 10/34 during the 2012 cycle.

Peedee Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.31**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-06-PH** **Peedee Creek**

Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co

Use(s): Aquatic Life

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

During the 2008 cycle, Peedee Creek was assessed as not supporting of the Aquatic Life Use due to pH exceedances at the Route 640 bridge (3-PEE004.46). The violation rate was 5/35 during the 2012 cycle.

Peedee Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.31**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E22R-07-DO** **Occupacia Creek, UT - XGI**

Location: The unnamed tributary XGI in its entirety.

City / County: Essex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, tributary XGI was mistakenly included within the nontidal Occupacia Creek segment. The segment failed for dissolved oxygen with an exceedance rate of 7/22 at station 3-XGI000.44. However, this stream actually enters below the fall line on Occupacia Creek and therefore was not reclassified as Class VII waters. The TMDL is due in 2020.

Occupacia Creek, UT - XGI **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.96**

Sources:

Natural Sources

Rappahannock River Basin

Cause Group Code: **E22R-07-PH** **Occupacia Creek, UT - XGI**

Location: The unnamed tributary XGI in its entirety.

City / County: Essex Co

Use(s): Aquatic Life

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

During the 2008 cycle, tributary XGI was mistakenly included within the nontidal Occupacia Creek segment. The segment failed for pH with an exceedance rate of 22/22 at station 3-XGI000.44. However, this stream actually enters below the fall line on Occupacia Creek and therefore was not reclassified as Class VII waters. The TMDL is due in 2020.

Occupacia Creek, UT - XGI **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.96**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E23L-01-HG** **Chandlers Millpond**

Location: Chandlers Millpond in its entirety

City / County: Westmoreland Co

Use(s): Fish Consumption

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

During the 2008 cycle, the Virginia Department of Health issued a fish consumption advisory for Chandlers Millpond based upon DEQ fish tissue monitoring at station 3-CMR001.00 in 2006. The advisory recommends consuming no more than two meals/month of largemouth bass due to the presence of mercury.

The DEQ monitoring showed mercury exceedances in both largemouth bass and black crappie.

Chandlers Millpond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**51.87**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Rappahannock River Basin

Cause Group Code: **E23R-12-DO** **Mussell Swamp**

Location: Headwaters to mouth at Piscataway Creek

City / County: Essex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Mussell Swamp was assessed as impaired of the Aquatic Life Use based on a dissolved oxygen exceedance rate of 2/16 at 3-MUS001.23, located at the Route 615 bridge. Natural conditions are suspected, therefore the segment is assessed as Cat. 5C until the natural conditions assessment can be performed. During the 2008 cycle, the exceedance rate was 3/26. No additional monitoring has been conducted.

Mussell Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.16**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E23R-16-BEN** **Church Swamp**

Location: Church Swamp from its headwaters to its tidal limit at Hoskins Creek

City / County: Essex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Church Swamp was assessed as not supporting the Aquatic Life Use due to impairment of the benthic community at freshwater probabilistic monitoring station 3-CRC001.38.

Church Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.24**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E24E-02-EBTOX** **Totuskey Creek**

Location: The tidal portions of Totuskey Creek.

City / County: Richmond Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Sediment Bioassays for Estuarine and Marine Water / 5A

During the 2006 cycle, estuarine probabilistic monitoring was conducted through the Coastal 2000 program at 3-TOT007.84 and 3-TOT004.92. The data was assessed by DEQ-CO through the Weight of Evidence approach. The alteration at station 3-TOT007.84 was assessed as Category 5A for toxics. The TMDL is due in 2018.

Totuskey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Sediment Bioassays for Estuarine and Marine Water - Total Impaired Size by Water Type:	**1.068**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E24E-05-PH** **Little Totuskey Creek**

Location: The tidal portions of Little Totuskey Creek.

City / County: Richmond Co

Use(s): Aquatic Life

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

During the 2010 cycle, nontidal Little Totuskey Creek was considered not supporting of the Aquatic Life Use based on pH exceedances at 3-LIK002.12, which is located at the Route 697 bridge. During the 2012 cycle, it was determined that the stream is tidally influenced at that location. The TMDL will be due in 2022 because the station was first impaired in the 2010 cycle. Additional stations within the segment were fully supporting and the impaired station has a marginal exceedance rate, therefore continued monitoring is recommended.

Little Totuskey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.055**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E24R-01-DO** **Bookers Mill Stream**

Location: Bookers Mill Stream from its headwaters to its mouth at the confluence with Totuskey Creek.

City / County: Richmond Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Bookers Mill Stream was impaired of the Aquatic Life Use due to the following dissolved oxygen exceedance rates:

2/12 at 3-BMS000.37
0/14 at 3-BMS002.00 (FS)
3/12 at 3-BMS004.42

Bookers Mill Stream **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.53**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E24R-03-PH** **Muddy Gut**

Location: Headwaters to mouth at Rappahannock River.

City / County: Essex Co

Use(s): Aquatic Life

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

During the 2008 cycle, Muddy Gut was assessed as impaired of the Aquatic Life Use based on a pH exceedance rate of 4/10 at the Route 607 bridge (3-MUG000.96).

No additional data has been collected.

Muddy Gut **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.63**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E24R-05-PH** **Branham Mill Swamp**

Location: Branham Mill Swamp from its headwaters to its mouth at Marshy Swamp

City / County: Richmond Co

Use(s): Aquatic Life

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

During the 2012 cycle, Branham Mill Swamp was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 3-BRA000.85.

Branham Mill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E24R-06-DO** **Richardson Creek and Tributaries**

Location: Headwaters to the tidal limit

City / County: Richmond Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Richardson Creek and its tributaries were impaired of the Aquatic Life Use due to the following dissolved oxygen exceedance rates:

4/12 at 3-RIC003.85
0/12 (FS) at 3-RIC005.00
4/12 at 3-RIC006.43
1/12 (FS) at 3-RNF002.04
7/12 at 3-XHJ000.04

Richardson Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.71**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E24R-06-PH** **Richardson Creek and Tributaries**

Location: Headwaters to the tidal limit

City / County: Richmond Co

Use(s): Aquatic Life

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

During the 2012 cycle, Richardson Creek and its tributaries were impaired of the Aquatic Life Use due to the following pH exceedance rates:

8/12 at 3-RIC003.85
3/12 at 3-RIC005.00
11/12 at 3-RIC006.43
2/12 at 3-RNF002.04
7/12 at 3-XHJ000.04

Richardson Creek and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.71**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E24R-08-PH** **XHL - Bookers Mill Stream, UT**

Location: Headwaters to mouth at Bookers Mill Stream

City / County: Richmond Co

Use(s): Aquatic Life

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

During the 2012 cycle, tributary XHL was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/11 at 3-XHL000.96, which is located at the Route 603 bridge

XHL - Bookers Mill Stream, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E24R-09-DO** **Marshy Swamp**

Location: Headwaters to tidal limit

City / County: Northumberland Co Richmond Co Westmoreland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, nontidal Marshy Swamp was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 3-MAY008.43, which is located at Route 618. Other stations in the stream were acceptable.

Marshy Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.63**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E25E-10-SF2** **Deep Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 023-121C, 7/28/2010 not included in 121, 11/16/1994

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation 023-121C, 7/28/2010

A 0.0491 sq. mi. portion of Deep Creek was assessed as impaired of the Shellfish Consumption Use on the 1998 303(d) list due to VDH condemnation 121, 11/16/1994. The condemnation began expanding in the 2002 cycle. However, the shellfish TMDL, which was completed during the 2008 cycle and was approved by the EPA on 8/2/2006, only addressed the 1998 impairment (see fact sheet E25E-10-SF). The TMDL for this downstream portion is due in 2014.

The condemnation shrank slightly and split in the 2010 cycle. It expanded and merged again in the 2012 cycle.

Deep Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.140**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E25E-11-SF2** **Lancaster Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 023-120B, 7/28/2010 not included in condemnation 023-120A, 8/14/1995

City / County: Lancaster Co Richmond Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 020-120B, 7/28/2010

A portion of Lancaster Creek was assessed as impaired of the Shellfish Use in the 1998 cycle due to VDH Shellfish Condemnation 120A, 8/14/1995. The TMDL Report for Shellfish Areas Listed due to Bacterial Contamination for Lancaster Creek was completed during the 2008 cycle and was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007. Bacteria was allocated to nonpoint sources. Although the condemnation on Lancaster Creek has extended downstream since the 1998 cycle, only the original impairment was included in the TMDL. Since the segment was first expanded downstream in the 2002 cycle, the TMDL for this downstream segment will be due in 2014. The condemnation shrank slightly in the 2010 cycle but expanded again in the 2012 cycle.

Lancaster Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.120**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E25E-12-SF** **Morattico Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 023-120C, 7/28/2010

City / County: Richmond Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 023-120C, 7/28/20110

Segment reduced slightly in the 2012 cycle.

(Note: In previous cycles, the Morattico Creek Shellfish impairment was mistakenly given a 2010 TMDL due date. During the 2008 cycle, it was determined that Morattico Creek was not listed on the 1998 303(d) list. The initial list date was corrected to 2002 and the TMDL due date was corrected to 2014.)

Morattico Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.138**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E25E-22-SF** **Robinson Creek**

Location: As described in VDH Shellfish Condemnation 028-177B, -C, and -D, 2/5/2009

City / County: Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 028-177B, -C, and -D, 2/5/2009

The upstream portion of Robinson Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 177, 5/28/1997. The TMDL for the original portion was completed and approved by the EPA on 11/15/2005. During the 2006 cycle, however, the condemnation was extended downstream. The TMDL for the expansion is due in 2018.

The expansion shrank and split in both the 2010 and 2012 cycles. In addition, this portion of the condemnation is seasonally condemned (partial delist).

Robinson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.060**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E25E-25-SF** **Mulberry Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 023-121B, 7/28/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 023-121B, 7/28/2010

Mulberry Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.008**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E25E-27-SF** **Parrotts Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 027-090A, 8/18/2009 not included in 90, 4/27/1989

City / County: Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 027-090A, 8/18/2009

The Shellfish TMDL report for "Rappahannock River: Mud and Parrotts Creeks" was approved by the EPA on 11/15/2005 and by the SWCB on 8/26/2008. The TMDL only addressed the 1998 portion of the current condemnation, therefore the upstream shellfish impairment is considered Cat. 4A. The TMDL for this downstream portion of the Parrotts Creek condemnation is due in 2020.

Parrotts Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E25E-28-SF** **Paynes Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 022-094B, 9/24/2009

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 022-094B, 9/24/2009

On older summaries Paynes Creek was shown to be non-productive. However, during the 2008 cycle, the area was determined to be condemned. The TMDL will be due in 2020.

Paynes Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E25E-29-SF** **Greenvale Creek**

Location: The portion of VDH Notice and Description of Shellfish Condemnation 022-094A, 9/24/2009 that is not included in the 11/7/1994 condemnation

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 022-094A, 9/24/2009

The downstream portion of Greenvale Creek was previously classified as seasonally condemned, therefore it was fully supporting with observed effects. During the 2008 cycle, the upstream condemnation was expanded and incorporated the downstream seasonally condemned section, as well as some additional area downstream (022-094A, 10/6/2005). The bacteria TMDL for the Shellfish Impairment on Greenvale Creek was developed. The TMDL, which was approved by the EPA on 8/2/2006 and by the SWCB on 6/27/2007, only addressed the original portion. Therefore this downstream segment was considered with a TMDL due date of 2020. During the 2010 cycle, the condemnation shrank. A portion remains seasonally condemned and the rest has been reopened for harvest. Both areas were delisted.

However, it expanded to the mouth in the 2012 cycle and was relisted (due 2024).

Greenvale Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.013**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E25R-01-PH** **Mud Creek**

Location: The tidal portion of Mud Creek.

City / County: Middlesex Co

Use(s): Aquatic Life

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

Mud Creek was initially assessed as not supporting the Aquatic Life Use support goal in 2004 based on pH exceedances at 3-MUC002.31, located at the Route 648 bridge.

During the 2006 cycle, it was thought that the station's classification as tidal during the 2004 cycle was a mistake. The impairments were transferred to nontidal Mud Creek.

However, during the 2012 cycle, it was determined that the station is actually tidally influenced. The pH impairment will be transferred to the tidal portion of Mud Creek.

Mud Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.205**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E25R-02-DO** **Lagrange Creek**

Location: Lagrange Creek from the headwaters to the extent of tide at approximately river mile 3.75.

City / County: Middlesex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Lagrange Creek was assessed in 2010 as not supporting of the Aquatic Life Use support goal based on dissolved oxygen exceedances recorded at the Route 610 bridge (3-LGG004.54). The exceedance rate was 7/24 during the 2012 cycle.

Lagrange Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.48**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E25R-04-DO** **South Branch Lagrange Creek**

Location: The nontidal portion of South Branch Lagrange Creek.

City / County: Middlesex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

South Branch Lagrange Creek was impaired of the Aquatic Life Use during the 2012 cycle due to a dissolved oxygen exceedance rate of 2/12 at 3-LSB002.17. The low dissolved oxygen (~2 mg/L) occurred during the summer months.

South Branch Lagrange Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.40**

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E25R-17-DO** **Masons Mill Swamp**

Location: Masons Mill Swamp from its headwaters downstream to its tidal limit.

City / County: Middlesex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During previous cycles, Masons Mill Swamp was mistakenly assessed as a tidal water. The creek was assessed as not supporting of the Aquatic Life Use for dissolved oxygen since the 2006 cycle because it was thought to be a part of the mesohaline portion of the Rappahannock; the TMDL had a 2010 due date because of the Bay Overlist.

However, during the 2008 cycle, it was determined that station 3-MAO000.62 is on the free flowing section of Masons Mill Swamp. The stream remained impaired for dissolved oxygen due to an exceedance rate of 4/13. The dissolved oxygen TMDL due date was changed to 2018.

Additional monitoring during the 2012 cycle confirmed the dissolved oxygen impairment (6/14).

Masons Mill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.36**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E26E-18-SF** **Myer Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 021-198B, 11/8/2010 not included in 198, 4/28/1997

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 021-198B, 11/8/2010

A portion of Myer Creek was included on the 1998 303(d) list due to VDH-DSS Condemnation 198, 4/28/1997. The TMDL was developed during the 2010 cycle and was approved by the EPA on 1/23/2008 and by the SWCB on 7/31/2008.

The condemnation grew slightly in the 2012 cycle. The small portion that now extends past the TMDL study area will be Category 5B; the TMDL is due in 2024.

Myer Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.003**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E26E-22-SF** **Windmill Point Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 018-053B, 11/2/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 018-053B, 11/2/2010

Windmill Point Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.081**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E26E-24-BAC** **Whiting Creek**

Location: Tidal Whiting Creek as described in VDH Shellfish Condemnation 030-051C, 10/3/2005

City / County: Middlesex Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

During the 2012 cycle, Whiting Creek was impaired of the Recreation Use due to an enterococci exceedance rate of 3/19 at 3-WHS000.89. Although Whiting Creek is administratively condemned by VDH and the Shellfish Use is therefore considered removed, the TMDL was completed and was approved by the EPA on 11/15/2005. However, the TMDL did not include a nearby VPDES discharger, therefore the Recreation Use cannot be considered nested.

Whiting Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.193**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-31-SF** **Myer Creek, UT**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198A, 11/8/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-198A, 11/8/2010

Size increased in the 2012 cycle.

Myer Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-33-SF** **Whitehouse Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-187A and -187D, 10/30/2009

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-187A and 187D, 10/30/2009

Size reduced in the 2012 cycle

Whitehouse Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.050**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-35-SF** **Davis Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-132C, 11/8/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 021-132C, 11/8/2010

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.043**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-36-SF** **Myer Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198C, 11/8/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-198C, 11/8/2010

Myer Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.017**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: E26E-41-SF **Woods Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 032-109B, 12/10/2009

City / County: Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 032-109B, 12/10/2009

Bush Park Creek was included on the 1998 303(d) list as impaired of the Shellfish Consumption Use due to VDH condemnation 109, 4/27/1989. The TMDL for this area was completed and was approved by the EPA on 6/7/2006 and by the SWCB on 6/27/2007. However, during the 2008 cycle, the condemnation expanded into the Rappahannock River and Woods Creek. The TMDL for Woods Creek and the Rappahannock River is due in 2020.

During the 2012 cycle, the condemnation shrank and split. Section A now matches the TMDL study area. The expansion is now limited to Woods Creek (032-109BB, 12/10/2009); the Rappahannock River segment will be partially delisted.

Woods Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.038**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Rappahannock River Basin

Cause Group Code: **E26E-42-SF** **Hunting Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 032-104A, 12/16/2010

City / County: Lancaster Co Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 032-104A, 12/16/2010

Size reduced in the 2012 cycle.

Hunting Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E26E-46-SF** **Eastern Branch Carter Creek**

Location: Portion of VDH condemnation 020-041A, 9/21/2010 not included on condemnation 41, 11/1/1996

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 020-041A, 9/21/2010

A portion of Eastern Branch Carters Creek was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41C, 11/1/1996. Although the segment has expanded several times, the TMDL was completed only for the original segment and was approved by the EPA on 9/20/2007. The original segment will be considered Category 4A; the TMDL for this downstream portion will be due in 2014 since it first expanded during the 2002 cycle. The expansion was shortened slightly in the 2012 cycle.

Eastern Branch Carter Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.031**		

Sources:

Non-Point Source

Rappahannock River Basin

Cause Group Code: **E26E-49-SF** **Moran Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 021-198D, 11/8/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-198D, 11/8/2010

Moran Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.049**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-50-SF** **Ewells Prong**

Location: Portion of VDH Shellfish Condemnation 021-187B, 10/30/2009 not included on 187A, 4/28/1997

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 021-187B, 10/30/2009

Condemnation first expanded in the 2008 cycle, shortened in the 2010 cycle.
No change in 2012 cycle.

Ewells Prong **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.012**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-51-SF** **Eastern Branch Corrotoman River, UT**

Location: Described in VDH condemnation 021-058D, 10/30/2009

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-058D, 10/30/2009

This cove was first assessed as impaired of the Shellfish Consumption Use during the 2008 cycle due to the expansion of condemnation 021-058B, 10/19/2005. This condemnation shrank and split during the 2010 cycle and this cove remains the only portion without a completed TMDL. The TMDL for the cove is due in 2020.

Eastern Branch Corrotoman River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-53-SF** **John Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 021-132E, 11/8/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-132E, 11/8/2010

John Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.036**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26E-54-SF** **Lowrey Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 021-132D, 11/8/2010

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-132D, 11/8/2010

Lowrey Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.028**		

Sources:

Source Unknown

Rappahannock River Basin

Cause Group Code: **E26R-02-DO** **UT to Western Branch Corrotoman River**

Location: An unnamed tributary (XEY) to Western Branch Corrotoman River from its headwaters to its mouth.

City / County: Lancaster Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, unnamed tributary XEY was considered impaired of the Aquatic Life Use based on a dissolved oxygen exceedance rate of 5/21 at the Route 604 bridge (3-XEY001.00).

No additional data has been collected.

UT to Western Branch Corrotoman River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E26R-02-PH** **UT to Western Branch Corrotoman River**

Location: An unnamed tributary (XEY) to Western Branch Corrotoman River from its headwaters to its mouth.

City / County: Lancaster Co

Use(s): Aquatic Life

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

During the 2006 cycle, unnamed tributary XEY was considered impaired of the Aquatic Life Use based on pH exceedances at the Route 604 bridge (3-XEY001.00). During the 2008 cycle, the exceedance rate was 5/21.

No additional data has been collected.

UT to Western Branch Corrotoman River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.27**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E26R-03-DO** **Norris Prong**

Location: Norris Prong from its headwaters to its tidal limit.

City / County: Lancaster Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Norris Prong was considered impaired of the Aquatic Life Use based on a dissolved oxygen exceedance rate of 4/10 at the Route 3 bridge (3-NOR001.00).

No additional data has been collected.

Norris Prong **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.41**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Rappahannock River Basin

Cause Group Code: **E26R-04-DO** **Browns Creek**

Location: Browns Creek from its headwaters to its tidal limit.

City / County: Lancaster Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Browns Creek was considered impaired of the Aquatic Life Use based on dissolved oxygen exceedances at the Route 614 bridge (3-BON001.65). The exceedance rate was 4/22 during the 2010 cycle.

No additional data has been collected.

Browns Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.60**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Roanoke and Yadkin River Basins

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

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

City / County: Montgomery Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2010 assessment finds the WQS General Standard contravened with benthic community impairment.

4AXMV000.63 (Off Rt. 615 along Chaucer Lane)- A 2007 Probabilistic site. Two Virginia Stream Condition Index (VSCI) surveys scoring spring 46.6 and fall 62.5 for an average score of 54.6. Taxa richness scores were higher in the spring sample; however, the abundance of pollution-tolerant organisms was high as well resulting in a lower VSCI score. Stream habitat scores were affected by the lack of instream cover for macroinvertebrates and fish, lack of bank vegetation and lack of riparian vegetative buffer. The station is on a 1st order headwater stream. There are ponds upstream of the station and immediate land use is residences with mowed lawns adjacent to the stream.

Smith Creek, UT (XMV) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.61**

Sources:

Loss of Riparian Habitat

Roanoke and Yadkin River Basins

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

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)- 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 6.37 miles to the temperature 303(d) List that were partially de-listed with the 2008 IR. The temperature impairment is extended upstream for 4.56 miles based on 2012 data for 4ARSF014.02.

4ARSF014.02 (Persimmon Road Bridge) The 2012 assessment finds 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 6.37 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) 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 6.24 mile waters remain impaired (Category 5C) for temperature.

Roanoke River, South Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**17.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

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 2012 data window find 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 WQS 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.41**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

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 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.72**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Roanoke and Yadkin River Basins

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

Location: Roanoke River mainstem from the confluence of the North and South Forks of the Roanoke River 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.) There are no additional data within the 2012 data window. One exceeding temperature at 22.8°C is recorded in excess of the 21°C criterion in 2012 from eight observations. 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.

Roanoke River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**13.08**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

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/info/mercury.html 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 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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**10.20**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

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

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

City / County: Roanoke City Roanoke Co Salem City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Virginia Stream Condition Index (VSCI) surveys find the Mud Lick Creek benthic community is impaired for 6.83 miles as a result of the 2008 assessment. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approved on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. The approved General Standard- Benthic TMDL did not specifically address the Mud Lick Creek benthic impairment.

4AMDL003.34- (Downstream of Brambleton Ave. behind Shell) Bio 'IM' Two VSCI surveys spring 2006 scoring 22.2 and fall 2005 scoring 35.1 for an average score of 28.7. There are no additional data beyond the 2008 assessment. Habitat data show stream impacts related to sedimentation, extensive bank erosion, and riparian zone disturbance. Low scores were observed for most of the eight individual metrics in the VSCI indicating a benthic community that is tolerant of pollution. Urban land cover with high levels of impervious surface causes an altered hydrology and resulting bank erosion. Sedimentation impacts may also be increased as land in the watershed is quickly being developed.

4AMDL002.93- (Near Foot Bridge Lower Station) The 2012 assessment reports Bio 'IM' Seven VSCI surveys (2005 - 2009) with and average score of 24.3. Bio 'IM' Five (2005-2007) VSCI surveys score 25.5 within the 2010 data window. 2008 assessment reports three VSCI surveys (2005 - 2006) with and average score of 29.9. Roanoke County implemented a stream restoration project along the Garst Mill Park Greenway in 2008. Habitat data indicates stream impacts related to sedimentation, extensive bank erosion, and riparian zone disturbance. Most of the individual metrics in the VSCI show a degraded benthic community that is tolerant of pollution. Since the stream bank enhancement project was completed in 2008, scores for bank stability and bank vegetation have improved.

Mud Lick Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.27**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization

Roanoke and Yadkin River Basins

Cause Group Code: **L04R-05-BEN** **Mason Creek**

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

City / County: Roanoke Co Salem City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Mason Creek benthic community exhibits impaired conditions for the 7.56 mile 2008 303(d) Listed waters. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is U.S. EPA approval on 5/10/2006 [Fed. ID 33861] and SWCB approved 9/07/2006. The approved TMDL did not specifically address the Mason Creek benthic impairment.

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

4AMSN000.53- (Arnold Burton Technical School Campus) Bio 'IM' Three VSCI surveys (2004 - 2005) with an average score of 37.6. There are no additional data beyond the 2008 IR. The benthic community is dominated by pollution tolerant organisms. Most of the habitat scores are in the optimal and sub-optimal range indicating that potential water quality problems are related to water chemistry rather than habitat limitations.

Mason Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.56**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Residential Districts	Urban Runoff/Storm Sewers
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

Roanoke and Yadkin River Basins

Cause Group Code: **L04R-06-BEN** **Barnhardt Creek**

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

City / County: Roanoke City Roanoke Co Salem City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2012 Integrated Report (IR) finds the Aquatic Life Use is impaired.

4ABHT001.90 (Downstream of Rt. 419, Roanoke City) Bio 'IM' Three VSCI surveys (2009-2010) with an average score of 36.8 indicating a benthic community dominated by pollution-tolerant taxa. Although several habitat scores were sub-optimal the habitat in this reach should support more mayfly and stonefly taxa which were extremely low during the surveys. Suburban land cover with a major road (Rt. 419) upstream of this station may cause altered hydrology and resulting bank erosion, sediment deposition, and runoff from roads. Riparian buffers are impacted on both sides by the sports fields at the school and residential backyards.

Barnhardt Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.04**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Streambank Modifications/destabilization	Wet Weather Discharges (Non-Point Source)

Roanoke and Yadkin River Basins

Cause Group Code: **L04R-07-BEN** **Murray Run**

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

City / County: Roanoke City Roanoke Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is found impaired with the 2012 assessment.

4AMUR001.82- Bio 'IM' Three VSCI surveys (2009-2010) with an average score of 19.5 indicating a benthic community dominated by pollution-tolerant taxa most notably Chironomidae (midge larvae). Although several habitat scores were sub-optimal the habitat in this reach should support more mayfly and stonefly taxa which were extremely low or absent during the surveys. Urban land cover with high levels of impervious surface upstream causes altered hydrology and resulting bank erosion, sediment deposition, and runoff of toxic substances from roads. Riparian buffers are good on one side of the stream while the opposite side of the stream is bordered by a mowed field.

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

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Streambank Modifications/destabilization	Wet Weather Discharges (Non-Point Source)

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: Botetourt Co Roanoke City Roanoke Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic community is impaired for 5.33 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 data window. 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.33**

Sources:

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

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. 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 & 8008 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**11.87**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

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 10.03 miles. There are no additional data within the 2012 data window.

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.03**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **L07R-02-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 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 57.4 from four surveys (2010 IR) conducted in the spring and fall seasons of both 2004 and 2005.

There are no additional data beyond the 2010 IR. Four VSCI Surveys remain (2005-2008) with an average score of 46.6 within the 2012 data window. The 2010 Listing is based on six VSCI surveys (2004 - 2008) with an average score of 54.3. This station was 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) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.88**

Sources:

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

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 3.90 mile temperature impairment returns with the 2012 assessment. The 2010 IR de-listed the temperature impairment.

4AGCR000.01- (Rt. 739 Bridge at Algoma) 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.

Green Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.90**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

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

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

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 2012 Integrated Report (IR). The temperature impairment has previously been de-listed in 2004 and 2010.

4ABSF001.15- (Rt. 641 Bridge east of Callaway) Five of 36 temperature measurements exceed the Class V Stockable Trout waters criterion of 21 °C. 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.

Blackwater River, South Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.04**

Sources:

Source Unknown

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 7.60 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 in 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) Two Virginia Stream Condition Index (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 Virginia Stream Condition Index (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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.60**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **L08R-06-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 4.59 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' The 2012 assessment reports two 2010 Virginia Stream Condition Index (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 reported a single 2002 VSCI survey scoring 60.2. Although the VSCI score in 2002 was above the 60.0 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.59**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **L08R-07-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 3.61 miles for this 2008 303(d) Listing.

4ABCE001.32 (Above Rt. 731 Bridge) Bio 'IM' Two 2010 VSCI surveys with an average score of 30.12. 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 Virginia Stream Condition Index (VSCI) surveys with an average score of 35.0. 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.61**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **L09R-01-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 no longer accessible and is moved to 4AMEE000.70 and assessed using the Virginia Stream Condition Index (VSCI). The 7.36 mile 2002 303(d) Listed General Standard (Benthic) impairment remains.

4AMEE002.38- Bio 'IM' Two 2010 Virginia Stream Condition Index (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:			**7.36**

Sources:

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

Roanoke and Yadkin River Basins

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

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 4.40 miles due to temperature exceedances for this stockable trout water (21°C).

4AMEE021.13- (Rt. 613 Bridge Below Conflu./w Fork) The 2012 assessment reports six of 27 temperature measurements exceed the stockable trout water criterion of 21°C 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.40**

Sources:

Source Unknown

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/info/mercury.html 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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**525.03**	**8.22**

Sources:

Source Unknown

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

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L10R-01-BEN** **Blackwater River**

Location: Blackwater River mainstem from downstream of the Rt. 921 Bridge ~ 1.3 miles at the confluence of an unnamed tributary (L08R) 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

The 14.26 mile benthic impairment is a 2008 303(d) Listing.

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. Habitat impacts include excessive sediment deposition. Water quality in this reach is affected by NPS pollution.

Blackwater River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.26**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **L11R-01-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) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.39**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**6,485.70**	

Sources:

Source Unknown

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) 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) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.21**

Sources:

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

Roanoke and Yadkin River Basins

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

Location: Pigg River mainstem from near Five Mile Mountain Road (Rt. 748) 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 4.32 miles.

4APGG076.93 (~ 1 mile upstream of the South Prong Pigg River confluence) Bio 'IM' Two 2009 VSCI surveys with an average score of 50.5. 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.32**

Sources:

Crop Production (Crop Land or Dry Land)	Dairies (Outside Milk Parlor Areas)	Livestock (Grazing or Feeding Operations)	Wet Weather Discharges (Non-Point Source)

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 2.51 miles with the 2008 303(d) Listing of these waters.

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

Sources:

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

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) 2.55 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. There are no additional data beyond the 2006 Integrated Report (IR).

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.55**

Sources:

Livestock (Grazing or Feeding Operations)	Sediment Resuspension (Clean Sediment)

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:		**31,646.71**	**102.39**

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.82**

Sources:

Source Unknown

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 Bio
IM - exhibited high seasonal variability. Sedimentation and elevated nutrients may be negatively affecting the stream community.

Reed Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.77**

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.92**

Sources:

Source Unknown

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).

4AWLF001.20- (Upstream of Joppa Mill) Bio 'IM' 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.82**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: 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 5.71 mile General Standard (Benthic) impairment is extended upstream in 2008 with an additional 7.29 miles showing benthic impairment at station 4ALOR014.75 for an additional impaired length of 13.0 miles. The 2010 assessment extends the impairment downstream 14.33 miles based on impaired benthic conditions at stations 4ALOR012.20, 4ALOR008.64 and 4ALOR007.20. Total impaired miles are 27.33 miles. There are no additional data within the 2012 data window.

4ALOR014.75- (Rt. 718 Bridge - above Bedford STP) Bio 'IM' One fall 2006 Virginia Stream Condition Index (VSCI) survey scoring 58.7. 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 'MI'; moderately impaired. There are no additional data beyond the 2004 IR where three 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.

4ALOR008.64 (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 Nicopolas 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**21.62**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Streambank Modifications/destabilization	Wet Weather Discharges (Non-Point Source)		

Roanoke and Yadkin River Basins

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

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/info/mercury.html 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 2012 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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**14.33**

Sources:

Urban Runoff/Storm Sewers

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' The 2010 assessment finds the benthic community impaired from three Virginia Stream Condition Index (VSCI) surveys (2006-2008) with an average score of 44.20. There are no additional data within the 2012 data window. 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.13**

Sources:

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

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 3.78 miles based on results from benthic surveys at station 4AWEL000.59.

4AWEL000.59- (Downstream of Rt. 747 Crossing) Bio 'IM' Both the 2010 and 2008 assessments find two 2005 Virginia Stream Condition Index (VSCI) surveys scoring spring 45.6 and fall 59.6. There are no additional data within the 2012 data window. 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.78**

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **L27R-01-BEN** **Buffalo Creek**

Location: Buffalo Creek from an unnamed tributary at the Route 811 crossing in Campbell County to its mouth on the Big Otter River.

City / County: Bedford Co Campbell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ABWA008.53 (2003 Probmon/2009 Bio)
IM - Flow regime and nutrients seem to negatively affect the stream community. Abundant periphyton and the presence of filamentous algae indicate elevated nutrients are the probable cause of the impairment.

Buffalo Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.09**

Sources:

Source Unknown

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:
4AFCA010.95 (2007 Bio)
IM - Flow regime and the subsequent sedimentation seem to be the main stressors to the stream community.

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

Sources:

Source Unknown

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.

East Little Seneca Creek, Unnamed Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.45**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L34R-02-PH** **Little Falling River**

Location: Little Falling River from its confluence with Jacobs Creek to its mouth on Falling River.

City / County: Campbell Co

Use(s): Aquatic Life

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

Station ID:
4ALRV007.84 (Ambient)
pH - 2/9 Violation Rate - Below 6.0

Little Falling River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**9.31**

Sources:

Source Unknown

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 - 2/9 violation rate - below 6.0

Entry Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.55**

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.66**

Sources:

Source Unknown

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

Sources:

Source Unknown

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:		**98.05**	

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.27**

Sources:

Source Unknown

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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**10.53**

Sources:

Source Unknown

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 Dunnavant 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.60**

Sources:

Source Unknown

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

Sources:

Source Unknown

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.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.

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

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **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 9.49 miles is extended 5.61 miles upstream with additional data obtained at 4ADAN181.10. The Aquatic Life Use remains impaired for temperature (Category 5C).

4ADAN181.10- (Rt. 648 Bridge near Kibler (Kibler Valley Rd.)) There are no additional temperature data beyond the 2008 assessment where 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**15.10**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L43R-01-BEN** **North Fork of the South Mayo River**

Location: North Fork South Mayo River mainstem from its headwaters (36°43'05" / 80°17'54") downstream to below the Route 640 crossing and upstream of the Bull Mountain Fork confluence (36°41'22" / 80°17'09").

City / County: Patrick Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This 2008 2.12 mile initial 303(d) Listing is the result of Virginia Stream Condition Index (VSCI) surveys finding impairment to the benthic community.

4ASNF007.64- (Off Rt. 621, Patrick Co.) Bio 'IM' There are no additional data beyond the 2008 assessment where four (2001 and 2002) VSCI surveys average score is 57.0. The station was located in the front yard of a residence near the headwaters of the stream. Upstream of the station the land cover was dominated by forested land. However immediately above the sample site the property had historically been used as a saw mill. The stream currently goes through two culverts that allow for driveway crossings. The stream has poor in stream habitat within the sample reach as indicated by low scores for substrate, velocity, and sediment. The channel has been altered from its natural shape. The immediate bank vegetation is mowed to the water line and riparian vegetation removed. Despite the habitat impacts the benthic community in most samples consisted of good numbers of several pollution sensitive taxa. It is possible that the benthic community could improve substantially with minimal stream channel and riparian restoration in the immediate stream reach.

North Fork of the South Mayo River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.12**

Sources:

Loss of Riparian Habitat	Streambank Modifications/destabilization

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 de-listed 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.46**

Sources:

Source Unknown

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 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/info/mercury.html for more information about mercury contamination and http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/ for VDH Advisories or Bans.

4ASMR004.17 (George Taylor Rd, Rt. 695 Bridge)- There are no additional data beyond the 2010 Integrated Report (IR). 2007 fish tissue records exceedance of the mercury (Hg) WQS tissue value (TV) of 0.30 ppm in smallmouth bass (1 fish 27.3 cm) at 0.442 ppm and (4 fish composite 38.0-43.1 cm) redhorse sucker at 0.419 ppm.

South Mayo River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**10.85**

Sources:

Source Unknown

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) Three VSCI surveys (2008-2010) results in a 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.23**

Sources:

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

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 Widgeon 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 9.18 mile Aquatic Life Use impairment remains.

4ASRE075.69- (Rt. 708 Bridge) Temperature exceeds the 20°C 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**9.18**

Sources:

Source Unknown

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/info/mercury.html 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 2012 data window.

Philpott Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**2,813.42**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

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.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.

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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**6.71**

Sources:

Source Unknown

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 9.04 mile natural trout water section. And is just upstream of the Class V stockable trout waters that are 2.11 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 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 down stream 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**11.15**

Sources:

Source Unknown

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) 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.94**

Sources:

Source Unknown

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

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

Sources:

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

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

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.

Jones Creek, UT (XMP) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.04**

Sources:

Landfills

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

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.

Machine Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.01**

Sources:

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

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

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.

Mulberry Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.44**

Sources:

Loss of Riparian Habitat

Sediment Resuspension (Clean Sediment)

Streambank Modifications/destabilization

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 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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,655.60**	**61.66**

Sources:

Source Unknown

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 Halifax Co Pittsylvania Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB 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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**1,655.60**	**61.66**

Sources:

Source Unknown

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 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.94**

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.02**

Sources:

Source Unknown

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

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
4ARUT000.45 (2009 Bio)
IM - Site 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)
Site 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:			**3.62**

Sources:

Source Unknown

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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**11.79**

Sources:

Source Unknown

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:
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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.82**

Sources:

Source Unknown

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 - 3/27 Violation Rate

Lawsons Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.51**

Sources:

Source Unknown

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)
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.

Grassy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.84**

Sources:

Source Unknown

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 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.92**

Sources:

Source Unknown

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 Bio)
IM - located in an older suburban watershed with abundant impervious surfaces.

Reedy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.84**

Sources:

Source Unknown

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 Bio
IM - Sediment and flow regime seem to affect the stream community negatively.

Bearskin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.31**

Sources:

Source Unknown

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 - 3/25 Violation Rate

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

Sources:

Source Unknown

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 - 1/9 Violation Rate

Roaring Fork Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**18.97**	

Sources:

Source Unknown

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 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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.47**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Roanoke and Yadkin River Basins

Cause Group Code: **L71R-04-BAC** **Banister River**

Location: Banister River from Banister Lake Dam to its mouth on the Dan River.

City / County: Halifax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4ABAN005.58 (Ambient)
E. coli - 8/36 Violation Rate
4ABAN001.86 (Ambient)
E. coli - 6/15 Violation Rate

Banister River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.91**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L71R-06-BAC** **Winn Creek**

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

City / County: Halifax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4AWNN000.99 (Ambient)
E. coli - 2/12 Violation Rate

Winn Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.94**

Sources:

Source Unknown

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 - 2/6 Violation Rate

Gibson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.26**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L73R-01-BAC** **Aarons Creek**

Location: Aarons Creek from the first unnamed tributary downstream of White House Road to its mouth on the Dan River.

City / County: Halifax Co Mecklenburg Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4AAAR004.72 (Ambient)
E. coli - 0/1 Violation Rate
No New Data for 2010

Aarons Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.03**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L73R-01-DO** **Aarons Creek**

Location: Aarons Creek from its headwaters to the first unnamed tributary downstream of White House Road.

City / County: Halifax Co Mecklenburg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
4AAAR006.20 (Ambient)
Dissolved Oxygen - 2/11 Violation Rate

Aarons Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.04**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L73R-02-BAC** **North Fork Aarons Creek**

Location: From its headwaters to the mouth on Aarons Creek

City / County: Halifax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4ANFA000.35 (Ambient)
E. coli - 2/15 Violation Rate

North Fork Aarons Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.43**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L74R-01-BAC** **Hyco River**

Location: Hyco River from the VA/NC state line to its mouth on the Dan River.

City / County: Halifax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4AHYC016.70 (Ambient)
E. coli - 8/35 Violation Rate

Hyco River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.16**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L74R-02-BAC** **Little Coleman Creek**

Location: Little Coleman Creek from its headwaters to Coleman Creek.

City / County: Halifax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4ALOL000.62 (Hog Farm Special Study & Follow-up)
E. coli - 2/12 Violation Rate

Little Coleman Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.45**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

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

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

City / County: Halifax Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station IDs:
4ACLB005.17 (Hog Farm Special Study & Follow-up)
E. coli - 3/6 Violation Rate
4ACLB007.78 (Hog Farm Special Study & Follow-up)
E.coli - 3/6 Insufficient Data

Coleman Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.42**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L74R-03-BEN** **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: Benthic-Macroinvertebrate Bioassessments / 5A

Station IDs:
4ACLB001.90 (2006 Probmon)
Impaired Benthic Assessment - Lack of suitable habitat is negatively affecting the stream community.

Coleman Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.42**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L74R-04-BAC** **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): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4ABLU002.02 (Ambient)
E. coli - 2/9 Violation Rate

Big Bluewing Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.66**

Sources:

Source Unknown

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 - 3/9 Violation Rate

Big Bluewing Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.66**

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.22**

Sources:

Source Unknown

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:		**31,646.71**	

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L75R-03-BAC** **Beech Creek**

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

City / County: Mecklenburg Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
4ABEE000.80 (Ambient)
E. coli - 2/9 Violation Rate

Beech Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.29**

Sources:

Source Unknown

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 Fecal Coliform / 5A

Station ID:
4ALFF001.85 (Ambient)
E. Coli - 0/2 Violation Rate
Total Fecal Coliform - 7/13 Violation Rate

Little Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.55**

Little Buffalo Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.55**

Sources:

Package Plant or Other
Permitted Small Flows
Discharges

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.55**

Sources:

Municipal Point Source
Discharges

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 - 7/36 Violation Rate

Little Bluestone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.46**

Sources:

Source Unknown

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 - 4/15 Violation Rate

Bluestone Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.13**

Sources:

Source Unknown

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:			**0.91**

Sources:

Non-Point Source

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 - 7/35 Violation Rate
4AALN016.38 (Ambient)
E. coli - 4/14 Violation Rate

Allen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.78**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

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

Location: Allen Creek from Layton Creek to Cox Creek.

City / County: Mecklenburg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
4AALN009.12 (Ambient)
DO - 7/34 Violation Rate

Allen Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.96**

Sources:

Source Unknown

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.

Cox Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.45**

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.45**

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.45**

Sources:

Source Unknown

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 - 2/9 Violation Rate

Cotton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.32**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

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

Location: Form 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 - 6/26 Violation Rate

Layton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.40**

Sources:

Source Unknown

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)
2005-2010 Bio
IM - Site 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.

Layton Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.40**

Sources:

Source Unknown

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 - 2/11 Violation Rate

Kettles Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.20**

Sources:

Source Unknown

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 - 4/10 Violation Rate

Kettles Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**5.20**

Sources:

Source Unknown

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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**114.58**	

Sources:

Source Unknown

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 **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.67**

Sources:

Source Unknown

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 - 2/9 Violation Rate

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

Sources:

Source Unknown

Roanoke and Yadkin River Basins

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

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

City / County: Mecklenburg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
4ASMI003.58 (Ambient)
DO - 2/9 Violation Rate

Smith Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.15**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

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

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

City / County: Mecklenburg Co

Use(s): Aquatic Life

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

Station ID:
4ASMI003.58 (Ambient)
pH - 2/9 Violation Rate

Smith Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.15**

Sources:

Source Unknown

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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**4,478.71**	**5.72**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **L81R-01-DO** **Poplar Creek**

Location: Poplar Creek from its confluence with Main Creek to Lake Gaston.

City / County: Brunswick Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
4APOB006.35 (Ambient)
Dissolved Oxygen - 3/12 Violation Rate

Poplar Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.30**

Sources:

Source Unknown

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 - 6/11 Violation Rate

Lizard Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.26**

Sources:

Source Unknown

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 at station 4BLOV008.45 exceeded the DDD Department of Environmental Quality screening value.

Lovills Creek Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDD - Total Impaired Size by Water Type:		**43.86**	

Sources:

Source Unknown

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 at station 4BLOV008.45 exceeded the DDE Department of Environmental Quality screening value.

Lovills Creek Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDE - Total Impaired Size by Water Type:		**43.86**	

Sources:

Source Unknown

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 at station 4BLOV008.45 exceeded the DDT Department of Environmental Quality screening value.

Lovills Creek Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDT in Fish Tissue - Total Impaired Size by Water Type:		**43.86**	

Sources:

Source Unknown

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 Mercury Department of Environmental Quality screening value.

Lovills Creek Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**43.86**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

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 44% exceedance of the E.coli water quality standard. Station 4BSTE007.99 had a 22% exceedance of the E. coli water quality standard.

Lovills Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.10**

Sources:

Source Unknown Unrestricted Cattle Access

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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDE - Total Impaired Size by Water Type:			**2.13**

Sources:

Source Unknown

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 **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
DDT in Fish Tissue - Total Impaired Size by Water Type:			**2.13**

Sources:

Source Unknown

Roanoke and Yadkin River Basins

Cause Group Code: **M02R-01-TEMP** **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): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

The ambient water quality monitoring station 4BLOV007.92 had a 33% exceedance of the 21°C stockable trout water criterion. Exceeding temperature values up to 25°C occurred from August 2005 to August 2006.

Lovills Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**2.13**

Sources:

Unrestricted Cattle Access

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 data window.

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

Sources:

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

Roanoke and Yadkin River Basins

Cause Group Code: **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 but outside the 2010 data window.

Ararat River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**5.97**

Sources:

Source Unknown

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.) Both the 2010 and 2008 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. There are no additional data within the 2012 data window.

Johnson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**8.87**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K01R-03-BEN** **Finneywood Creek**

Location: Finneywood Creek from its headwaters to its mouth on the South Meherrin River

City / County: Mecklenburg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
5AFNY004.78 (2005 Probmon)
Impaired Benthic Assessment - Stream runs through a pasture with active cattle access. Flow was minimal, sedimentation was extensive, organic solids were abundant in channel. Minimal habitat present.

Finneywood Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.83**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K02R-01-BEN** **North Meherrin River**

Location: North Meherrin River from Couches Creek to Reedy Creek.

City / County: Lunenberg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
5ANMR013.95 (2008 Bio)
IM - This section of the North Meherrin River has incised banks and a high rate of sedimentation. Cobble surfaces in riffles were dominated by periphyton.

North Meherrin River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.55**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K02R-03-BEN** **Kits Creek**

Location: Kits Creek from its headwaters to the mouth

City / County: Lunenberg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
5AKIT002.65 (2004-2005 Probmon)
IM - Limited instream habitat consisted of riffles dominated by bedrock. Excellent riparian zone.

Kits Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.72**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K02R-04-BEN** **Couches Creek**

Location: Couches Creek from its headwaters to its mouth on the North Meherrin River

City / County: Lunenberg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
5ACHS003.42 (Ambient)
2008 Bio
IM - Cobble riffles were partially embedded. Periphyton was abundant.
5ACHS006.33 (Special Study, Bio)
2008 Ammonia Study
Station located downstream of Victoria West Lagoon. Single violation of the chronic ammonia std
2008-2010 Bio
IM - Couches Creek at this site had marginal habitat with a high rate of sediment deposition. Black fluffy material was present throughout stream.

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

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K02R-05-DO** **Ledbetter Creek**

Location: Ledbetter Creek from its headwaters to its mouth.

City / County: Lunenberg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
5ALDB000.03 (Ambient)
Dissolved Oxygen - 2/12 Violation Rate

Ledbetter Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.64**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K05R-05-DO** **Hayes Creek**

Location: The mainstem of Hayes Creek.

City / County: Brunswick Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Hayes Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 5AHAY000.38, which is located at the Route 686 bridge.

Hayes Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.32**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K05R-05-PH** **Hayes Creek**

Location: The mainstem of Hayes Creek.

City / County: Brunswick Co

Use(s): Aquatic Life

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

During the 2010 cycle, Hayes Creek was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 5/11 at 5AHAY000.38, which is located at the Route 686 bridge.

Hayes Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.32**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K05R-06-BEN** **Little Genito Creek**

Location: Headwaters to mouth at Genito Creek.

City / County: Brunswick Co Mecklenburg Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle, Little Genito Creek was assessed as not supporting of the Aquatic Life Use due to benthic impairment at 2008 probabilistic monitoring station 5ALTG001.50.

Little Genito Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**12.01**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K07R-03-BEN** **Rocky Run**

Location: Rocky Run from the confluence with Sandy Branch downstream to its mouth at Roses Creek

City / County: Brunswick Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Rocky Run was assessed as impaired of the Aquatic Life Use due to a benthic impairment at freshwater probabilistic monitoring station 5ARYR001.23.

Rocky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.22**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08L-02-DO** **Brunswick Lake**

Location: Brunswick Lake

City / County: Brunswick Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

In 2006 Brunswick Lake was assessed as not supporting the Aquatic Life Use due to low dissolved oxygen in bottom waters. The low DO only occurred during periods of stratification, however the TSIs for the lake were above 60:

TSI(TP) = 64
TSI(CA) = 69
TSI(SD) = 66

Therefore the low dissolved oxygen was considered to be exacerbated by excessive nutrients and a TMDL was required. In addition, both total phosphorus and chlorophyll a were considered observed effects b/c of screening level exceedances. The lake should be reevaluated once nutrient criteria are established.

For the 2008 cycle nutrient criteria was developed for lakes and DO was no longer impaired. Only pH was impaired at 5ARDC007.30 with a violation rate of 5/36.

In the 2012 cycle the segment was listed as impaired for DO with a violation rate of 7/37.

Brunswick Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**138.38**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08L-02-PH** **Brunswick Lake**

Location: Brunswick Lake

City / County: Brunswick Co

Use(s): Aquatic Life

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

In 2006 Brunswick Lake was assessed as not supporting the Aquatic Life Use due to low dissolved oxygen in bottom waters. The low DO only occurred during periods of stratification, however the TSIs for the lake were above 60:

TSI(TP) = 64
TSI(CA) = 69
TSI(SD) = 66

Therefore the low dissolved oxygen was considered to be exacerbated by excessive nutrients and a TMDL was required. In addition, both total phosphorus and chlorophyll a were considered observed effects b/c of screening level exceedances. The lake should be reevaluated once nutrient criteria are established.

For the 2008 cycle nutrient criteria was developed for lakes and DO was no longer impaired. Only pH was impaired at 5ARDC007.30 with a violation rate of 5/36.

In the 2010 cycle the segment was listed as impaired for DO with a violation rate of 12/70.

In the 2012 cycle the segment was listed as impaired for pH with a violation rate of 10/66.

Brunswick Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**138.38**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08R-01-BAC** **Meherrin River**

Location: Meherrin River from Reedy Creek to Douglas Run.

City / County: Brunswick Co Greensville Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Meherrin River from Taylors Creek to Reedy Creek was originally considered fully supporting but threatened during the year 1998 cycle, but was downgraded during the 2002 cycle (K05R-02-BAC). During the 2006 cycle, the segment was assessed as not supporting of the Recreation Use support goal based on fecal coliform exceedances at 5AMHN068.30, 5AMHN073.98, and 5AMHN082.13 and E. coli exceedances at 5AMHN082.13.

During the 2010 cycle, the E. coli exceedance rate was 13/38 at 5AMHN082.13, 4/11 at 5AMHN075.24, 7/18 at 5AMHN073.98, and 4/18 at 5AMHN068.30. In addition, monitoring at 5AMHN060.95 indicated impairment (3/12 for E. coli), therefore the segment was extended downstream to Douglas Run. In the 2012 cycle, the exceedance rate was 18/41 at 5AMHN082.13; no additional monitoring was conducted at the other stations.

During the 2012 cycle, the Meherrin River and Tributaries bacterial TMDL was approved by the EPA on 4/12/2010 and by the SWCB on 9/30/2010. Although the upper portion was addressed in the TMDL, the expansion downstream to Douglas Run was not. The original portion of the Meherrin River is considered Category 4A. The extension will be split into a separate impairment which will be due in 2022.

Meherrin River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.07**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08R-01-PH** **Meherrin River**

Location: Meherrin River from Reedy Creek to Douglas Run.

City / County: Brunswick Co Greensville Co

Use(s): Aquatic Life

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

The Meherrin River from Taylors Creek to Douglas Run was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 4/12 at 5AMHN060.95, which is located at the Virginia Beach pipeline crossing.

Meherrin River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.07**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed — Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08R-03-BAC** **Wilson Creek**

Location: Wilson Creek from its headwaters to its mouth at Brunswick Lake.

City / County: Brunswick Co Greensville Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Wilson Creek was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5AWIL002.42, which is located at the Route 712 bridge.

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.89**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08R-03-BEN** **Wilson Creek**

Location: Wilson Creek from its headwaters to its mouth at Brunswick Lake.

City / County: Brunswick Co Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle, Wilson Creek was assessed as not supporting of the Aquatic Life Use due to impairment of the benthic community at 5AWIL002.42, which is located at Rt. 712.

Wilson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.89**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08R-03-DO** **Wilson Creek**

Location: Wilson Creek from its headwaters to its mouth at Brunswick Lake.

City / County: Brunswick Co Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2010 cycle, Wilson Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at 5AWIL002.42, which is located at Rt. 712. The exceedance rate was 8/35 during the 2012 cycle.

Wilson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.89**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K08R-03-PH** **Wilson Creek**

Location: Wilson Creek from its headwaters to its mouth at Brunswick Lake.

City / County: Brunswick Co Greensville Co

Use(s): Aquatic Life

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

During the 2010 cycle, Wilson Creek was assessed as not supporting of the Aquatic Life Use due to pH exceedances at 5AWIL002.42, which is located at Rt. 712. The violation rate was 16/37 during the 2012 cycle.

Wilson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.89**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K09R-01-DO** **Meherrin River**

Location: The Meherrin River from the Emporia Reservoir Dam to the Route 730 bridge

City / County: Emporia City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Meherrin River was initially listed during the 1998 cycle as fully supporting but threatened of the Aquatic Life Use support goal and was downgraded to impaired during the 2004 cycle due to a dissolved oxygen exceedances at the Route 301 bridge (5AMHN052.34). During the 2006 cycle, the violation rate was acceptable, therefore the segment was delisted.

However, during the 2008 cycle, the violation rate was 5/38, therefore the segment was relisted. The TMDL is due in 2020. The violation rate was 7/34 during the 2012 cycle.

Meherrin River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**27.04**

Sources:

Dam or Impoundment Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K09R-01-HG** **Meherrin River, Fontaine Creek, Mill Swamp**

Location: Meherrin River below Emporia Reservoir Dam to the state line, including its tributaries Fontaine Creek up to I-95 bridge crossing and Mill Creek up to I-95 bridge crossing

City / County: Emporia City Greensville Co Southampton Co

Use(s): Fish Consumption

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

On 9/16/2008, the Virginia Department of Health issued a fish consumption advisory due to mercury in bowfin and largemouth bass. The advisory includes the Meherrin River from Emporia Reservoir dam to the state line, including the tributaries Fontaine Creek and Mill Swamp up to the I-95 bridge crossings. The segment will be considered impaired of the Fish Consumption Use. The advisory was based on mercury exceedances at DEQ monitoring stations 5AMHN026.54, 5AMHN051.43, 5AFON006.07, and 5AMLS001.42.

Meherrin River, Fontaine Creek, Mill Swamp **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**68.05**

Sources:

Atmospheric Deposition - Toxics Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K09R-01-PCB** **Meherrin River**

Location: The Meherrin River from the Emporia Reservoir Dam to the Route 730 bridge

City / County: Emporia City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

During the 2004 cycle, the Meherrin River from the Emporia Reservoir dam downstream approximately 5 miles was assessed as not supporting the Fish Consumption Use due to PCBs in fish tissue in two samples at station 5AMHN051.43. During the 2006 cycle, VDH issued a fish consumption advisory for PCBs from the Emporia dam to the Route 730 bridge (12/13/2004). The segment was extended to match the advisory. The TMDL due date for PCBs is 2016.

Meherrin River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**27.04**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K10R-01-DO** **Rattlesnake Creek**

Location: Rattlesnake Creek mainstem from headwaters to its mouth at Fontaine Creek

City / County: Brunswick Co Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Rattlesnake Creek from Edwards Creek to its mouth was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances at several stations in the segment. The impairment was extended upstream in the 2012 cycle:

1/10 at 5ARSK000.23
5/21 at 5ARSK003.08
6/12 at 5ARSK006.97
4/12 at 5ARSK009.28
2/10 at 5ARSK011.59

Rattlesnake Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**17.14**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K10R-02-DO** **Fontaine Creek (Fountains Creek)**

Location: Fontaine Creek mainstem from Rattlesnake Creek to the confluence with tributary XGV

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Fontaine Creek from Rattlesnake to the confluence with tributary XGV was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances throughout the segment.

3/9 at 5AFON039.47
3/25 at 5AFON037.89
5/12 at 5AFON033.05
3/12 at 5AFON027.33

Fontaine Creek (Fountains Creek) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**17.10**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K10R-03-DO** **Quarrel Creek**

Location: Quarrel Creek mainstem from White Oak Creek to its mouth.

City / County: Brunswick Co Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Quarrel Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 5AQRL000.54, which is located at Rt. 602. The violation rate was 5/12 during the 2012 cycle.

Quarrel Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.34**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K10R-04-DO** **Beddingfield Creek**

Location: Beddingfield Creek from Mason Branch to its mouth at Fontaine Creek.

City / County: Brunswick Co Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Beddingfield Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen violations at 5ABDD000.69, which is located at Rt. 600. The violation rate was 5/11 during the 2012 cycle.

Beddingfield Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.18**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K10R-05-PH** **Long Branch**

Location: Long Branch from its headwaters to its mouth at Rattlesnake Creek

City / County: Brunswick Co

Use(s): Aquatic Life

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

During the 2010 cycle, Long Branch was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2/12 at 5ALNG000.77, which is located at Rt. 690.

Long Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.67**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K10R-06-DO** **Rocky Run**

Location: Rocky Run from the Doyle Lake dam to its mouth at Fontaine Creek.

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Rocky Run was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to dissolved oxygen exceedances at 5ARCY000.90, which is located at Route 604. The violation rate was 4/12 during the 2012 cycle.

Rocky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.86**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K10R-06-PH** **Rocky Run**

Location: Rocky Run from the Doyle Lake dam to its mouth at Fontaine Creek.

City / County: Greensville Co

Use(s): Aquatic Life

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

Rocky Run was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a pH exceedance rate of 2/12 at 5ARCY000.90, which is located at Route 604.

Rocky Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.86**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-03-DO** **Cattail Creek**

Location: Cattail Creek from its headwaters at Smith Pond dam to its mouth. Segment extended from Collier Branch during the 2010 cycle.

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Cattail Creek from its headwaters to Collier Branch was assessed in 2002 as not supporting the Aquatic Life Use because of dissolved oxygen exceedances. The TMDL is due in 2014. The exceedance rate was 4/16 at both 5ACTT002.73/PL-15B and 5ACTT005.89 / PL-15A. These stations are confined animal feeding operation (CAFO) special study stations.

Because monitoring had not occurred since 2002, the 2004 assessment was carried over to 2006 and 2008.

Additional monitoring was conducted during the 2010 cycle. The dissolved oxygen exceedance was confirmed with an exceedance rate of 3/11 at 5ACTT002.73. The segment was also extended to the mouth due to an exceedance rate of 8/12 at 5ACTT000.46.

Cattail Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.37**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-03-PH** **Cattail Creek**

Location: Cattail Creek upstream of Collier Branch.

City / County: Greensville Co

Use(s): Aquatic Life

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

The segment was assessed in 2002 as not supporting the Aquatic Life Use because of a pH exceedance rate of 3/16 at the Rt. 633 bridge (5ACTT005.89/PL-15A).

The station was a confined animal feeding operation (CAFO) special study station.

Because monitoring had not occurred since 2002, the 2004 assessment has been carried over to 2006, 2008, and 2010.

Cattail Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.33**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-04-DO** **Fontaine Creek**

Location: Fontaine Creek from the I-95 bridge to the Route 301 bridge.

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Fontaine Creek from I-95 to Route 301 was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 3/22 at 5AFON014.38. Continued monitoring is recommended due to the low violation rate and an acceptable violation rate at 5AFON016.90 (0/2.)

Fontaine Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.13**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-05-DO** **Beaverpond Creek**

Location: The mainstem of Beaverpond Creek within Virginia.

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Beaverpond Creek was assessed as not supporting of the Aquatic Life Use due to dissolved oxygen exceedances. The violation rates during the 2012 are as follows:

2/12 at 5ABVC002.31
3/12 at 5ABVC000.48

Beaverpond Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.36**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-06-PH** **XGV - Fontaine Creek, UT**

Location: Headwaters to mouth

City / County: Greensville Co

Use(s): Aquatic Life

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

XGV was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a pH exceedance rate of 3/7 at 5AXGV000.92.

XGV - Fontaine Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.83**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-07-DO** **XGW - Fontaine Creek, UT**

Location: Headwaters to mouth

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

XGW was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a dissolved oxygen exceedance rate of 2/9 at 5AXGW000.19, which is located at Rt. 650.

XGW - Fontaine Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.30**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-07-PH** **XGW - Fontaine Creek, UT**

Location: Headwaters to mouth

City / County: Greensville Co

Use(s): Aquatic Life

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

XGW was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a pH exceedance rate of 2/9 at 5AXGW000.19, which is located at Rt. 650.

XGW - Fontaine Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.30**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-08-DO** **XGU - Fontaine Creek, UT**

Location: Headwaters to mouth

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

XGU was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a dissolved oxygen exceedance rate of 9/12 at 5AXGU000.35, which is located at frontage road F-128.

XGU - Fontaine Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.83**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K11R-08-PH** **XGU - Fontaine Creek, UT**

Location: Headwaters to mouth

City / County: Greensville Co

Use(s): Aquatic Life

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

XGU was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a pH exceedance rate of 6/12 at 5AXGU000.35, which is located at frontage road F-128.

XGU - Fontaine Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.83**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K13R-01-BAC** **Tarrara Creek**

Location: This cause encompasses the entirety of Tarrara Creek located northeast of Boykins.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on the E.coli bacteria data exceeds the swimming criteria indicator with 9 violates/ 36 obs at Station 5ATRR002.50.

Tarrara Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.94**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K13R-02-DO** **Flat Swamp**

Location: This cause encompasses the are downstream of the confluence of Bellyache Swamp and Frank's Branch extending downstream to its confluence with Tarrara Creek.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on DO data from 2004 that exceed the criteria for this parameter. However this water is Class VII and there is not an established criteria for DO for 2012 Assessment. We are not able to determine use support for this 2012 cycle.

Flat Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.14**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K13R-03-BAC** **Meherrin River (Lower)**

Location: This cause encompasses the two miles upstream (33.40) and 2.07 miles downstream (13.40) of station @ 5AMHN023.40

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired at station 5AMHN023.40 (4 violates/ 35 obs.).

Meherrin River (Lower) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.04**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K14L-02-DO** **Nottoway Falls Lake**

Location: Nottoway Falls Lake

City / County: Lunenberg Co Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
5ANTW143.06 (2007 Nottoway Falls Lake)
DO - 3/11 Violation Rate

Nottoway Falls Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**32.26**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K14L-02-HG** **Nottoway Falls Lake**

Location: Nottoway Falls Lake

City / County: Lunenberg Co Nottoway Co

Use(s): Fish Consumption

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

Station ID:
5ANTW143.06 (2007 FT Sampling)
Hg 2 Species

Nottoway Falls Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**32.26**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K14R-01-BEN** **Nottoway River**

Location: Nottoway River from its confluence with Big Hounds Creek to its confluence with Little Nottoway River.

City / County: Lunenberg Co Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID:
5ANTW134.52 (2007 Probmon)
IM - This section of the Nottoway River had very slow-moving water and limited habitat availability, mostly in the form of large woody debris. Sediment deposition in the river was relatively high and banks were marginally stable. The flow was low in the fall due to the drought.

Nottoway River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.12**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K15L-01-HG** **Nottoway Pond**

Location: Nottoway Pond

City / County: Nottoway Co

Use(s): Fish Consumption

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

Station ID:
5ALZT000.12 (2007 FT Sampling)
Hg 2 Species

Nottoway Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**50.69**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K15R-03-DO** **Lazaretto Creek**

Location: Lazaretto Creek from the headwaters of Crystal Lake to its headwaters.

City / County: Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
5ALZT001.39 (Ambient)
Dissolved Oxygen - 2/12 Violation Rate

Lazaretto Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.87**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K16L-01-TP** **Fort Pickett Reservoir**

Location: Fort Pickett Reservoir

City / County: Brunswick Co Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Phosphorus (Total) / 5A

Station IDs:
5ANTW127.14 (Lake Station)
Lake treated with algaecides
Total Phosphorus - 2/3 Violation Rate (Median calculated from 3 sample years)

Fort Pickett Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**318.95**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K16R-03-DO** **Hurricane Branch**

Location: Hurricane Branch from Gettysburg Road crossing to its confluence with Nottoway River

City / County: Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
5AHUR001.91 (Ambient)
Dissolved Oxygen - 2/6 Violation Rate

Hurricane Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.94**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K16R-04-BAC** **Nottoway River**

Location: Nottoway River from Fort Pickett raw water intake to its confluence with Hurricane Branch.

City / County: Brunswick Co Nottoway Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
5ANTW126.94 (Ambient)
E. coli - 2/14 Violation Rate

Nottoway River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.38**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K16R-05-BAC** **Crooked Creek**

Location: Crooked Creek from its confluence with Seay Creek to the backwaters of Fort Pickett Reservoir

City / County: Lunenberg Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID:
5ACKD000.40 (Ambient)
E. coli - 2/9 Violation Rate

Crooked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.98**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K16R-06-DO** **Tommeheton Creek**

Location: Tommeheton Creek from its headwaters to the backwaters of Tommeheton Lake.

City / County: Brunswick Co Dinwiddie Co Lunenberg Co Nottoway Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
5ATMT006.63 (Ambient)
Dissolved Oxygen - 4/12 Violation Rate

Tommeheton Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.68**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K17R-01-BAC** **Nottoway River**

Location: The Nottoway River from Turkey Egg Creek to Sturgeon Creek.

City / County: Brunswick Co Dinwiddie Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, the Nottoway River from Turkey Egg Creek to Sturgeon Creek was assessed as not supporting of the Recreation Use due to E. coli exceedances at the Route 1 bridge (5ANTW109.02). The violation rate was 6/36 during the 2012 cycle.

Nottoway River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.13**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K17R-02-BAC** **Waqua Creek**

Location: Waqua Creek upstream of the Route 46 bridge

City / County: Brunswick Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Waqua Creek was initially assessed as not supporting of the Recreation Use goal during the 2002 cycle. In 2004, the impairment was based on fecal coliform exceedances at 5AWAQ020.52 (Route 617) and at 5AWAQ022.17 (private road).

These stations were confined animal feeding operation (CAFO) special study stations.

There had been no additional monitoring since 2002, so the 2004 assessment was carried over. However, additional monitoring was conducted during the 2012 cycle. The impairment was confirmed due to an E. coli violation rate of 3/12 at 5AWAQ020.52 and the impairment will be converted to E. coli.

Waqua Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.55**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-01-BAC** **Masons Branch**

Location: Masons Branch from its headwaters to its mouth at the Nottoway River.

City / County: Brunswick Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Masons Branch was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/17 at 5AMSN001.62, which is located at the Route 633 bridge.

Masons Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.89**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-01-PH** **Masons Branch**

Location: Masons Branch from its headwaters to its mouth at the Nottoway River.

City / County: Brunswick Co

Use(s): Aquatic Life

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

During the 2010 cycle, Masons Branch was assessed as not supporting of the Aquatic Life Use due to pH violations at 5AMSN001.62, which is located at the Route 633 bridge. The violation rate was 3/17 during the 2012 cycle.

Masons Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-03-BAC** **Buckskin Creek**

Location: Buckskin Creek from its headwaters to its mouth at the Nottoway River.

City / County: Dinwiddie Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Buckskin Creek was previously assessed as not supporting the Recreation Use goal based on a fecal coliform violations at the Route 609 bridge (5ABSK004.32).

Additional monitoring was conducted during the 2010 cycle. The impairment was confirmed and converted to E. coli due to a violation rate of 2/10. During the 2012 cycle, the violation rates were as follows:

2/12 at 5ABSK000.60
5/22 at 5ABSK004.32
3/12 at 5ABSK006.52
4/12 at 5ABSK007.40
2/12 at 5ABSK008.75
4/11 at 5ABSK011.17

Buckskin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.89**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-03-DO** **Buckskin Creek**

Location: Buckskin Creek from the confluence with XHW to the next downstream tributary.

City / County: Dinwiddie Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the portion of Buckskin Creek downstream of tributary XHW was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 6/12 at 5ABSK008.75, which is located at Rt. 692.

Buckskin Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.01**

Sources:

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

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-04-HG** **Nottoway River and Tributaries**

Location: The Nottoway River from the confluence with the Blackwater River at the Virginia-North Carolina state line upstream to State Route 619 near Purdy, including its tributaries Assamoosick Swamp, Three Creek up to I-95, Rowanty Creek and tributaries, Hatcher Run to I-85, and Arthur Swamp to I-85.

City / County: Dinwiddie Co, Emporia City, Greensville Co, Prince George Co, Southampton Co, Sussex Co

Use(s): Fish Consumption

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

During the 2008 cycle, the Nottoway River from the confluence with the Blackwater River at the Virginia-North Carolina state line upstream to State Route 619 near Purdy, including its tributary Assamoosick Swamp, was considered impaired of the Fish Consumption Use due to a VDH fish consumption advisory for mercury. Three Creek up to I-95, Rowanty Creek and its tributaries, Hatcher Run up to I-85, and Arthur Swamp up to I-85 were added to the advisory during the 2010 cycle. No more than two meals/mouth of largemouth bass, smallmouth bass, bowfin, redhorse sucker species, longnose gar, channel catfish, chain pickerel, or sunfish species are recommended.

The advisory was based on fish tissue exceedances of TSVs and TVs at several DEQ fish tissue monitoring stations, including 5ANTW091.70, 5ANTW075.48, 5ANTW077.95, 5ANTW045.45, 5AASM013.36, 5AROW002.41, 5AATH006.56, and 5AHRA004.16.

Nottoway River and Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**184.41**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-05-BEN** **Nottoway River, UT**

Location: An unnamed tributary (XEJ) of the Nottoway River in its entirety.

City / County: Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, the segment was assessed as impaired of the Aquatic Life Use due to an impaired benthic community at station 5AXEJ001.73 in 2001. The TMDL is due in 2020.

Nottoway River, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.81**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-06-BEN** **Nottoway River**

Location: The Nottoway River from Buckskin Creek downstream to the confluence with an unnamed tributary located near the Dinwiddie/Sussex Co. line

City / County: Brunswick Co Dinwiddie Co Greensville Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment of the Nottoway River was assessed as impaired of the Aquatic Life Use during the 2008 cycle due to benthic monitoring in Fall 2003 at freshwater probabilistic station 5ANTW097.27.

Nottoway River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.05**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-07-DO** **XAD - Buckskin Creek, UT**

Location: Tributary XAD from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the tributary XAD was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 5AXAD001.59, which is located at the Rt. 1 bridge.

XAD - Buckskin Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.90**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-08-DO** **XHW - Buckskin Creek, UT**

Location: Tributary XHW from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2012 cycle, the tributary XHW was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 5/11 at 5AXHW000.38, which is located at the Rt. 692 bridge.

XHW - Buckskin Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.62**

Sources:

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

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-09-BAC** **XHX - Buckskin Creek, UT**

Location: Tributary XHX from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, the tributary XHX was impaired of the Recreation Use due to an E. coli exceedance rate of 2/9 at 5AXHX001.19, which is located at the Rt. 709 bridge.

XHX - Buckskin Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.66**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K19R-10-BAC** **XHY - Buckskin Creek, UT**

Location: Tributary XHY from its headwaters to its mouth at Buckskin Creek.

City / County: Dinwiddie Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, the tributary XHY was impaired of the Recreation Use due to an E. coli exceedance rate of 3/11 at 5AXHY001.08.

XHY - Buckskin Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.61**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K21R-01-BAC** **Stony Creek**

Location: Stony Creek from Hawkins Run downstream to Mortar Branch.

City / County: Dinwiddie Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, Stony Creek from Hawkins Run downstream to Mortar Branch was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/10 at 5ASTO013.23, which is located at the Route 609 bridge. No additional data was collected in the 2012 cycle.

Stony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.20**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K21R-03-HG** **Stony Creek**

Location: Stony Creek from Mortar Branch downstream to its mouth.

City / County: Dinwiddie Co Sussex Co

Use(s): Fish Consumption

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

During the 2010 cycle, Stony Creek from Mortar Branch to its mouth was assessed as not supporting of the Fish Consumption Use due to mercury exceedances in flier sunfish and spotted bass during DEQ's 2007 fish tissue sampling.

Stony Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**8.44**

Sources:

Atmospheric Deposition - Toxics Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K21R-04-DO** **XID - Chamberlains Bed, UT**

Location: Headwaters to mouth at Chamberlains Bed

City / County: Dinwiddie Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 3/3 at National Park Service station 5AXID-PETE-10-NPS, which is located at the intersection of Gravelly Brook and Gravelly Run.

XID - Chamberlains Bed, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.95**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K21R-04-PH** **XID - Chamberlains Bed, UT**

Location: Headwaters to mouth at Chamberlains Bed

City / County: Dinwiddie Co

Use(s): Aquatic Life

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

During the 2012 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 3/3 at National Park Service station 5AXID-PETE-10-NPS, which is located at the intersection of Gravelly Brook and Gravelly Run.

XID - Chamberlains Bed, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.95**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K22R-02-DO** **Horsepen Branch**

Location: Horsepen Branch from its headwaters downstream to its mouth at Mill Run Branch

City / County: Dinwiddie Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Horsepen Branch was assessed as not supporting the Aquatic Life Use during the 2006 cycle due to dissolved oxygen exceedances at the Route 619 bridge (5AHSP000.38). During the 2008 cycle, the exceedance rate was 4/22. No additional data was collected during the 2010 or 2012 cycles.

Horsepen Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.96**

Sources:

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

Chowan River and Dismal Swamp Basins

Cause Group Code: **K22R-03-BAC** **Sappony Creek**

Location: Sappony Creek from its headwaters downstream to Spiers Pond.

City / County: Dinwiddie Co Sussex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Sappony Creek from the headwaters to Spiers Pond was assessed as impaired of the Recreation Use during the 2006 due to an E. coli violation rate of 3/12 at 5ASAP005.54. In the 2010 cycle, the impairment was shortened to begin at Mill Run Branch because the E. coli rate at 5ASAP013.69 was acceptable (1/20). The violation rate was 3/13 during the 2012 cycle, therefore the segment was returned to its original length.

Sappony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**21.09**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K23R-02-BAC** **Joseph Swamp**

Location: The mainstem of Joseph Swamp.

City / County: Prince George Co Sussex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, Jones Hole Swamp was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/9 at 5AJOE003.92, which is located at Rt. 602.

Joseph Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.00**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K23R-04-BAC** **Jones Hole Swamp and all its tributaries**

Location: Jones Hole Swamp and tributaries from the mouth at the Nottoway River to their headwaters.

City / County: Prince George Co Sussex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, the Jones Hole Swamp watershed was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 5/22 at 5AJNH001.73, which is located at the Route 637 bridge.

No additional data was collected in the 2012 cycle.

Jones Hole Swamp and all its tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**61.84**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K23R-10-BAC** **Rowanty Creek**

Location: Rowanty Creek mainstem downstream of Cattail Creek.

City / County: Dinwiddie Co Prince George Co Sussex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, lower Rowanty Creek was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 5AROW004.72, which is located at the Route 618 bridge. Continued monitoring is recommended to confirm the impairment because all other stations in the segment were acceptable.

Rowanty Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.89**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K24R-03-BAC** **Hunting Quarter Swamp**

Location: The mainstem of Hunting Quarter Swamp.

City / County: Sussex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Hunting Quarter Swamp was assessed as impaired of the Recreation Use due to an E. coli violation rate of 2/14 at the Route 642 bridge (5AHQS006.22). No additional data has been collected since 2006.

Hunting Quarter Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.60**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K26R-02-BAC** **Three Creek**

Location: From Otterdam Swamp downstream to Browns Branch. Nested in segment VAP-K26R-01.

City / County: Greensville Co Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the year 2006 cycle, Three Creek from Otterdam Swamp to Browns Branch was assessed as not supporting of the Recreation use support goal based on E. coli exceedances at the Route 615 bridge (5ATRE022.05). The exceedance rate was 3/23 during the 2010 cycle. No additional data was collected during the 2012 cycle.

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

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K26R-03-BAC** **Three Creek**

Location: Three Creek from Cattail Creek downstream to Slagles Dam.

City / County: Greensville Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Three Creek from Cattail Creek to the backwater of Slagles Lake was assessed as not supporting of the Recreation Use based on an E. coli exceedance rate of 2/10 at the Route 610 bridge (5ATRE038.07). The exceedance rate was 4/22 during the 2010 cycle.

Three Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.34**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K26R-04-BAC** **Maclins Creek**

Location: Maclins Creek in its entirety.

City / County: Greensville Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Maclins Creek was impaired of the Recreation Use due to an E.coli exceedance rate of 2/15 at 5AMCC000.08, which is located at the Route 610 bridge.

Maclins Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.70**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K27R-02-BAC** **Three Creek - Lower & Upper**

Location: This cause encompasses the area from the confluence of Chatman Branch (RM 20.95) downstream to the confluence with Nottoway River (RM 0.00).

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on the E Coli data exceedance of the swimming criteria indicator at Stations 5ATRE008.48(8 violates/ 36 obs.) and 5ATRE016.02 (7 violates/ 35 obs.).

Three Creek - Lower & Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.23**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K27R-03-BEN** **Applewhite Swamp**

Location: This cause encompasses the area from the start of swamp (near Harrells Mill) downstream to confluence with Three Creek. Located south of Mason & northeast of Arringdale.

City / County: Southampton Co Sussex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained based on the Benthic population rating from the Benthic ProbMon-Benthic IM [MI:S&F-'01, S&F-'02]. No data within Assessment window. Impairment retained until new data collected.

Applewhite Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.77**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K27R-05-BEN** **Three Creek - Upper**

Location: This cause encompasses the area from the confluence of Chatman Branch (RM 20.95) downstream to above Southampton Correctional Farm at Rt 308 crossing (RM 10.04).

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained based on the stream benthic monitoring assessment rating as indicated in the following sample event (MI in Fall-'04].

Three Creek - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.85**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-01-BAC** **Mill Swamp**

Location: This cause encompasses the Main stem of Mill Swamp only, from headwaters downstream to the confluence with the Nottoway River. Tributary to Nottoway R, downstream of PWS. W of Delaware.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on the Ecoli data at Station 5AMSP000.16 with 4 viol / 12 obs.

Mill Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.19**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-01-DO** **Mill Swamp**

Location: This cause encompasses the Main stem of Mill Swamp only, from headwaters downstream to the confluence with the Nottoway River. Tributary to Nottoway R, downstream of PWS. W of Delaware.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on the dissolved oxygen exceedances at Station 5AMSP000.16 (3 violates/ 12 obs.).

Mill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.19**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-01-PH** **Mill Swamp**

Location: This cause encompasses the Main stem of Mill Swamp only, from headwaters downstream to the confluence with the Nottoway River. Tributary to Nottoway R, downstream of PWS. W of Delaware.

City / County: Southampton Co

Use(s): Aquatic Life

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

The Aquatic Life Use is impaired based on the pH exceedances at Station 5AMSP000.16 (2 violates/ 12 obs.).

Mill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.19**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-02-BEN** **Buckhorn Swamp**

Location: This cause encompasses the segment of Buckhorn Swamp that is near Pope Count, segment is located between State Hwy 652 and US Hwy 58. Segment ends below State Hwy 657.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the Benthic population rating from the Benthic ProbMon-sample events [MI:F-'06, VI:S-'06] at Station 5ABKH005.16.

Buckhorn Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.67**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-03-BEN** **Nottoway River - Middle & Lower**

Location: This cause encompasses the middle portion of Nottoway River, 5 miles above Norfolk's intake @ Courtland (RM 32.0) downstream to end of watershed K28 (NW of Delaware).

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the Benthic population rating from the Benthic ProbMon-sample events at Station 5ANTW029.65[SI:S&F- 09] and [SI:S-05,06 & F-08,09,10; MI:F-05,06,07 & S-07,08,09,10] at Station 5ANTW016.45.

Nottoway River - Middle & Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.58**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-05-BAC** **Buckhorn Swamp**

Location: This cause encompasses the segment of Buckhorn Swamp near Pope that crosses over Route 652.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on Ecoli data collected at Station 5BKH003.89 with 2 viol / 12 obs.

Buckhorn Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.50**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-06-DO** **Nottoway Swamp**

Location: This cause encompasses the segment of Nottoway Swamp near Route 611.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Aquatic Life Use is impaired based on DO and pH exceedances at Station 5ANT002.96. DO - 5 viol / 11 obs and pH 8 viol / 11 obs.

Nottoway Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.05**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K28R-06-PH** **Nottoway Swamp**

Location: This cause encompasses the segment of Nottoway Swamp near Route 611.

City / County: Southampton Co

Use(s): Aquatic Life

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

Aquatic Life Use is impaired based on DO and pH exceedances at Station 5ANT002.96. DO - 5 viol / 11 obs and pH 8 viol / 11 obs.

Nottoway Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.05**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K29R-01-NH3** **XDX - UT to Seacorrie Swamp**

Location: An unnamed tributary of Seacorrie Swamp from its headwaters to its mouth.

City / County: Sussex Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Ammonia (Un-ionized) / 5A

In the year 2002 cycle, UT to Seacorrie Swamp XDX was assessed as impaired of the Wildlife and Aquatic Life Uses due to ammonia exceedances. The TMDL is due in 2014. Although there were no further exceedances of the acute criteria, there have been exceedances of the chronic criteria, therefore the segment will remain listed.

XDX - UT to Seacorrie Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Ammonia (Un-ionized) - Total Impaired Size by Water Type:			**2.92**

Sources:

Animal Feeding Operations (NPS) Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K29R-02-BAC** **Assamoosick Swamp**

Location: Assamoosick Swamp from rivermile 2.5 near Mill Run downstream to its mouth

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, Assamoosick Swamp from rivermile 2.5 near Mill Run downstream to its mouth was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/11 at 5AASM000.89, which is located at the Route 647 bridge.

Assamoosick Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.91**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K29R-03-BAC** **XGT - Assamoosick Swamp, UT**

Location: The UT XGT from its headwaters to its mouth at Assamoosick Swamp.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, the segment was assessed as not supporting of the Recreation Use due to an E. coli exceedance rate of 2/6 at 5AXGT000.50, which is located at the Route 607 bridge.

XGT - Assamoosick Swamp, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.96**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K30R-01-BAC** **Darden Mill Run**

Location: This cause encompasses the area from headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on Ecoli exceedance of the swimming criteria indicator with 8 violates/34 obs for station 5ADMR008.42.

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

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K30R-01-DO** **Darden Mill Run**

Location: This cause encompasses the area from headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on the depressed DO concentrations below the criteria minimum. Impairment is suspected due to natural swamp conditions present in these waters. Station 5ADMR008.42 exceedance rate is 14 violates/34 obs for DO.

Darden Mill Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.37**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K30R-01-PH** **Darden Mill Run**

Location: This cause encompasses the area from headwaters near Newsoms downstream to Windbourne Millpond, near VA/NC state line.

City / County: Southampton Co

Use(s): Aquatic Life

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

The Aquatic Life Use is impaired based on the depressed pH concentrations below the criteria minimum. pH values exceed 23 violates/ 34 obs at Station 5ADMR008.42.

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

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K30R-02-BAC** **Nottoway River - Upper**

Location: This cause encompasses the Upper portion of Nottoway River in watershed K30. Segment begins at upstream intersection with watershed boundary (NW of Delaware) downstream below Route 671.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired for Ecoli with 5 viol / 36 obs at 5ANTW015.99.

Nottoway River - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.47**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K30R-03-BEN** **Nottoway River - Lower**

Location: This cause encompasses the Lower portion of Nottoway River in watershed K30. Segment starts below Route 671 downstream to VA/NC state line.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Aquatic Life Use is impaired based on the Benthic data from Station 5ANTW013.76 Benthic IM [MI: S&F-05,06,07,08,09, S-10; SI: F-10] and Station 5ANTW015.60 Benthic IM [MI:S&F- 05,06,07,08,10; SI: S&F- 09].

Nottoway River - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**15.36**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K31R-04-BEN** **Warwick Swamp**

Location: Warwick Swamp from the tributary at approximately rivermile 2.9 to its mouth at Blackwater Swamp.

City / County: Sussex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2010 cycle, Warwick Swamp from the tributary at approximately rivermile 2.9 to its mouth was assessed as not supporting of the Aquatic Life Use due to an impaired benthic community at 5AWKS001.00, which is located at the Route 613 bridge.

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

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K32R-01-BEN** **Blackwater River - Lower**

Location: This cause encompasses the lower portion of Blackwater River in K32. Starts at the confluence with Cypress Swamp (upstream of Walls Bridge) downstream to above Rt 617 crossing @ Walls Bridge (RM 58.22).

City / County: Isle Of Wight Co Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on benthic data collected at stations 5ABLW052.91 and 5ABLW055.26.

Blackwater River - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.03**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K32R-13-HG** **Blackwater River Basin**

Location: Blackwater River and tributaries from its headwaters to the VA-State Line

City / County: Dinwiddie Co, Isle Of Wight Co, Petersburg City, Prince George Co, South Boston City, Southampton Co, Suffolk City, Surry Co, Sussex Co

Use(s): Fish Consumption

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

During the 2006 cycle, the Blackwater River from Route 31 near Dendron downstream to the Virginia-North Carolina state line was assessed as impaired of the Fish Consumption Use due to a VDH fish consumption advisory for mercury.

During the 2008 cycle, the advisory was expanded on 8/31/2007 to include the Blackwater River to its headwaters, including all of its tributaries. The advisory currently recommends consuming no more than two meals/month of largemouth bass, sunfish species, bowfin, chain pickerel, white catfish, redhorse sucker and longnose gar.

The advisory is based on the results of DEQ's fish tissue monitoring program, which show mercury exceedances at multiple stations throughout the watershed, including 5ABKR003.68, 5ABKR002.33, 5AWKS013.53, 5ASEC005.39, 5ABLW074.66, 5ACPP004.04, 5ACPP007.86, 5AJCH000.73.

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

Sources:

Atmospheric Deposition - Toxics — Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K32R-18-BEN** **Blackwater River, UT**

Location: Unnamed tributary XFM from its headwaters to its mouth at Blackwater River

City / County: Sussex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, the tributary was assessed as not supporting the Aquatic Life Use due to impairment of the benthic community at station 5AXFM000.88, which is located at the Route 613 bridge.

Blackwater River, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.13**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K33R-02-BAC** **Blackwater River - Upper**

Location: This cause encompasses the upper portion of Blackwater River in K33. Starts at the Rt 617 crossing (Walls Bridge, RM 58.22) downstream to above Rt 460 crossing @ Zuni (RM 40.23).

City / County: Isle Of Wight Co Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on the E.coli bacteria indicator at the upstream DEQ station @ 5ABLW053.54. At this station 4 samples exceeded the criteria out of 35 observations.

Blackwater River - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.85**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K33R-02-BEN** **Blackwater River - Upper**

Location: This cause encompasses the upper portion of Blackwater River in K33. Starts at the Rt 617 crossing (Walls Bridge, RM 58.22) downstream to above Rt 460 crossing @ Zuni (RM 40.23).

City / County: Isle Of Wight Co Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is not supporting based on benthic data from the 2008 Assessment for Station 5ABLW052.91 and 5ABLW055.26 within Upper Blackwater segment. No new benthic data within the assessment window.

Blackwater River - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**18.94**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K33R-03-BEN** **Blackwater River - Lower**

Location: This cause encompasses the Lower portion of Blackwater River within watershed, from Rt 460 bridge crossing, RM 40.22) downstream to RM 39.34 [boundary of watershed 0.22 miles downstream of confluence with Antioch Swamp.

City / County: Isle Of Wight Co South Boston City Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to the benthic assessment. Benthic impairment identified at DEQ (ProbMon) station 5ABLW038.69. Station 5ABLW038.69 Benthic IM [MI: S&F '05]and at Station 5ABMS000.80 Benthic IM [VI: S&F 10]. Revised benthic CGC since benthic impairment not continuous from upper and lower segments of the Blackwater.

Blackwater River - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.17**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K34R-01-PH** **Mill Swamp**

Location: This cause encompasses the area at confluence of Moores Swamp with Mill Swamp (mile 16.78) downstream to confluence with Rattlesnake Swamp (mile 0.0).Located northwest of Raynor, upstream tributary to Rattlesnake Swamp.

City / County: Isle Of Wight Co Surry Co

Use(s): Aquatic Life

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

The Aquatic Life Use is impairment is retained based on pH data outside the Class VII standard range 3.7 - 8.0 SU. For 2010, Station 5AMSW006.77 4 viol / 24 obs violations occur between 8.0 and 9.0 SU. CITMON station 617MIL 0 viol/ 8 obs for pH (Level II data). Data with impairments dropped off need new data to determine if still impaired.

Mill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.36**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35L-01-DO** **Airfield Pond**

Location: This cause encompasses all of Airfield Pond north of Lightwood Swamp; Off of State Route 628.

City / County: Sussex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on DO data below the criteria. However Station 5ALTD005.10 is Class VII water and does not have criteria to assess DO. Therefore DO will remain impaired until standard is set.

Airfield Pond **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**120.07**	

Sources:

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

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35L-01-HG** **Airfield Pond**

Location: This cause encompasses all of Airfield Pond north of Lightwood Swamp; Off of State Route 628.

City / County: Sussex Co

Use(s): Fish Consumption

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

The Fish Consumption Use is impaired based on Fish Tissue data from 2006 at Station 5ALTD005.10. Fish Tissue data Impaired for Hg for fish species Brown Bullhead Catfish, Largemouth Bass, Chain Pickerel, Bowfin & Bluegill Sunfish. The VDH Fish Advisory is for all of Blackwater and its tributaries as stated on 10/29/03, modified 7/27/05 and again on 8/31/07.

Airfield Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**120.07**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-02-BAC** **Seacock Swamp - Lower**

Location: This cause encompasses the Lower portion of Seacock Swamp south of Doles Crossroads, west of State Hwy 600.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired based on Fecal Coliform exceedance of the swimming criteria indicator. New Ecoli data has 1 violation with 1 observation. Additional bacteria data is required to remove the previous assessment of impaired.

Seacock Swamp - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.63**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-02-BEN** **Seacock Swamp - Lower**

Location: This cause encompasses the Lower portion of Seacock Swamp south of Doles Crossroads, west of State Hwy 600.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on Benthic population rating at Station 5ASCK003.84 Benthic IM [MI:S-'04].

Seacock Swamp - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.63**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-03-BAC** **UT Seacock Swamp**

Location: This cause encompasses the UT to Seacock Swamp, from Headwaters to confluence with Seacock Swamp mainstem. PRO CAFO special study.

City / County: Surry Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired based on data over 5 years old. No Ecoli data was collected for the 2008 Assessment however the impaired status was retained from Fecal Coliform data.

UT Seacock Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.03**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-03-DO** **UT Seacock Swamp**

Location: This cause encompasses the UT to Seacock Swamp, from Headwaters to confluence with Seacock Swamp mainstem. PRO CAFO special study.

City / County: Surry Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on the depressed DO concentrations, impairment continued from 2004 IR. Class VII DO criteria is not defined for this Assessment.

UT Seacock Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.03**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-04-BAC** **UT Airfield Pond - Lower**

Location: This cause encompasses the Willis Branch to Airfield Pond, Segment starts near Rt 622 downstream to Airfield Pond. PRO CAFO special study.

City / County: Sussex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use impairment is retained from 2006 based on Ecoli exceedance of the swimming criteria indicator collected at Station 5AXDZ001.73 with 2 violates/ 2 obs. TMDL is 2016 since Fecal Coliform was cause for impairment since listed in 2004.

UT Airfield Pond - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.71**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-04-DO** **UT Airfield Pond - Lower**

Location: This cause encompasses the Willis Branch to Airfield Pond, Segment starts near Rt 622 downstream to Airfield Pond. PRO CAFO special study.

City / County: Sussex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on depressed DO concentrations impairment continued from 2004 IR. Class VII DO criteria is not defined for this Assessment.

UT Airfield Pond - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.71**

Sources:

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

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-05-BAC** **UT Airfield Pond - Upper**

Location: This cause encompasses the UT (Willis Branch) to Airfield Pond from Headwaters to half-way between Rt 622 and Rt 729 (approx. RM 1.23) at confluence with UT. PRO CAFO special study.

City / County: Sussex Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use impairment is retained. Station 5AXDZ001.73 for E.coli with 2 viol / 4 obs. 2010 Ecoli data 4 viol/ 6 obs.

UT Airfield Pond - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.68**

Sources:

Animal Feeding Operations (NPS)	Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-05-DO** **UT Airfield Pond - Upper**

Location: This cause encompasses the UT (Willis Branch) to Airfield Pond from Headwaters to half-way between Rt 622 and Rt 729 (approx. RM 1.23) at confluence with UT. PRO CAFO special study.

City / County: Sussex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on depressed DO concentrations, impairment continued from 2004 IR (segment Class change from III to VII).

UT Airfield Pond - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.68**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-06-BAC** **Seacock Swamp - Upper**

Location: This cause encompasses the upper Seacock Swamp, from Drumwright Pond downstream to confluence with unnamed tributary, approx. 0.1 mi downstream of Rt 628 crossing. Located west of Rt 460, south of Sussex - Southampton Co. line.

City / County: Southampton Co Surry Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The Recreational Use is impaired based on Fecal Coliform data retained since no Ecoli data collected. Station 5ASCK018.65 in 2006 had 2 viol/ 8 obs for Fecal Coliform. Ecoli data at Station 5ASCk006.96 6 viol / 32 obs.

Seacock Swamp - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.45**

Seacock Swamp - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**0.80**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-07-DO** **Brantley Swamp - Lower**

Location: This cause encompasses the area from confluence with Lightwood Swamp downstream to confluence with Seacock Swamp. Located northeast of Pulleys Crossroads.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on depressed DO concentrations, impairment continued from 2004 IR. Class VII waters do not have DO criteria for 2012 Assessment.

Brantley Swamp - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.52**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K35R-08-BEN** **Round Hill Swamp**

Location: The cause encompasses the confluence of Seacock Swamp between State Route 614 and State Route 623.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the benthic population rating from Benthic ProbMon-Benthic IM [MI:S-'05] at station 5ARHS000.39.

Round Hill Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.62**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K36R-02-BAC** **Blackwater River - Lower Middle**

Location: This cause encompasses the lower Blackwater River from RM 13.76 (downstream of Franklin, confluence of UT, parallel to Hayden High School) downstream west of Union Camp Holding Pond.

City / County: Isle Of Wight Co Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on E.coli data (5/38, 4/30, 6/36, 5/31, 9/37) at DEQ (AQM) stations @ 5ABLW009.14, 5ABLW011.48, 5ABLW012.28, 5ABLW012.96, 5ABLW013.16.

Blackwater River - Lower Middle **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.77**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K36R-02-BEN** **Black Creek**

Location: This cause encompasses the Black Creek Located NW of Burdette. From Wades Pond downstream to mouth. Tributary to Blackwater River with confluence at RM 22.0.

City / County: Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained based on the Benthic data collected at Station 5ABLC000.88 (Benthic ProbMon-Benthic IM [MI:F-'03, VI:S-'03]).

Black Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.16**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K36R-03-BAC** **Black Creek - Upper**

Location: This cause encompasses the upper Black Creek segment that Parallels with State Route 503. Southeast of Whitefields Millpond and Johnson Millpond.

City / County: Southampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on Ecoli data exceedance of the swimming criteria indicator at Station 5ABLC006.97 with 3 viol/ 12 obs.

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

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K36R-04-BAC** **Cypress Swamp**

Location: This cause encompasses Cypress Swamp from town of Sedley downstream to Route 611.

City / County: Isle Of Wight Co Southampton Co Suffolk City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on 2 viol/ 11 obs at Station 5ACYS001.92.

Cypress Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.90**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K36R-04-BEN** **Unsegmented Tributary to Blackwater**

Location: This cause encompasses the Unsegmented River from Blackwater south of Franklin to north of State Hwy 58.

City / County: Southampton Co Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on Benthic Impairments. The Benthic ProbMon is impaired [VI:S&F-'06, 07] AT DEQ (ProbMon) Station @ 5AXGI001.79.

Unsegmented Tributary to Blackwater **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.69**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K36R-05-BEN** **Blackwater River - Upper**

Location: This cause encompasses the Segment begins north of Maynards Crossroads and State Hwy 630 and end northwest of Franklin Municipal Airport.

City / County: Isle Of Wight Co Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on benthic data collected at Station 5ABLW022.89 --Benthic IM [MI:S&F - 09].

Blackwater River - Upper **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.41**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K36R-06-BEN** **Blackwater River - Lower**

Location: This cause encompasses the area From Cox Landing downstream to RM 0.65 (at Suffolk City & Gates County line).

City / County: Isle Of Wight Co Southampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on Benthic IM [MI:F-'05,06,08 S-08] at Station 5ABLW001.10.

Blackwater River - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.36**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K38R-01-BEN** **Somerton Creek**

Location: This cause encompasses the area of Somerton Creek from 5 miles upstream from monitoring station (RM 10.36) downstream to VA/NC state line.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the Benthic Impairments at Station 5ASTN008.78. Station 5ASTN008.78 Benthic IM [MI:F-'04].

Somerton Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.09**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K38R-02-BAC** **March Swamp**

Location: This cause encompasses entirety of March Swamp. Northeast of Factory Hill. Northern tributary to Somerton Creek.

City / County: Suffolk City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on the Ecoli data exceedance of the swimming criteria indicator (3 violates / 11 obs.) at Station 5AMAR001.65.

March Swamp **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.45**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K38R-02-DO** **March Swamp**

Location: This cause encompasses entirety of March Swamp. Northeast of Factory Hill. Northern tributary to Somerton Creek.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on the depressed DO concentrations, impairment continued from 2004 IR. Data within assessment window is 1 viol /17 obs. However, this data is apart of the data used to list water as impaired. Until new data is collected, DO impairment is retained.

March Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.45**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K38R-02-PH** **March Swamp**

Location: This cause encompasses entirety if March Swamp. Northeast of Factory Hill. Northern tributary to Somerton Creek.

City / County: Suffolk City

Use(s): Aquatic Life

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

The Aquatic Life Use is impaired based on depressed pH concentrations, impairment continued from 2004 IR. Station 5AMAR001.65 4 viol/ 11 obs.

March Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.45**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K38R-03-DO** **Chapel Swamp**

Location: This cause encompasses the entirety of Chapel Swamp. Northern tributary of Somerton Creek. Located east of Cleopus.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on depressed DO concentrations, impairment continued from 2004 IR (segment Class II).Impairment is suspected due to natural swamp conditions present in these waters. Station viol 0 / 3 obs in 2010' however same data just lost data outside assessment window.

Chapel Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.18**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K38R-03-PH** **Chapel Swamp**

Location: This cause encompasses the entirety of Chapel Swamp. Northern tributary of Somerton Creek. Located east of Cleopus.

City / County: Suffolk City

Use(s): Aquatic Life

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

The Aquatic Life Use impaired due to depressed pH concentrations, impairment continued from 2004 IR (segment Class II).Impairment is suspected due to natural swamp conditions present in these waters. Data for 2010 cycle for pH (2/3).

Chapel Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.18**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K39L-01-HG** **Lake Drummond**

Location: This cause encompasses the entirety of lake Drummond within the Great Dismal Swamp National Wildlife Refuge. Located on City of Suffolk/City of Chesapeake boundary near NC state line.

City / County: Chesapeake City Suffolk City

Use(s): Fish Consumption

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

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for Bowfin and Chain Pickerel (issued 10/2003 & modified 7/27/05, 8/31/2007 recommending no more than two meals/month due to Hg reported in fish tissue).

Lake Drummond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**3,241.96**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K39L-01-PH** **Lake Drummond**

Location: This cause encompasses the entirety of lake Drummond within the Great Dismal Swamp National Wildlife Refuge. Located on City of Suffolk/City of Chesapeake boundary near NC state line.

City / County: Chesapeake City Suffolk City

Use(s): Aquatic Life

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

The Aquatic Life Use is impaired based on the pooled pH exceedance of the criteria for this parameter with a violation rate of 99.2% (121 violates/122 obs.).

Lake Drummond **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**3,241.96**	

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K39R-01-HG** **Dismal Swamp Canal & Feeder Ditch to Lake Drummond**

Location: This cause encompasses the Dismal Swamp Canal from Deep Creek Locks to VA/NC state line and including Feeder Ditch to Lake Drummond and unsegmented rivers in K39R.

City / County: Chesapeake City

Use(s): Fish Consumption

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

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for Bowfin and Chain Pickerel (issued 10/2003 & modified 7/27/05, recommending no more than two meals/month due to Hg reported in fish tissue). Fish tissue data collected in 2004 & 2007 impaired for Hg.

Dismal Swamp Canal & Feeder Ditch to Lake Drummond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**17.58**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K39R-02-HG** **Unsegmented rivers in K39R**

Location: This cause encompasses the non-segmented rivers-feeder ditches within K39.

City / County: Chesapeake City Suffolk City

Use(s): Fish Consumption

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

The Fish Consumption Use impairment is retained. Data from Station 5B-GDS-ED has an observed effect for FT. 05-OE, FT_Met-As Red Pickerel

Unsegmented rivers in K39R **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**15.80**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K40R-04-HG** **Northwest River - Middle**

Location: This cause encompasses the Northwest River from RM 16.63 (start of PWS) to RM 10.44. From start of PWS area, upstream of Pine Grove Lane, downstream to Indian Creek confluence.

City / County: Chesapeake City

Use(s): Fish Consumption

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

The Fish Consumption Use is impaired based on FT data collected at Station 5BNTW011.90. The mercury Fish Tissue Value was violated in 2007 (07-IM- FT_Met Hg Largemouth Bass & Bowfin).

Northwest River - Middle **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**6.23**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K41R-01-BEN** **Pocaty River**

Location: This cause encompasses the Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.

City / County: Chesapeake City Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained based on benthic impairment. Data collected at station 5BPCT002.16 MI: S-03 and VI : F-03.

Pocaty River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.24**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K41R-01-DO** **Pocaty River**

Location: This cause encompasses the Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.

City / County: Chesapeake City Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on low dissolved oxygen concentrations. The cause of the depressed dissolved oxygen concentrations is suspected to be naturally occurring. DO violates 14/ 36 obs at Station 5BPCT001.79

Pocaty River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**7.24**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed — Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K41R-04-BAC** **North Landing River - Middle**

Location: This cause encompasses the area east of Fentress Landing Field , between confluence with West Neck Creek and Pocaty River.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on Ecoli data exceedance of the swimming criteria indicator collected at Station 5BNLR010.75 with 2 violates out of 9 obs. In 2008 2/10 violate. Need additional data.

North Landing River - Middle **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.43**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K41R-05-PCB** **West Neck Creek - Middle**

Location: This cause encompasses the area from southside of Princess Anne road crossing (RM 6.20) downstream to widening of creek (RM 3.10) approx. 0.55 mi downstream of Indian River Road crossing.

City / County: Virginia Beach City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on Fish Tissue data collected at Station 5BWNC003.65. 07-IM, FT_PCB White Catfish, Carp & FT-OE, Met_As Car.

West Neck Creek - Middle **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**3.59**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K41R-09-BAC** **Pocaty River**

Location: This cause encompasses Pocaty River and selected tribs. from headwaters at mile 3.92 to confluence with North Landing River at mile 0.00.

City / County: Chesapeake City Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on E.coli data (5/34) at DEQ (AQM) station @ 5BPCT001.79.

Pocaty River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.24**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K41R-12-BEN** **Unnamed Trib to Milldam Creek**

Location: This cause encompasses the area from the confluence with Milldam Creek to Crags Cswy.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Aquatic Life Use is not supported based on benthic data from Station 5BXAT000.30. Benthic IM [VI:S&F-09 & S-10; MI:F-10]

Unnamed Trib to Milldam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.66**

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K42E-03-BAC** **Hell Point Creek - Lower (at mouth)**

Location: This cause encompasses the area at intersection of creek and canal upstream of monitoring station and ends at mouth, confluence with North Bay.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus data that exceed the swimming criteria indicator with 6 violate/ 31 obs.

Hell Point Creek - Lower (at mouth) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.026**		

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K42E-04-BAC** **Muddy Creek**

Location: This cause encompasses area at confluence with Ashville Bridge Creek and ends at the mouth, the confluence with North Bay.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus data that exceed the swimming criteria indicator (14 violate/ 35 obs.).

Muddy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.040**		

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K42E-05-BAC** **Beggars Bridge Creek**

Location: This cause encompasses the area southeast of Dawley Corners, tributary to Shipps Bay. Segment begins at the confluence of numerous unnamed tributaries (RM 1.34) near Dawley Corners and extends downstream to the mouth at the confluence with Shipps Bay.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus data that exceed the swimming criteria indicator (11 violates/ 34 obs.)

Beggars Bridge Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.033**		

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K42E-06-BAC** **Ashville Bridge Creek - Lower**

Location: This cause encompasses the lower portion of Ashville Bridge Creek, between Hell Point and Muddy Creeks.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on the Enterococci data that exceed the swimming criteria indicator at Station 5BASH002.20 with 2 violates/ 10 obs.

Ashville Bridge Creek - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K42E-06-DO** **Ashville Bridge Creek - Lower**

Location: This cause encompasses the lower portion of Ashville Bridge Creek, between Hell Point and Muddy Creeks.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The Aquatic Life Use is impaired based on low dissolved oxygen concentrations 2 violates/ 15 obs. Source of low dissolved oxygen is probably natural conditions.

Ashville Bridge Creek - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.022**		

Sources:

Natural Sources	Source Unknown

Chowan River and Dismal Swamp Basins

Cause Group Code: **K42E-06-PH** **Ashville Bridge Creek - Lower**

Location: This cause encompasses the lower portion of Ashville Bridge Creek, between Hell Point and Muddy Creeks.

City / County: Virginia Beach City

Use(s): Aquatic Life

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

The Aquatic Life Use impairment is retained based on pH concentrations from 2005-2006 with 1 viol / 15 obs. New data is needed to delist pH. Previous listing 4 violates/ 36 obs.

Ashville Bridge Creek - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:	**0.022**		

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chowan River and Dismal Swamp Basins

Cause Group Code: **K42E-10-BAC** **Hell Point Creek - Upper**

Location: This cause encompasses the area west of Sandbridge. Segment from headwaters downstream to RM 0.73, intersection of creek with canal near mouth.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococci data that exceed the swimming criteria indicator (8 violate / 35 obs.).

Hell Point Creek - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.030**		

Sources:

Municipal Point Source Discharges	Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O01R-01-BAC** **South Fork Holston River and Tributaries**

Location: This segment includes the mainstem South Fork Holston River from the headwaters downstream to the South Holston Lake backwaters, Bishop Branch from the confluence with South Fork Holston River upstream to the confluence with Parker Branch, Grosses Creek from the headwaters downstream to the confluence with South Fork Holston River and Slemp Creek from the headwaters downstream to the confluence with the South Fork Holston River.

City / County: Smyth Co Washington Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6CSFH075.61 had a 21% exceedance of the E.coli water quality standard, 6CSFH110.45 had a 25% exceedance, 6CSFH101.81 had a 16% exceedance, 6CSFH097.42 had a 23% exceedance of the E. coli water quality standard and station 6CSFH093.01 had a 33% exceedance of the bacteria standard. Station 6CGRC000.68 had a 58% exceedance of the E. coli water quality standard, station 6CBSB000.10 had a 58% exceedance and 6CSLM000.32 had a 66% exceedance of the E. coli water quality standard.

South Fork Holston River and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**50.40**

South Fork Holston River and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**15.58**

Sources:

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

Tennessee and Big Sandy River Basins

Cause Group Code: **O01R-02-PH** **Hurricane Creek Tributary**

Location: This is an unnamed tributary of Hurricane Creek in Smyth County north of the Appalachian Trail.

City / County: Smyth Co

Use(s): Aquatic Life

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

PH measurements at station 6CXEE000.72 failed to meet the pH water quality standard.

Hurricane Creek Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.07**

Sources:

Atmospheric Deposition - Acidity	Natural Sources

Tennessee and Big Sandy River Basins

Cause Group Code: **O02R-01-HG** **South Fork Holston River**

Location: This segment extends from the Grosses Creek confluence downstream to Rush Creek.

City / County: Washington Co

Use(s): Fish Consumption

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

Two samples at station 6CSFH0088.91 exceeded the Mercury screening values in 2007.

South Fork Holston River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**6.14**

Sources:

Atmospheric Deposition - Toxics

Tennessee and Big Sandy River Basins

Cause Group Code: **O02R-03-BAC** **Beaverdam Creek**

Location: This segment includes the Beaverdam Creek mainstem from the Tennessee line upstream to its confluence with the South Fork Holston River.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 6CBVD000.07, had a 33% exceedance of the E. coli water quality standard.

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.01**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O02R-03-HG** **Beaverdam Creek**

Location: This segment extends from the Tennessee state line upstream to its confluence with the South Fork Holston River.

City / County: Washington Co

Use(s): Fish Consumption

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

The Virginia Department of Health's level of concern was exceeded for Mercury in one fish tissue sample and the Department of Environmental Quality's screening value for Mercury was exceeded in another sample.

Beaverdam Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**2.01**

Sources:

Atmospheric Deposition - Toxics

Tennessee and Big Sandy River Basins

Cause Group Code: **O02R-04-BAC** **Laurel Creek**

Location: This segment extends from the Beaverdam Creek confluence upstream to the state line.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 6CLAL001.21, had a 16% exceedance of the E.coli water quality standard. Additional monitoring at 6CLAL004.90 showed a 16% exceedance of the bacteria water quality standard.

Laurel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.14**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O02R-05-BAC** **Whitetop Laurel Creek**

Location: Mainstem from Pennington Branch confluence upstream of Konnarock, downstream to the Green Cove Creek confluence.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CWLC011.56 had a 17% exceedance of the E. coli water quality standard.

Whitetop Laurel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.74**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O03R-01-BEN** **Bear Creek and Middle Fork Holston River**

Location: This segment of Bear Creek begins near the Route 622/ Route 694 intersection and extends upstream paralleling Route 694 and the Middle Fork Holston River from the headwaters downstream to the Dutton Branch confluence.

City / County: Smyth Co Wythe Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Probabilistic Monitoring station, 6CBER004.10 and station 6CMFH055.88 were impaired based on the VSCI scores.

Bear Creek and Middle Fork Holston River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.32**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O03R-02-BAC** **Bear Creek**

Location: Middle Fork Holston River tributary, west of Atkins, parallel to Route 622.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station at 6CBER000.17 had a 33% exceedance of the E. coli water quality standard.

Bear Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.57**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O03R-03-BAC** **Staley Creek**

Location: This segment is a Middle Fork Holston River tributary, parallel to Route 16, south of Marion to the National Forest border.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station at 6CSTA000.05 has a 67% exceedance of the E. coli water quality standard.

Staley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.85**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O04L-01-HG** **Hungry Mother Lake**

Location: This segment includes Hungry Mother Lake from its headwaters to the dam.

City / County: Smyth Co

Use(s): Fish Consumption

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

Mercury exceeded DEQ's screening value in four fish samples at station 6CHUN005.24

Hungry Mother Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**99.71**	

Sources:

Atmospheric Deposition - Toxics

Tennessee and Big Sandy River Basins

Cause Group Code: **O04R-01-BAC** **Hungry Mother Creek**

Location: This segment extends from the reservoir downstream to the Middle Fork Holston River confluence.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station 6CHUN001.34 had a 33% exceedance of the E.coli water quality standard.

Hungry Mother Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.83**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O04R-03-BAC** **Laurel Springs Creek**

Location: This segment flows north from Adwolf to the Middle Fork Holston River.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 6CLRL000.35, had a 82% exceedance of the E.coli water quality standard.

Laurel Springs Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.04**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O04R-04-BAC** **Walker Creek**

Location: This segment flows from the headwaters downstream to the Middle Fork Holston River near the intersection of route 659 and route 645.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 6CWAL000.09, had a 83% exceedance of the E.coli water quality standard.

Walker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.78**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O04R-05-BAC** **Sulphur Spring Branch and Tributaries**

Location: This segment is a Middle Fork Holston River tributary north of Chilhowie.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CSUL000.09 has a 75% exceedance of the E. coli water quality standard.

Sulphur Spring Branch and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.87**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O05R-02-BAC** **Greenway Creek**

Location: This segment includes the mainstem from the headwaters downstream to the confluence with the Middle Fork Holston River.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station 6CGRW000.09 had a 78% exceedance of the E.coli water quality standard.

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

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O05R-02-BEN** **Greenway Creek**

Location: This segment includes the mainstem from the headwaters downstream to the confluence with the Middle Fork Holston River.

City / County: Washington Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6CGRW002.31 was impaired based on VSCI scores.

Greenway Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.86**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O06L-01-HG** **South Holston Reservoir**

Location: The TVA dam is located in Tennessee and Virginia. It is operated to generate hydroelectric power, flood control and provide recreational opportunities.

City / County: Washington Co

Use(s): Fish Consumption

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

Four fish tissue samples exceeded the Virginia Department of Health's level of concern for Mercury and 7 samples exceeded the Department of Environmental Quality's screening value for Mercury.

South Holston Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,699.32**	

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O06L-01-PCB** **South Holston Reservoir**

Location: The TVA dam is located in Tennessee and Virginia. It is operated to generate hydroelectric power, flood control and provide recreational opportunities.

City / County: Washington Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

Two fish tissue samples from channel catfish exceeded the Department of Environmental Quality's screening value for polychlorinated biphenyls (PCBs).

South Holston Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**1,699.32**	

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O06R-01-PCB** **Wolf Creek**

Location: This segment extends from the Town Creek confluence downstream to the lake backwaters.

City / County: Washington Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

This segment was listed based on the Virginia Department of Health's fish consumption advisory for polychlorinated biphenyls.

Wolf Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**6.62**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O06R-02-BAC** **Fifteen Mile Creek**

Location: This segment extends from the headwaters downstream to the confluence with the South Holston Reservoir.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station 6CFIF000.96 had a 33% exceedance of the E.coli water quality standard and station 6CFIF006.16 had a 44% exceedance of the E. coli water quality standard.

Fifteen Mile Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.06**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O06R-03-BAC** **Spring Creek**

Location: This segment extends from the South Holston Reservoir backwaters upstream to the headwaters.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CSPR000.18 had a 37% exceedance of the E.coli water quality standard.

Spring Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.37**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O06R-03-TEMP** **Spring Creek**

Location: This segment extends from the mainstem headwaters downstream to the South Holston Reservoir backwaters.

City / County: Washington Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station located at 6CSPR000.18 had a 22% exceedance of the temperature water quality standard.

Spring Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.37**

Sources:

Loss of Riparian Habitat

Tennessee and Big Sandy River Basins

Cause Group Code: **O07R-01-PCB** **Beaver Creek and Little Creek**

Location: This segment includes the headwaters of Beaver Creek downstream to the Tennessee political boundary and Little Creek from the headwaters downstream to the Tennessee political boundary in the City of Bristol.

City / County: Bristol City Washington Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

Fish tissue stations (6CBEV015.27 and 6CLTL000.26) found polychlorinated biphenyls (PCB's) in carp and stonerollers above DEQ's screening value.

Beaver Creek and Little Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**16.82**

Sources:

Inappropriate Waste Disposal

Tennessee and Big Sandy River Basins

Cause Group Code: **O07R-04-BAC** **Sinking Creek**

Location: This segment includes the headwaters downstream to the Tennessee state line, east of the City of Bristol.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6ASNK006.68 has a 17% exceedance of the E. coli water quality standard.

Sinking Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.59**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O07R-05-BAC** **Stoffel Creek**

Location: This segment is located northwest of the City of Bristol.

City / County: Bristol City Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CSTO000.86 has a 25% exceedance of the E. coli water quality standard.

Stoffel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.09**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O08R-01-BAC** **Boozy Creek**

Location: This is a South Fork Holston Lake tributary to Tennessee, parallel to Route 618.

City / County: Scott Co Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

DEQ station at 6CBOO002.71; WQS for E. Coli was exceeded in 50% of samples.

Boozy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.60**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O09R-01-BAC** **Lick Creek**

Location: This segment extends from the Lynn Camp confluence, river mile 4.31, downstream to the North Fork Holston River confluence.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CLIB000.08 had a 17% exceedance of the bacteria standard.

Lick Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.63**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O09R-03-BAC** **North Fork Holston River**

Location: This segment includes the mainstem from the headwaters downstream to the Crewey Branch confluence.

City / County: Bland Co Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6CNFH127.12 had a 50% exceedance of the E.coli water quality standard and station 6CNFH113.36 had a 16% exceedance of the E.coli water quality standard.

North Fork Holston River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**24.72**

North Fork Holston River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.07**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O10R-01-BAC** **North Fork Holston River**

Location: This segment extends from the Laurel Creek confluence downstream to the confluence of Tumbling Creek. It also includes the mainstem from the confluence of Big Moccasin Creek downstream to the Tennessee line.

City / County: Scott Co Smyth Co Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

AWQM station 6CNFH081.69 had a 50% exceedance of the bacteria water quality standard, station 6CNFH085.20 had a 23% exceedance of the E.coli water quality standard.

North Fork Holston River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.40**

North Fork Holston River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.83**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O10R-01-PCB** **North Fork Holston River**

Location: This segment begins in Saltville at river mile 85.40 and extends to the Route 80 bridge. Historically there has been an error in the segments that are included in this impairment due to a discrepancy in the VDH website.

City / County: Scott Co Smyth Co Washington Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Virginia Department of Health added polychlorinated biphenyls (PCBs) to the fish consumption ban in 12/13/2004. Stations 6CNFH059.65 and 6CNFH039.18 revealed PCBs in the sediment.

North Fork Holston River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**15.16**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O10R-05-BAC** **North Fork Holston River Tributaries**

Location: This segment includes the headwaters of Laurel Creek within Jefferson National Forest upstream of the Roaring Fork confluence downstream to the North Fork Holston River confluence, Locust Cove Creek which is a tributary to the North Fork Holston River, Robertson Branch from the headwaters to the confluence with the North Fork Holston River, Turkey Run Creek from the headwaters to the confluence with the North Fork Holston River at McCrady.

City / County: Bland Co Smyth Co Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

AWQM station 6CLAE000.62 had a 16% exceedance of the E.coli water quality standard and station 6CLOC000.14 had a 75% exceedance of the E.coli water quality standard.

North Fork Holston River Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**25.92**

North Fork Holston River Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**17.10**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O10R-05-BEN** **Laurel Creek**

Location: This segment includes the headwaters within Jefferson National Forest in Bland County downstream to the confluence with Roaring Fork.

City / County: Bland Co Tazewell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological stations located at 6CLAE018.29 was impaired based on the VSCI.

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

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O10R-05-TEMP** **Laurel Creek**

Location: This segment includes the mainstem from the Little Tumbling Creek confluence downstream to the confluence with the North Fork Holston River.

City / County: Smyth Co Tazewell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station located at 6CLAE000.62 had a 20% exceedance of the temperature water quality standard.

Laurel Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**6.39**

Sources:

Silviculture Activities Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O10R-08-BAC** **Beaver Creek**

Location: This segment begins at the headwaters of Beaver Creek and extends downstream 2.8 miles.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CBVR000.08 had a 66% exceedance of the E.coli water quality standard.

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.69**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O11L-01-TEMP** **Hidden Valley Lake**

Location: This is a warm water fishery owned by the Department of Game and Inland Fisheries.

City / County: Washington Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

Station 6CBRU010.91 had a 22% exceedance of the water quality standard for temperature.

Hidden Valley Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:		**57.51**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Tennessee and Big Sandy River Basins

Cause Group Code: **O11L-02-PH** **Laurel Bed Lake**

Location: Laurel Bed Lake is a DGIF owned cool water fishery, located in Clinch Mountain Wildlife Management Area.

City / County: Russell Co

Use(s): Aquatic Life

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

A station located at 6CLAU001.84 had a 18% exceedance of the pH water quality criteria.

Laurel Bed Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**312.37**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Tennessee and Big Sandy River Basins

Cause Group Code: **O11L-02-TEMP** **Laurel Bed Lake**

Location: This lake is owned by the Department of Game and Inland Fisheries and lies within Clinch Mountain Wildlife Management Area.

City / County: Russell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

Station 6CLAU001.84 had a 14% exceedance of the water quality standard for temperature.

Laurel Bed Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:		**312.37**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Tennessee and Big Sandy River Basins

Cause Group Code: **O11R-04-BAC** **Logan Creek**

Location: Logan Creek is a North Fork Holston tributary. This segment includes the mainstem from the headwaters to the North Fork Holston confluence.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CLOG000.12 had a 23% exceedance of the E.coli water quality standard.

Logan Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.43**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O11R-05-BAC** **Toole Creek**

Location: Toole Creek is a North Fork Holston tributary. This segment includes the mainstem from headwaters to North Fork Holston confluence.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CTOO000.25 had a 33% exceedance of the E.coli water quality standard.

Toole Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.99**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O11R-06-BAC** **Tumbling Creek**

Location: The Tumbling Creek segment extends from the North Fork Holston River confluence upstream 1.58 miles.

City / County: Smyth Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station 6CTUM000.12 had 16% exceedance of the E.coli water quality standard.

Tumbling Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.57**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O11R-08-BAC** **Brumley Creek**

Location: This segment includes the mainstem from the confluence with the North Fork Holston River upstream approximately 4 miles.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station at 6CBRU000.02 had a 16% exceedance of the E.coli water quality standard.

Brumley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.23**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O11R-09-BAC** **East Fork Wolf Creek**

Location: This segment is upstream of Hayter's Gap.

City / County: Russell Co Smyth Co Tazewell Co Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CEFW000.46 has a 17% exceedance of the E. coli water quality standard.

East Fork Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.56**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O11R-11-BAC** **Finley Creek**

Location: This segment is a North Fork Holston River tributary at Glenford, west of Lindell.

City / County: Russell Co Smyth Co Tazewell Co Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CFIN001.26 has a 16% exceedance of the E. coli water quality standard.

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

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O11R-12-BAC** **West Fork Wolf Creek**

Location: This segment is west of Hayter's Gap.

City / County: Russell Co Smyth Co Tazewell Co Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station at 6CWOC000.05 had a 33% exceedance of the E.coli water quality standard.

West Fork Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.20**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O12R-02-BAC** **Abrams Creek**

Location: Abrams Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CABR001.00 had a 45% exceedance of the water quality standard for E.coli.

Abrams Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.37**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **O12R-03-BAC** **Cove Creek**

Location: Cove Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence.

City / County: Scott Co Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CCOV002.44 had a 41% exceedance of the bacteria water quality standard.

Cove Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.69**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O12R-03-BEN** **Greendale Creek**

Location: This segment extends from the North Fork Holston River confluence upstream 4.1 miles.

City / County: Washington Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6CGRN003.29 was impaired based on VSCI scores of 53 and 54 in 2007.

Greendale Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.98**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O12R-04-BAC** **Little Moccasin Creek**

Location: Little Moccasin Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CLMC000.05 had a 41% exceedance of the E.coli water quality standard.

Little Moccasin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.85**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O12R-05-BAC** **Nordyke Creek**

Location: Nordyke Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station 6CNOR000.14 had a 41% exceedance of the E.coli water quality standard.

Nordyke Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.98**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **O12R-06-BAC** **Smith Creek**

Location: Smith Creek is a North Fork Holston River tributary. This segment includes the mainstem from the headwaters to the North Fork Holston River confluence.

City / County: Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CSMI000.22 had a 50% exceedance of the E.coli water quality standard.

Smith Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.86**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O13R-03-BAC** **North Fork Holston River Tributaries**

Location: This segment includes the mainstem of Blue Springs Branch from the headwaters to the confluence of the North Fork Holston River, the mainstem of Dowell Branch downstream to the confluence with the North Fork Holston River, the mainstem of Hilton Creek from the confluence with the North Fork Holston River upstream approximately 1.5 miles, 1.34 miles of an unnamed tributary immediately downstream of Hiltons Creek at Owen Corner, and Possum Creek from the headwaters downstream to the confluence with the North Fork Holston River.

City / County: Scott Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station at 6CBLU000.15 had a 78% exceedance of the E.coli water quality standard, station 6CDOW000.02 had a 78% exceedance of the standard, station 6CHIL000.02 had a 22% exceedance, 6CXBV000.21 had a 55% exceedance and 6CPSM000.04 had a 16% exceedance of the E. coli water quality standard.

North Fork Holston River Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.76**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **O14R-01-BAC** **Big Moccasin Creek**

Location: This segment begins 8.01 miles upstream of the PWS segment and continues downstream to rivermile 18.91 at unnamed tributary. It also includes the mainstem from Red Hill Branch confluence downstream to the North Fork Holston River confluence.

City / County: Scott Co Washington Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6CBMC000.38 had a 10.5% exceedance of the E. coli water quality standard. Station 6CBMC002.90 had a 15% exceedance of the bacteria water quality standard. Station 6CBMC026.32 had a 56% exceedance of the E.coli standard, station 6CBMC042.54 had a 44% exceedance and station 6CBMC049.05 had a 44% exceedance o

Big Moccasin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**38.63**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P01L-03-HG** **Lake Witten**

Location: This Lake is located in Cavitts Creek Park in Tazewell County.

City / County: Tazewell Co

Use(s): Fish Consumption

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

Two largemouth fish tissue samples collected in May 2007 exceeded the Virginia Department of Heath's level of concern for Mercury (Hg).

Lake Witten **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**50.41**	

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P01R-01-BAC** **Clinch River**

Location: This segment includes the mainstream from Lincolnshire Branch confluence downstream to Deskin Creek.

City / County: Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6BCLN346.60 had a 58% exceedance of the E.coli water quality standard and station 6BCLN348.00 had a 41% exceedance of the E.coli water quality standard.

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.51**

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**11.51**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P01R-02-BAC** **Plum Creek and North Fork Clinch River**

Location: This segment extends from the headwaters of Plum Creek to the Clinch River confluence and North Fork Clinch River downstream to the confluence with the South Fork Clinch River at Fourway.

City / County: Tazewell Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

AWQM stations 6BPLU000.40 and 6BNCL000.30 both had a 16% exceedance of the E.coli water quality standard.

Plum Creek and North Fork Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.16**

Plum Creek and North Fork Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.56**

Sources:

Source Unknown Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P01R-02-BEN** **Plum Creek**

Location: This segment extends from the headwaters of Plum Creek downstream to the confluence with the Clinch River.

City / County: Tazewell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6BPLU002.15 was impaired based on a VSCI score of 41.

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

Sources:

Loss of Riparian Habitat Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P01R-03-BAC** **South Fork Clinch River and Cavitts Creek**

Location: This segment includes the South Fork Clinch River and its tributaries from the Tazewell raw water intake upstream 5 miles and Cavitts Creek from the Johnson Branch confluence downstream to the confluence with the Clinch River at Riverjack.

City / County: Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BSFK000.77 had a 41% exceedance of the E.coli water quality standard and station 6BCAV000.02 had a 25% exceedance of the E.coli water quality standard.

South Fork Clinch River and Cavitts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.04**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P03R-01-BAC** **Clinch River Tributaries**

Location: This segment includes the lower mainstem of Middle Creek from river mile 2.53 downstream to the Clinch River confluence, Coal Creek from the confluence with Left Fork Coal Creek to the confluence with the Clinch River, Big Creek from the confluence with West Fork to the confluence with the Clinch River, Mudlick Creek from the confluence with Zeke Creek downstream to the confluence with the Clinch River, Town Hill Creek from the confluence with Little Town Hill Creek to the confluence with the Clinch River, and Deskin Branch which extends from an unnamed tributary through the golf course in Maxwell to the confluence with the Clinch River.

City / County: Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BMID000.20 had a 29% exceedance of the E.coli water quality standard, 6BBIG000.12 had a 41% exceedance, 6BCOL000.12 had an 83% exceedance, 6BMCK000.11 had a 16% exceedance, 6BTHC000.03 had a 50% exceedance of the E. coli water quality standard and 6BDES000.06 had a 45% exceedance of the E. coli water quality standard.

Clinch River Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.21**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P03R-01-BEN** **Clinch River Tributaries**

Location: This segment extends from confluence with Clinch River upstream to the Left Fork Coal Creek confluence, Big Creek from the confluence with West Fork downstream to the confluence with the Clinch River, Mudlick Creek from the confluence with Zeke Creek downstream to the confluence with the Clinch River, and Town Hill Creek from the confluence with Little Town Hill Creek downstream to the confluence with the Clinch River.

City / County: Tazewell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Probabilistic Monitoring station at 6BCOL001.93, 6BBIG000.99, 6BMCK000.04, and 6BTHC000.06 were impaired based on the VSCI scores.

Clinch River Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**7.06**

Sources:

Coal Mining | Rural (Residential Areas) | Silviculture Activities | Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P03R-02-BAC** **Clinch River**

Location: The community of Raven is located here and the segment includes the mainstem from just upstream of the Town Hill Creek confluence downstream to the Mill Creek confluence. It also includes the mainstem of the Clinch River from the Mill Creek confluence upstream to Raven-Doran's raw water intake.

City / County: Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

AWQM station located at 6BCLN315.11 had a 25% exceedance of the E.coli water quality standard.

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.10**

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.10**

Sources:

Rural (Residential Areas) Urban Runoff/Storm Sewers

Tennessee and Big Sandy River Basins

Cause Group Code: **P03R-02-HG** **Clinch River**

Location: This segment begins just upstream of the Town Hill confluence and continues downstream to the Mill Creek confluence.

City / County: Tazewell Co

Use(s): Fish Consumption

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

Three fish samples collected in 2007 exceeded the Department of Environmental Quality's screening value for Mercury.

Clinch River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**3.10**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P04R-01-BAC** **Lewis Creek and Hess Creek**

Location: This segment includes the mainstem form the Stone Branch confluence downstream to the Clinch River confluence.

City / County: Russell Co Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6BLWS000.06 had a 33% exceedance of the E.coli water quality standard, station 6BLWS004.84 had a 33% exceedance and 6BHESS000.05 had a 41% exceedance of the E.coli water quality standard.

Lewis Creek and Hess Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.30**

Lewis Creek and Hess Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.83**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P04R-02-BAC** **Swords Creek**

Location: This segment extends from the Sulphur Spring Branch confluence downstream to the confluence with the Clinch River.

City / County: Russell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station 6BSWO001.81 had a 25% exceedance of the E.coli water quality standard.

Swords Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.88**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P04R-02-BEN** **Swords Creek**

Location: This segment includes the mainstem from the Sculpture Spring Branch confluence downstream to the confluence with Clinch River.

City / County: Russell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The historical biological station located at 6BSWO000.11 was impaired based on VSCI scores.

Swords Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.88**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P05R-01-BAC** **Indian Creek**

Location: This segment extends from the Highway 19 bridge to the Little River confluence at Wardell.

City / County: Russell Co Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6BIDN000.69 had a 16% exceedance of the bacteria water quality standard.

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.98**

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.98**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P05R-04-BAC** **Little River**

Location: This segment includes the mainstem above the Claypool Hill wastewater treatment plant downstream to the confluence with Grays Branch.

City / County: Russell Co Tazewell Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6BLTR018.19 had a 50% exceedance of the E.coli water quality standard.

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.29**

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.29**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P05R-05-BAC** **Maiden Spring Creek**

Location: This segment begins at the unnamed tributary at Buchanan Cemetery and continues downstream to the Little River confluence.

City / County: Tazewell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station 6BMSC001.53 had a 25% exceedance of the bacteria water quality standard and station 6BMSC008.98 had a 42% exceedance of the bacteria standard.

Maiden Spring Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.57**

Maiden Spring Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**15.08**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P05R-07-BEN** **Laurel Creek**

Location: This segment is a Little River tributary from south of Wardell.

City / County: Russell Co Tazewell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic special study station located at 6BLUC000.73 was impaired based on the VSCI scores.

Laurel Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.39**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P06R-01-BAC** **Big Cedar Creek and Tributaries**

Location: This segment begins 5 miles upstream of Lebanon's raw water intake and continues downstream to the confluence with the Clinch River, Loop Creek from Route 80 to the Elk Garden Creek confluence, Burgess Creek from the Campbell Branch confluence to the Big Cedar Creek confluence and Elk Garden Creek from Elk Garden to the confluence with Big Cedar Creek.

City / County: Russell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station on Big Cedar Creek at 6BBCD001.89 had a 33% exceedance of the E.coli water quality standard, station 6BBCD006.66 had 25% exceedance of the E.coli standard and station 6BBCD009.83 had a 67% exceedance of the bacteria water quality standard. AWQM station on Burgess Creek at 6BBUG000.10 had a 67% exceedance of the E. coli water quality standard. The AWQM station on Elk Garden Creek had a 75% exceedance of the E. coli water quality standard. The AWQM station on Loop Creek at 6BLOO04.25 had a 50% exceedance of the E. coli water quality standard.

Big Cedar Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**30.65**

Big Cedar Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.23**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P06R-02-BAC** **Little Cedar Creek**

Location: This segment includes Little Cedar Creek from the western edge of Lebanon to the confluence with Big Cedar Creek.

City / County: Russell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BLTL001.11 had a 63% exceedance rate of the E. coli water quality standard.

Little Cedar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.08**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P07R-01-BAC** **Clinch River and Tributaries**

Location: This segment includes the mainstem from the Big Cedar Creek confluence downstream to the Dumps Creek confluence. It also includes Thompson Creek from Coulwood to the confluence with The Clinch River and Weaver Creek from the confluence with Hart Creek to the confluence with the Clinch River.

City / County: Russell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BCLN271.50 had a 18% exceedance of the E.coli standard. Station 6BTMP003.58 had a 50% exceedance of the E.coli water quality standard and station 6BWEA004.32 had a 50% exceedance of the E.coli standard.

Clinch River and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**30.66**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P07R-01-BEN** **Thompson Creek**

Location: This segment extends from the confluence of an unnamed tributary east of Coulwood upstream 3.25 miles.

City / County: Russell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6BTMP006.26 was impaired based on a VSCI score of 55.

Thompson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.31**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P08R-01-BAC** **Dumps Creek**

Location: This segment includes the mainstem from the Hurricane Fork confluence downstream to the confluence with Clinch River at Carbo.

City / County: Russell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BDUM000.04 had a 16% exceedance of the E.coli water quality standard.

Dumps Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.41**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P09L-01-HG** **Bark Camp Lake**

Location: This lake is also known as Corder Bottom Lake, located in Scott County.

City / County: Scott Co

Use(s): Fish Consumption

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

Three fish samples exceeded the Department of Environmental Quality's screening value for Mercury.

Bark Camp Lake **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**28.88**	

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P09R-01-BAC** **Clinch River**

Location: This segment includes the mainstem of the Clinch River from the Little Stony Creek confluence downstream to the Staunton Creek confluence.

City / County: Russell Co Scott Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6BCLN237.09 had a 11% exceedance of the bacteria water quality standard.

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.02**

Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.07**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P09R-03-BAC** **Staunton Creek & Fall Creek**

Location: This segment includes both Staunton and Fall Creek from their headwaters to their confluences with the Clinch River.

City / County: Scott Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BFLC000.52 had a 25% exceedance of the E.coli water quality standard and station 6BSUT001.71 had a 16% exceedance of the E.coli standard.

Staunton Creek & Fall Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.32**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P09R-05-BAC** **Russell Creek**

Location: This segment includes the headwaters of Russell Creek downstream to the confluence with the Clinch River.

City / County: Russell Co Scott Co Wise Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BRUS001.25 had a 18% exceedance of the E.coli water quality standard.

Russell Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.06**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P09R-06-BAC** **Bull Run**

Location: From the Clinch River confluence at Carfax upstream to Bull Run Church.

City / County: Scott Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

DEQ watershed station at 6BBUL000.06 bacteria exceeded the water quality standard in more than 10% of samples collected.

Bull Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.84**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P10R-05-BAC** **Gravel Lick Creek**

Location: This segment is a Lick Creek tributary near Hamlin.

City / County: Dickenson Co Russell Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Level III citizen monitoring data collected at 6BGRV-GL-1 had a 75% exceedance rate of the E.Coli water quality standard.

Gravel Lick Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.35**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P11R-03-BAC** **Guest River and Bear Creek**

Location: This segment extends from the Guest River mainstem at the confluence with Crab Orchard Creek downstream to the confluence with the Clinch River and Bear Creek from the confluence with Yellow Creek confluence downstream to the Guest River confluence.

City / County: Norton City Wise Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

DEQ AWQM station 6BBER001.14 had a 16% exceedance of the E.coli water quality standard and station 6BGUE000.23 had an 18% exceedance of the E.coli standard.

Guest River and Bear Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**35.38**

Guest River and Bear Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.07**

Sources:

Rural (Residential Areas) Sewage Discharges in Unsewered Areas

Tennessee and Big Sandy River Basins

Cause Group Code: **P11R-03-PCB** **Guest River and Bear Creek**

Location: This segment begins at the confluence with Parson's Branch and continues downstream to the confluence with the Clinch River and Bear Creek from the Yellow Creek confluence downstream to the Guest River confluence.

City / County: Norton City Wise Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

Sediment and Fish Tissue stations located at 6BGUE020.37, 6BGUE014.49 and 6BGUE009.33 indicated levels of polychlorinated biphenyls (PCBs) in carp that exceeded DEQ's screening value for PCBs. Sediment and Fish Tissue stations located at 6BGUE001.14 and 6BGUE006.45 found PCB levels that exceeded the Virginia Department of health's level of concern. PCBs were detected in carp and sediment at station 6BBER001.14.

Guest River and Bear Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**25.24**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P11R-05-BEN** **Clear Creek and Eastland Creek**

Location: This segment of Clear Creek extends from the National Forest boundary downstream to the confluence with the Guest River and Eastland Creek from the headwaters downstream to the confluence with Clear Creek.

City / County: Norton City Scott Co Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological stations located at 6BCRC000.20 and 6BEAS000.07 were impaired based on a VSCI scores.

Clear Creek and Eastland Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.39**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P11R-11-BEN** **Machine Creek**

Location: This segment includes the headwaters downstream to the Guest River confluence.

City / County: Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

The United States Forest Service (USFS) monitoring site, 9116, indicated moderate impairment.

Machine Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.16**

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Tennessee and Big Sandy River Basins

Cause Group Code: **P12R-01-BEN** **Bark Camp Branch**

Location: This segment begins at the headwaters, includes the tributary, and continues downstream to the Stony Creek confluence.

City / County: Scott Co Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

DEQ biological station 6BBAR000.97 was impaired based on the VSCI score. United States Forest Service (USFS) monitoring station 9150 indicated slight impairment.

Bark Camp Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.01**

Sources:

Atmospheric Deposition - Acidity

Tennessee and Big Sandy River Basins

Cause Group Code: **P12R-01-PH** **Bark Camp Branch**

Location: This segment begins at the headwaters, includes the tributary, and continues downstream to the Stony Creek confluence.

City / County: Scott Co Wise Co

Use(s): Aquatic Life

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

The biological station 6BBAR000.97 found that pH did not meet water quality standards.

Bark Camp Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.01**

Sources:

Atmospheric Deposition - Acidity

Tennessee and Big Sandy River Basins

Cause Group Code: **P12R-02-BEN** **Devil Fork**

Location: This segment begins at the headwaters of Devil Fork and continues downstream to the confluence with Straight Fork.

City / County: Scott Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

DEQ biological station 6BDEV000.07 was impaired based on the VSCI score of 34 and United States Forest Service monitoring station 9131 was also impaired.

Devil Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.30**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P12R-03-BAC** **Stony Creek**

Location: This segment extends from the Coalpit Branch confluence downstream to the Chimney Rock Fork confluence.

City / County: Scott Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BSNY001.98 had a 22% exceedance of the E.coli water quality standard.

Stony Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.04**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P13R-03-BAC** **Clinch River, Cove Creek and Stock Creek**

Location: This segment includes the Lower Cove Creek from its confluence with Millstone Branch to the Clinch River and Stock Creek from stream mile 4.56 downstream to the Clinch River confluence.

City / County: Scott Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BCOV001.68 had a 44% exceedance of the E.coli standard and station 6BSTO000.45 had a 44% exceedance of the E.coli water quality standard.

Clinch River, Cove Creek and Stock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.45**

Sources:

Sewage Discharges in Unsewered Areas

Source Unknown

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P14R-01-BAC** **Copper Creek, Moll Creek and Valley Creek**

Location: This segment extends from Grassy Creek confluence upstream to the headwaters of Copper Creek, the lower most segment of Valley Creek that confluences with Copper Creek and Moll Creek from the Copper Creek confluence upstream to the second tributary, includes one tributary.

City / County: Russell Co Scott Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BCOP047.75 had a 55% exceedance of the E.coli water quality standard, station 6BCOP052.77 had a 44% exceedance of the E.coli standard, 6BVAL000.25 had a 22% exceedance of the E. coli water quality standard and 6BMOL000.03 had a 55% exceedance of the water quality standard.

Copper Creek, Moll Creek and Valley Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.32**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P14R-02-BEN** **Blackoak Branch Tributary**

Location: This segment is north of Spivey Mill.

City / County: Russell Co Scott Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6BXGD000.01 was impaired based on the VSCI scores.

Blackoak Branch Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.76**

Sources:

Livestock (Grazing or Feeding Operations)

Tennessee and Big Sandy River Basins

Cause Group Code: **P15R-00-BAC** **North Fork Clinch River**

Location: This segment begins at the Fraley Branch confluence and extends downstream to the Tennessee political boundary.

City / County: Scott Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6BNFC010.65 had a 55% exceedance of the E.coli water quality standard, station 6BNFC018.68 had a 33% exceedance of the E.coli standard and station 6BNFC003.80 had a 44% exceedance of the bacteria water quality standard.

North Fork Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.60**

North Fork Clinch River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.59**

Sources:

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P16R-01-BAC** **Blackwater Creek**

Location: This segment includes the Blackwater Creek mainstem from the East Fork Blackwater Creek confluence downstream to the Tennessee political boundary.

City / County: Lee Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6BBKW005.82 had a 66% exceedance of the E.coli water quality standard.

Blackwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.11**

Blackwater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.11**

Sources:

Septage Disposal Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P17R-00-PH** **Dark Hollow**

Location: This segment is a Powell River tributary south of Appalachia.

City / County: Wise Co

Use(s): Aquatic Life

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

The biological monitoring station located at 6BDAR000.26 resulted in low VSCI scores. 2 of 2 pH measurements failed to meet water quality standards.

Dark Hollow **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.32**

Sources:

Atmospheric Deposition - Acidity

Tennessee and Big Sandy River Basins

Cause Group Code: **P17R-07-BEN** **Pigeon Creek**

Location: This segment includes the upper part of the stream including the Exeter community.

City / County: Norton City Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Biological monitoring stations located at 6BPIG003.55 AND 6BPIG005.20 were impaired based on the VSCI scores.

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

Sources:

Coal Mining Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P17R-08-BEN** **Powell River**

Location: This segment includes the mainstem at Appalachia, from the Pigeon Creek confluence upstream to the Roaring Fork confluence, parallel to Business Route 23.

City / County: Norton City Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The probabilistic monitoring station at 6BPOW184.19 was impaired based on VSCI scores.

Powell River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.58**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P17R-09-BEN** **Roaring Fork**

Location: This segment includes the lower mainstem from the Roaring Fork community to the Powell River confluence at Kent Junction, parallel to Route 603.

City / County: Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological monitoring station located at 6BRIN001.84 was impaired based on VSCI scores.

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

Sources:

Agriculture

Tennessee and Big Sandy River Basins

Cause Group Code: **P18L-01-HG** **Big Cherry Reservoir**

Location: This reservoir is located east of East Stone Gap on Powell Mountain.

City / County: Wise Co

Use(s): Fish Consumption

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

Two largemouth bass samples exceeded the Virginia Department of Health's level of concern for Mercury.

Big Cherry Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**104.00**	

Sources:

Atmospheric Deposition - Toxics

Tennessee and Big Sandy River Basins

Cause Group Code: **P18L-01-PH** **Big Cherry Reservoir**

Location: This reservoir is located east of East Stone Gap on Powell Mountain.

City / County: Wise Co

Use(s): Aquatic Life

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

Monitoring station 6BPLL012.79 had a 56% exceedance of the pH water quality criteria and station 6BPLL012.99 had a 79% exceedance of the pH criteria.

Big Cherry Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**104.00**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Tennessee and Big Sandy River Basins

Cause Group Code: **P18R-03-BAC** **South Fork Powell River**

Location: This segment includes the mainstem from the confluence of Beaverdam Creek, north of East Stone Gap, downstream to the confluence with the Powell River at Three Forks in Big Stone Gap.

City / County: Wise Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station at 6BPLL000.27 had a 22% exceedance of the E. coli water quality standard, station 6BPLL002.55 has a 33% exceedance of the E. coli water quality standard. AWQM station 6BPLL004.24 had a 50% exceedance of the E. coli water quality standard.

South Fork Powell River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.60**

Sources:

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P19R-01-BAC** **Mud Creek**

Location: This segment includes the mainstem from the Highway 58 crossing downstream to the Powell River confluence.

City / County: Lee Co Wise Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station located at 6BMDC000.33 had a 25% exceedance of the E.coli water quality standard.

Mud Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.72**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **P20L-01-HG** **Lake Keokee**

Location: This lake is located south of Exeter on Stone Mountain.

City / County: Lee Co

Use(s): Fish Consumption

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

A largemouth bass sample exceeded the Virginia Department of Health level of concern for Mercury and one fish tissue sampled exceeded the Department of Environmental Quality's screening value for Mercury.

Lake Keokee **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**97.47**	

Sources:

Atmospheric Deposition - Toxics

Tennessee and Big Sandy River Basins

Cause Group Code: **P20R-03-BAC** **Reeds Creek**

Location: This segment is southeast of Monarch.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BREE000.22 had a 22% exceedance of the E. coli water quality standard.

Reeds Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.91**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **P21R-02-BAC** **Hardy Creek**

Location: This segment includes the Hardy Creek mainstem and its tributaries.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BHAR000.34 had a 36% exceedance of the bacteria water quality standard.

Hardy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.13**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P21R-03-BAC** **Powell River and Town Creek**

Location: This segment includes the mainstem of Town Creek, just south of Jonesville to the confluence with Batie Creek.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BTOW001.32 had a 36% exceedance of the E.coli standard.

Powell River and Town Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.88**

Sources:

Rural (Residential Areas)	Sewage Discharges in Unsewered Areas	Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P21R-04-BAC** **Dry Creek**

Location: Dry Creek is a tributary to Hardy Creek, arising south of Cumberland Mountain in Poor Valley.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BDBR001.69 had a 18% exceedance of the E. coli water quality standard.

Dry Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.56**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P21R-06-BAC** **Station Creek**

Location: This segment is located north of Wallen Ridge.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BSTN000.14 has a 45% exceedance of the E. coli water quality standard.

Station Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.17**

Sources:

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P22R-01-BAC** **Wallen Creek**

Location: This segment begins at the confluence of Lone Branch and continues downstream to the confluence with Powell River.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BWAL000.12 had a 27% exceedance of the E.coli water quality standard.

Wallen Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**42.60**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P22R-01-TEMP** **Wallen Creek**

Location: North of Powell Mountain, from headwaters through Stickleyville, downstream to Rasnic Hollow.

City / County: Lee Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

Class V water quality standard for temperature was exceeded in 18% of the samples at the AWQM station located at 6BWAL026.64.

Wallen Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**27.92**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P22R-02-TEMP** **Wallen Creek**

Location: Middle Wallen Creek segment from Rasnic Hollow downstream to the Route 70 crossing.

City / County: Lee Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station located at 6BWAL014.54 had a 27% exceedance of the E. coli water quality standard.

Wallen Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**12.66**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P23R-02-BAC** **Martin Creek**

Location: This segment includes the headwaters and extends downstream to the Tennessee political boundary.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BMTN003.56 had a 66% exceedance of the E.coli water quality standard.

Martin Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.62**

Sources:

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **P24R-01-BAC** **Indian Creek**

Location: This segment includes the mainstem from the confluence of Machine Branch downstream to the Tennessee political boundary.

City / County: Lee Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6BIND009.12 had a 22% exceedance of the E.coli water quality standard.

Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.99**

Sources:

Sewage Discharges in Unsewered Areas

Unrestricted Cattle Access

Tennessee and Big Sandy River Basins

Cause Group Code: **Q03R-02-PCB** **Knox Creek and Tributaries**

Location: This segment includes the mainstem from the headwaters to the Kentucky political boundary. It also includes all tributaries to Knox Creek that were included in the December 2005 Virginia Department of Health (VDH) Fish Consumption Ban update including Guess Fork, Big Butt Branch and tributaries, Long Bottom Branch and PawPaw Creek.

City / County: Buchanan Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

Fish Tissue stations located at 6AKOX023.25, 6AKOX020.36, 6AKOX019.30, 6AKOX017.97, 6AKOX014.37, 6AKOX012.06, 6AKOX010.98, 6AKOX008.14 indicated an exceedance of the DEQ screening value for polychlorinated biphenyls (PCBs) and the VDH human health criteria for PCBs.

Knox Creek and Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**107.68**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **Q03R-03-BAC** **Guess Fork, Pawpaw Creek, and Jacobs Fork**

Location: This segment includes the mainstem of Guess Fork downstream to the confluence with Knox Creek, the Pawpaw Creek mainstem from the Kentucky political boundary to the confluence with Knox Creek and Jacobs Fork.

City / County: Buchanan Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 6AGIE000.04 had a 33% exceedance of the bacteria water quality standard, 6AJBF010.88 had a 50% exceedance of the E.coli water quality standard and 6APPW000.03 had a 41% exceedance of the E.coli water quality standard.

Guess Fork, Pawpaw Creek, and Jacobs Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**15.13**

Guess Fork, Pawpaw Creek, and Jacobs Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.43**

Sources:

Rural (Residential Areas) Sewage Discharges in Unsewered Areas

Tennessee and Big Sandy River Basins

Cause Group Code: **Q05R-00-TEMP** **Dismal Creek**

Location: This segment includes Dismal Creek from the confluence of Long Branch to the confluence with Levisa Fork.

City / County: Buchanan Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station located at 6ADIS001.24 had a 16% exceedance of the temperature water quality standard for WQS Class V waters.

Dismal Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**5.31**

Sources:

Loss of Riparian Habitat Silviculture Activities

Tennessee and Big Sandy River Basins

Cause Group Code: **Q05R-01-BAC** **Dismal Creek**

Location: This segment includes the mainstem parallel to Route 638 from the Laurel Fork confluence near Whitewood downstream through Pilgrims Know to the Long Branch confluence.

City / County: Buchanan Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station at 6ADIS014.33 had a 21% exceedance of the E. coli water quality standard.

Dismal Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.43**

Sources:

Sewage Discharges in Unsewered Areas

Tennessee and Big Sandy River Basins

Cause Group Code: **Q08R-01-BAC** **Bull Creek and Poplar Creek**

Location: This segment includes the Bull Creek mainstem and tributaries, including Convict Hollow, Belcher Branch, Deel Fork, Cove Hollow. This segment also includes Poplar Creek at the confluence with Knotty Poplar Fork and continues downstream to the confluence with Levisa Fork.

City / County: Buchanan Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6ABLC000.85 had a 55% exceedance of the E.coli water quality standard and station 6APLR000.06 had a 44% exceedance of the E.coli standard.

Bull Creek and Poplar Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.97**

Sources:

Sewage Discharges in Unsewered Areas

Tennessee and Big Sandy River Basins

Cause Group Code: **Q08R-02-BEN** **Home Creek**

Location: Levisa Fork tributary south of Big Rock upstream to Spencer Fork confluence, parallel to Route 650.

City / County: Buchanan Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Biological monitoring station at 6AHME002.16 was impaired based on VSCI scores.

Home Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.74**

Sources:

Coal Mining

Tennessee and Big Sandy River Basins

Cause Group Code: **Q09R-01-BAC** **Russell Fork**

Location: This segment includes the unassessed stream segments in the headwaters of Russell Fork downstream to the confluence of PawPaw Creek, Hurricane Creek from the confluence of Carver Branch downstream to the confluence with Russell Fork and Indian Creek from Duty downstream to the confluence with Russell Fork.

City / County: Buchanan Co Dickenson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6ARSS047.10 had a 28% exceedance of the E.coli water quality standard, station 6ARSS041.08 had a 33% exceedance of the E.coli water quality standard, 6AHRC000.05 had a 36% exceedance of the E. coli water quality standard and 6AIND000.52 had a 33% exceedance of the E. coli water quality standard.

Russell Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**23.20**

Sources:

Sewage Discharges in Unsewered Areas

Tennessee and Big Sandy River Basins

Cause Group Code: **Q09R-01-BEN** **Indian Creek**

Location: A Russell Fork tributary from the Cane Creek confluence at Duty downstream to the Russell Fork confluence at the Buchanan/Dickenson County line.

City / County: Buchanan Co Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Probabilistic monitoring station located at 6AIND000.52 was impaired based on the VSCI scores.

Indian Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.50**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **Q09R-02-BEN** **Sullivan Branch**

Location: This segment begins at the headwaters of Sullivan Branch and continues downstream to the confluence with Indian Creek.

City / County: Buchanan Co Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6ASLV000.85 was impaired based on the VSCI scores.

Sullivan Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.60**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **Q10R-01-BEN** **Fryingpan Creek**

Location: From headwaters on Sandy Ridge near Carrie downstream to the Priest Fork confluence.

City / County: Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The probabilistic monitoring station indicate impairment based on VSCI scores.

Fryingpan Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**9.10**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **Q11R-02-BAC** **McClure River**

Location: This segment begins at the Buffalo Creek confluence and continues downstream to the Road Branch confluence and Buffalo Creek from the headwaters downstream to the confluence with McClure River.

City / County: Dickenson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The station identified as BC on Buffalo Creek had a 50% exceedance of the E.coli water quality standard and station 6AMCR007.46 had a 17% exceedance of the bacteria water quality standard and station 6AMCR014.69 had a 33% exceedance of the bacteria standard.

McClure River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**26.85**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **Q11R-02-BEN** **McClure River**

Location: This segment begins at the Buffalo Creek confluence downstream to the Road Branch confluence and includes the communities of McClure and Stratton.

City / County: Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6AMCR014.13 was impaired based on the VSCI scores.

McClure River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**21.54**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **Q12R-01-BAC** **Russell Prater Creek**

Location: This segment extends from the headwaters at Poplar Gap downstream to the confluence with Russell Fork.

City / County: Buchanan Co Dickenson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6ARPC000.40 had a 22% exceedance of the E.coli water quality standard.

Russell Prater Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.02**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **Q12R-04-BAC** **Russell Fork**

Location: Mainstem from the Barts Lick Creek confluence near Bartlick, upstream to the McClure River confluence in Haysi.

City / County: Dickenson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6ARSS025.30 has an 11% exceedance of the E. coli water quality standard. USGS E. coli samples collected also exceeded the WQS.

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

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13L-01-HG** **John Flannagan Reservoir**

Location: This reservoir is located northeast of Clintwood near the Kentucky state line.

City / County: Dickenson Co

Use(s): Fish Consumption

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

Fish tissue sampling done in 2008 found one largemouth bass that exceeded the Virginia Department of Health's level of concern and one exceeded the DEQ screening value for Mercury.

John Flannagan Reservoir **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,177.21**	

Sources:

Atmospheric Deposition - Toxics

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-02-TEMP** **North Fork Pound River**

Location: This segment extends from the PWS segment at the intake in the North Fork Pound Reservoir, upstream five miles on all tributaries.

City / County: Dickenson Co Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

Station 6APNK000.08 had a 33% exceedance of the water quality standard for temperature.

North Fork Pound River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**27.19**

Sources:

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

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-03-BAC** **Pound River**

Location: This segment of the Pound River extends from the Georges Fork confluence downstream to the lake backwaters at Jerry Branch.

City / County: Dickenson Co Wise Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6APNR023.86 had a 11% exceedance of the E.coli water quality standard.

Pound River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.60**

Sources:

Sewage Discharges in Unsewered Areas

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-03-BEN** **Pound River**

Location: Pound River from Georges Fork confluence upstream to the confluence of North Fork and South Fork Pound River west of the Town of Pound.

City / County: Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Biological monitoring stations located at 6APNR028.76 and 6APNR034.66 indicated impairment based on VSCI scores.

Pound River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.10**

Sources:

Surface Mining

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-03-TEMP** **North Fork Pound River**

Location: This segment includes the mainstem, south of Horse Gap from the dam of North Fork Pound Lake, downstream to the confluence with the Pound River.

City / County: Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

Station 6APNK000.08 had a 33% exceedance of the water quality standard for temperature.

North Fork Pound River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.20**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-04-BEN** **Indian Creek**

Location: Pound River tributary south of the Town of Pound upstream to Barn Branch confluence.

City / County: Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic studies in the spring and fall 2010 indicated impairment. SOS monitoring at 6BIAC-Indian Creek-SOS in 2007 detected an unacceptable benthic community.

Indian Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.78**

Sources:

Rural (Residential Areas)

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-06-BEN** **Pound River**

Location: This segment includes the Pound River from Georges Fork confluence upstream to the confluence of the North Fork and South Fork Pound Rivers.

City / County: Dickenson Co Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological station located at 6APNR034.58 was impaired based on VSCI scores.

Pound River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**16.60**

Sources:

Coal Mining

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-07-BEN** **Bear Pen Branch**

Location: Bear Pen Branch from the confluence with Childress Branch downstream to the confluence with the Pound River.

City / County: Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic station 6ABEP000.08 was impaired based on VSCI scores.

Bear Pen Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.82**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-08-BEN** **North Fork Pound River tributaries**

Location: This segment includes the PWS segment from the raw water intake in the North Fork Powell Reservoir, upstream five miles on all tributaries, including Bad Creek, Rumley Branch and an unnamed tributary near Laurel Fork.

City / County: Dickenson Co Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Biological monitoring station 6APNK000.08 was impaired based on VSCI scores.

North Fork Pound River tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**10.59**

Sources:

Coal Mining

Tennessee and Big Sandy River Basins

Cause Group Code: **Q13R-09-BEN** **North Fork Pound River**

Location: This segment includes the headwaters of the North Fork Pound River north of Flat Gap, including Bear Fork, downstream to Bad Creek confluence at Gilley.

City / County: Wise Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Biological Monitoring station at 6APNK008.28 was impaired based on VSCI scores.

North Fork Pound River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.96**

Sources:

Coal Mining

Tennessee and Big Sandy River Basins

Cause Group Code: **Q14R-01-BAC** **Cranesnest River**

Location: This segment extends from the headwaters downstream to the confluence with Bartley Branch at the backwaters of the Flannagan Reservoir.

City / County: Dickenson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 6ACNR021.72 had a 16% exceedance of the E.coli water quality standard and station 6ACNR009.17 had a 26% exceedance of the E.coli standard.

Cranesnest River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.59**

Sources:

Sewage Discharges in Unsewered Areas

Tennessee and Big Sandy River Basins

Cause Group Code: **Q14R-01-BEN** **Birchfield Creek and Cranesnest River**

Location: This segment includes the mainstem of the Cranesnest River from the headwaters downstream to the Honeycamp Branch confluence and Birchfield Creek from the confluence with Happy Hollow downstream to the Cranesnest River.

City / County: Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic stations 66ACNR017.24, 6ACNR018.89 and 6ABLD000.90 were impaired based on VSCI scores.

Birchfield Creek and Cranesnest River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**14.70**

Sources:

Source Unknown

Tennessee and Big Sandy River Basins

Cause Group Code: **Q14R-02-BEN** **Dotson Creek**

Location: A Birchfield Creek tributary parallel to Route 636.

City / County: Dickenson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The biological monitoring station at 6ADOT000.46 was impaired based on VSCI scores.

Dotson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.61**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-01-SF2** **Great Wicomico River, Blackwells Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Numbers 013-089A & 013-089G, 8/23/2010 not included in the 5/28/1997 condemnation.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation Notice 013-089A & Notice 013-089G, 8/23/2010

The upstream portion of the Great Wicomico River was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89A, 5/28/1997. Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. The TMDL was approved by the EPA on 6/8/2006. As the segment first expanded in the 2004 cycle, the TMDL for this expanded portion will be due in 2016. During the 2010 cycle, the condemnation was reduced and split into sections A & I.

The condemnation shrank further in the 2012 cycle and an additional 0.3305 square miles was opened for harvest. Condemnation A retreated and condemnation I was opened; the impaired area is now limited to Blackwells Creek and a 0.0695 square mile segment of the Great Wicomico River.

Great Wicomico River, Blackwells Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.125**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-02-SF2** **Balls Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 013-089F, 12/8/2008 not included in the 5/28/1997 condemnation.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation Notice 013-089F, 8/23/2010

The upstream portion of Balls Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89C, 5/28/1997. Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. As the segment first expanded in the 2002 cycle, the TMDL will be due in 2014.

The size was reduced in the 2012 cycle.

Balls Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.080**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-03-SF2** **Tipers Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 013-089G, 12/8/2008 not included in the 5/28/1997 condemnation.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation Notice 013-089E, 8/23/2010.

The upstream portion of Tipers Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 89C, 5/28/1997. Although the condemnation is currently larger than the 1998 condemnation, the bacteria TMDL only addressed the original upstream portion, which is now considered Category 4A. The lower portion is addressed in fact sheet C01E-03-SF2. As the segment first expanded in the 2002 cycle, the TMDL will be due in 2014.

Segment shrank in the 2012 cycle.

Tipers Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.014**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-05-SF2** **Whays Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 013-220B, 8/23/2010 not included in condemnation 89F, 5/28/1997.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation Notice 013-220B, 8/23/2010

The upstream portion of Whays Creek was included on the 1998 303(d) list as impaired of the Shellfish Consumption Use due to VDH Condemnation 89F, 5/28/1997. Although the condemnation has since expanded, the shellfish TMDL, which was approved by the EPA on 6/8/2006, only addressed the original upstream impairment. The upstream segment will be considered Category 4A; the TMDL for the lower portion will be due in 2018.

Whays Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.040**		

Sources:

Non-Point Source

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-06-SF2** **Warehouse Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 013-220A, 8/23/2010 not included in condemnation 89E, 5/28/1997.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation Notice 013-220A, 8/23/2010

The upper portion of Warehouse Creek was included on the 1998 303(d) list due to VDH Condemnation 89E, 5/28/1997. Although the condemnation has since expanded, the bacteria TMDL was completed only for the original upstream portion. The TMDL was approved by the EPA on 6/8/2006. The TMDL will be due in 2018 since it first expanded in the 2006 cycle.

Warehouse Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.021**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-07-SF** **Horn Harbor**

Location: Described in VDH Notice and Description of Shellfish Condemnation 013-089D, 8/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 013-089D, 8/23/2010.

Horn Harbor **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.069**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-09-SF2** **Prentice Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 015-022D, 5/18/2010 not included in 022D or 022C, 2/27/1997

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation 015-022D, 5/18/2010.

Two portions of Prentice Creek was included on the 1998 303(d) list due to condemnations 022C & 022D, 2/27/1997. The bacteria TMDL for the 1998 impairment was completed during the 2008 cycle as part of the Dividing Creek and Prentice Creek Bacteria TMDL report; the TMDL was approved by the EPA on 6/8/2006. During the 2010 cycle, the condemnations expanded and merged. The 1998 segments will be considered Category 4A for the Shellfish Use; the TMDL for the expanded area is due in 2022.

The condemnation shrank in the 2012 cycle.

Prentice Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.004**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-12-SF2** **Mill Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 014-123A, 5/24/2010 not included in the 6/2/1997 condemnation.

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation Notice 014-123A, 5/24/2010.

The upper portion of Mill Creek was included on the 1998 303(d) list due to shellfish condemnation 123, 6/2/1997. The segment has since expanded, however only the original portion was included in the TMDL for Mill Creek, which was completed during the 2008 cycle and was approved by the EPA on 8/22/2007. As the segment first expanded during the 2004 cycle, the TMDL will be due in 2016.

Size reduced in the 2012 cycle.

Mill Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-14-SF** **Gaskin Pond**

Location: Described in VDH Notice and Description of Shellfish Condemnation 011-122A, 9/16/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Number 011-122A, 9/16/2010.

Gaskin Pond **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.115**		

Sources:

Non-Point Source

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-17-PCB** **Chesapeake Bay and Tidal Tributaries**

Location: Chesapeake Bay mainstem and its small coastal tidal tributaries

City / County: Accomack Co, Chesapeake Bay - Cou, Gloucester Co, Lancaster Co, Mathews Co, Middlesex Co, Norfolk City, Northampton Co, Northumberland Co, Poquoson City, Virginia Beach City, York Co

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A

The Chesapeake Bay and its tidal tributaries are included under the 12/13/2004 VDH Fish Consumption Advisories for PCBs. No more than 2 meals/month are recommended of anadromous (coastal) striped bass.

Also, VDH issued additional fish consumption advisory for PCBs in the Mobjack Bay and its tributaries, particularly the East, West, and Ware Rivers (on 12/13/2004) and in the Piankatank River from Rt. 17 to Deep Point Boat Landing (10/7/2009). No more than two meals/month of gizzard shad are recommended.

The advisories are based on the results of DEQ's fish tissue monitoring program, which show elevated PCBs levels in several monitoring sites within the basin, including:

7-GWR007.97 in the Great Wicomico River
7-COC000.40 in Cockrell Creek
7-IND001.80 in Indian Creek
7-DYM000.00 in Dymer Creek
7-PNK019.85 in the Piankatank River
7-MLF002.45 in Milford Haven
7-WIN000.88 in Winter Harbor
7-EST002.65 in the East River
7-NOR003.65 in the North River
7-WAR005.77 in the Ware River

Chesapeake Bay and Tidal Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**1,829.138**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-31-SF** **Jarvis Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 015-022E, 5/18/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Number 015-022E, 5/18/2010

Size reduced in the 2012 cycle.

Jarvis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Non-Point Source

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-33-SF** **Betts Mill Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 013-089B, 8/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 013-089B, 8/23/2010

Segment reduced slightly in the 2012 cycle.

Betts Mill Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.082**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-37-SF** **Harveys Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 014-123B, 5/24/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Number 014-123B, 5/24/2010

Size reduced in the 2010 and 2012 cycles.

Harveys Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.045**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-38-SF** **Cranes Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 013-220E, 8/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnations 013-220E, 8/23/2010

Cranes Creek was listed in the 2008 cycle due to VDH-DSS Shellfish Condemnation Number 013-220C, 6/23/2006. During the 2010 cycle, the condemnation shortened and split into two sections 220C & 220G (12/8/2008). In the 2012 cycle, the segment shrank further and now constitutes only 013-220E, 8/23/2010

Cranes Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-40-SF** **Coles Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 013-089C, 8/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Number 013-089C, 8/23/2010.

Coles Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-42-SF** **Jarvis Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 015-022F, 5/18/2010

City / County: Lancaster Co Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Number 015-022F, 5/18/2010.

Jarvis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-56-SF** **Head River Branch**

Location: Described in VDH Condemnation Number 013-220D, 8/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 013-220D, 8/23/2010

Head River Branch **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-57-SF** **Reason Creek**

Location: Described in VDH Condemnation Number 013-220C, 8/23/2010

City / County: Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 013-220C, 8/23/2010

Reason Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-58-SF** **XEV - Mill Creek, UT**

Location: Described in VDH Condemnation Number 014-123C, 5/24/2010

City / County: Lancaster Co Northumberland Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 014-123C, 5/24/2010

XEV - Mill Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.006**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01E-60-SF** **Lees Cove**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 016-024E, 12/21/2010 not included in 016-024C, 12/28/2007

City / County: Lancaster Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation 016-024E, 12/21/2010

The TMDL for the upstream portion Lees Cove was approved by the EPA on 4/8/2009 and by the SWCB on 7/27/2009. The segment is considered a Category 4A water.

During the 2012 cycle, the condemnation expanded. The TMDL for this expanded portion is due in 2024.

Lees Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.010**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01R-01-BAC** **Crabbe Mill Stream**

Location: The nontidal mainstem of Crabbe Mill Stream.

City / County: Northumberland Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Crabbe Mill Stream was impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at 7-CMS002.00, which is located at Route 201.

Although Crabbe Mill Stream is within the TMDL study area for the Great Wicomico River Shellfish Bacterial TMDL, there is a VPDES discharger which drains to the stream that was not addressed in the TMDL; therefore the impairment cannot be nested.

Crabbe Mill Stream **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.89**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01R-01-DO** **Crabbe Mill Stream**

Location: The nontidal mainstem of Crabbe Mill Stream.

City / County: Northumberland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Crabbe Mill Stream was impaired of the Aquatic Life Use due to a dissolved oxygen violation rates of 3/14 at 7-CMS002.00. Monitoring at 7-CMS000.12 / 7-CMS-GW2-ALL was acceptable, therefore continued monitoring is recommended.

Crabbe Mill Stream **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C01R-01-PH** **Crabbe Mill Stream**

Location: The nontidal mainstem of Crabbe Mill Stream.

City / County: Northumberland Co

Use(s): Aquatic Life

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

During the 2012 cycle, Crabbe Mill Stream was impaired of the Aquatic Life Use due to pH violation rates of 2/17 at 7-CMS000.12 and 2/14 at 7-CMS002.00.

Crabbe Mill Stream **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.89**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C02R-03-HG** **Dragon Swamp/Piankatank River**

Location: Dragon Swamp and the Piankatank River from the headwaters near the State Route 620 bridge downstream to Deep Point Boat Landing (Rt. 606) across from Piankatank Shores.

City / County: Essex Co Gloucester Co King And Queen Co Middlesex Co

Use(s): Fish Consumption

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

Dragon Swamp and the Piankatank River are considered impaired of the Fish Consumption Use based on DEQ monitoring which has indicated elevated levels of mercury in largemouth bass. The VDH has issued a fish consumption restriction for largemouth bass in this area.

A portion of this area was considered fully supporting but threatened in 2002 based on these results. Because of the VDH advisory, the segment location was altered and the segment was downgraded to impaired.

In July 2005, VDH extended the Fish Consumption Advisory waterbody boundaries to include the entire length of Dragon Swamp from the headwaters near Rt. 620 downstream to Deep Point Boat Landing. No more than two meals/month of largemouth bass are recommended.

Mercury exceedances at:
7-DRN003.40
7-DRN001.43
7-PNK017.47
7-PNK020.42

Dragon Swamp/Piankatank River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:	**3.009**		**32.50**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-03-SF** **Frenchs Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 035-076D, 6/24/2010

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 035-076D, 6/24/2010

Frenchs Creek was listed as impaired of the Shellfish Consumption Use during the 2006 cycle based on VDH-DSS Shellfish Condemnation Notice 035-076B, 9/3/2004. During the 2008 cycle, the upstream Piankatank River condemnation and merged with the Frenchs Creek impairment (035-076A, 5/30/2006). During the 2010 cycle, the Piankatank River condemnation was shortened and Frenchs Creek was separated (035-076D, 5/29/2008). As Frenchs Creek was first listed on the 2002 303(d) list, the TMDL is due in 2014.

Frenchs Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.010**		

Sources:

Non-Point Source

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-04-BAC** **Ferry Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 035-076B, 5/29/2008

City / County: Gloucester Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

During the 2010 cycle, Ferry Creek was assessed as impaired of the Recreation Use due to an enterococci exceedance rate of 2/10 at 7-FER000.92, which is located at a private dock off of Route 608.

Ferry Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.124**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-07-SF** **Moore Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 034-208A, 8/26/2009

City / County: Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation 034-208A, 8/26/2009

Size reduced in the 2012 cycle.

Moore Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.017**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-08-SF2** **Jackson Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 033-084A, 12/9/2008 not included in condemnations 84A & 84B, 11/1/1996

City / County: Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation 033-084A, 12/9/2008

Two areas of Jackson Creek were listed as impaired on the 1998 303(d) list due to VDH Condemnations 84A & B, 11/1/1996. Although the condemnations expanded and merged in the 033-084A, 12/30/2004 condemnation, the bacteria TMDL, which was developed by the DEQ and approved by the EPA on 6/7/2006 only addressed the original areas, which will be classified as Category 4A. The TMDL for the expansion is due in 2018. However, during the 2010 cycle, the condemned portion shrank considerably. The majority of the area is now only seasonally condemned and will be delisted. In addition, a tributary on Stove Point Neck is considered to be an administrative closure by the VDH-DSS; therefore the area was delisted and the use is considered removed. The condemned expansion will remain Category 5B.

Jackson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.002**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-09-SF** **Piankatank River, UT**

Location: Described in VDH Notice and Description of Shellfish Condemnation 034-126C, 8/24/2010

City / County: Gloucester Co Mathews Co Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 034-126B, 8/24/2010

Piankatank River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.007**		

Sources:

Non-Point Source

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-10-EBEN** **Piankatank River**

Location: Piankatank River downstream of Pond Pt. down to just upstream of Iron Pt.

City / County: Mathews Co Middlesex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

Based on the information collected from the Coastal 2000 station 7-PNK005.20 in 2003, the Weight of Evidence estuarine bioassessment results indicated the benthic community was impaired. Therefore this segment was assessed as not supporting for aquatic life use during the 2006 cycle. During the 2008 cycle, additional Coastal 2000 monitoring in 2004 at station 7-PNK005.35 also indicated benthic impairment.

Piankatank River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**1.169**		

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-14-EBEN** **Piankatank River**

Location: River's bend around Berkley Island

City / County: Middlesex Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

During the 2008 cycle, estuarine probabilistic monitoring was conducted at Coastal 2000 station 7-PNK010.41. The data was assessed by DEQ's Central Office staff who assessed the area as impaired due to alteration of the benthic community.

Piankatank River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.785**		

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-15-SF** **Dancing Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 035-076C, 6/24/2010

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 035-076C, 6/24/2010

Size reduced in the 2012 cycle.

Dancing Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C03E-19-SF** **Porpoise Cove**

Location: Described in VDH Notice and Description of Shellfish Condemnation 034-208B, 8/26/2009

City / County: Middlesex Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Notice 034-208B, 8/26/2009

Porpoise Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.011**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-01-SF2** **Queens Creek, UT**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 037-099C, 1/28/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 037-099C, 1/28/2010

A portion of Queens Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to condemnation 99A, 4/9/1997. During several assessment cycles the condemned area has expanded and contracted. (The Shellfish TMDL for Queens Creek was completed during the 2010 cycle and was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008. Also during the 2010 cycle, the condemnation shrank again and split into two condemned areas (037-0399A and 037-099C, 1/29/2008) and a seasonally condemned area (037-099M1, 1/29/2008). The condemned areas were considered Category 4A; the seasonal area was partially delisted (Category 2B).

However, during the 2012 cycle, it was determined that the TMDL addressed a smaller segment than previously believed. In addition, the condemnation shrank again. The Queens Creek mainstem impairment 037-099A, 1/28/2010 is now smaller than the 1998 impairment and is considered Category 4A/2C (see C04E-01-SF).

Condemnation 037-099C, 1/28/2010 on Queens Creek, UT remains impaired and is located outside of the TMDL study area. The TMDL will be due in 2014 since the condemnation first expanded in the 2002 cycle (see C04E-01-SF2)

Queens Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-05-SF2** **Stutts Creek and Morris Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Numbers 036-061A, -E, and -F, 1/28/2010 not included in A061A & 61B, 4/4/1997

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 037-061F and portions of 037-061A and -E, 1/28/2010

Portions of Stutts Creek and Morris Creek were included on the 1998 303(d) list due to VDH Shellfish Condemnations 61A & 61B, 4/4/1997. The condemnations have since merged and separated several times as the condemnations have expanded and contracted. The condemnations are currently merged - 037-061A, 1/29/2008. However, the TMDL, which was developed by the DEQ during the 2010 cycle and was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008, only addressed the portions which were impaired during the 1998 cycle. The 1998 portions are considered Category 4A (C04E-05-SF). The expanded area are considered Category 5B. As the segment first expanded on the 2002 303(d) list, the TMDL will be due in 2014.

During the 2012 cycle, the condemnation shortened and split into 3 sections.

Stutts Creek and Morris Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.109**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-07-SF2** **Billups Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 036-061B, 1/28/2010 not included in 204, 4/4/1997

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 037-061B, 1/28/2010

A portion of Billups Creek was included on the 1998 303(d) list for the Shellfish Consumption Use due to VDH-DSS condemnation 204, 4/4/1997. The condemned area has since expanded and is currently included under VDH-DSS condemnation 037-061B, 1/29/2008. However, the Shellfish TMDL, which was approved by the EPA on 1/15/2008 and by the SWCB on 7/31/2008 only addresses the 1998 portion. The completed segment is considered Category 4A and the expansion is considered Category 5B. The TMDL will be due in 2014 as the area first expanded in the 2002 cycle.

During the 2012 cycle, the condemnation shrank and split. A portion of 037-061B, 1/28/2010 was reopened and another is seasonally condemned (037-061M3, 1/28/2010) and both are considered partially delisted (0.736 mi2).

Billups Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.010**		

Sources:

Non-Point Source

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-08-SF2** **North River**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 041-157A, 6/30/2010 not included in condemnation 157A, 6/3/1997

City / County: Gloucester Co Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS SFC Number 042-157A, 6/30/2010

The upstream portion of the North River was included on the 1998 303(d) list due to VDH Shellfish Condemnation 157A, 6/3/1997. The condemnation has since expanded, however the DEQ only addressed the original impaired segment during the bacterial TMDL which was approved by the EPA on 6/7/2006. The TMDL for the expanded area is due in 2014 since it first expanded in the 2002 cycle.

North River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.028**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-12-SF** **Davis Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 042-131A, 6/30/2010

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 042-131A, 6/30/2010

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.035**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-25-SF** **Winder Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 037-099D, 1/28/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 037-099D, 1/28/2010

Winder Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-28-SF** **Barn Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 036-197C, 1/28/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 036-197C, 1/28/2010

Size reduced in the 2012 cycle

Barn Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.019**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-29-SF** **Miles Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 041-212C, 12/16/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 041-212C, 12/16/2010

Miles Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.032**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-30-SF** **Lanes Creek, UT**

Location: Described in VDH Notice and Description of Shellfish Condemnation 037-099B, 1/28/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 036-099B, 1/28/2010

Lanes Creek, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.002**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-31-SF** **Stutts Creek (Hole in the Wall)**

Location: Described in VDH Notice and Description of Shellfish Condemnation 037-061C, 1/28/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 037-061C, 1/28/2010

Condemnation shrank during the 2012 cycle.

Stutts Creek (Hole in the Wall) **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-32-SF** **Hudgins Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 037-061D, 1/28/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 037-061D, 1/28/2010

Hudgins Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.015**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-42-SF** **Weston Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 041-212A, 12/16/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 041-212A, 12/16/2010

Weston Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-47-SF** **Belleville Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 042-157B, 6/30/2010

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 042-157B, 6/30/2007
Size reduced in the 2012 cycle.

Belleville Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.037**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-48-SF** **Woodas Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 041-092B, 12/16/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 041-092B, 12/16/2010

A portion of the East River was included on the 1998 303(d) list due to VDH-DSS condemnation 92, 1/3/1995. The condemnation expanded in the 2008 cycle and incorporated several tributaries and coves (10/25/2005). During the 2010 cycle, the DEQ developed the shellfish TMDL; it was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. However, only the original impairment was addressed.

The condemned area retreated in the 2010 cycle and now includes the original 1998 impairment plus an expanded area, Woodas Creek, and two tributaries. The 1998 portion will be considered Category 4A. The TMDLs for the four expansions will be due in 2020.

Woodas Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.066**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-49-SF** **East River**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 041-092A, 12/16/2010 not included in 92, 1/3/1995 or 041-092D, 10/28/2008

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation 041-092A, 12/16/2010

A portion of the East River was included on the 1998 303(d) list due to VDH-DSS condemnation 92, 1/3/1995. The condemnation expanded in the 2008 cycle and incorporated several tributaries and coves (10/25/2005). During the 2010 cycle, the DEQ developed the Shellfish TMDL; it was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. However, only the original impairment was addressed.

The condemned area retreated in the 2010 cycle and now includes the original 1998 impairment plus an expanded area, Woodas Creek, and two tributaries. The 1998 portion will be considered Category 4A. The TMDLs for the four expansions will be due in 2020. The expansion increased during the 2012 cycle and condemnations A and D joined.

East River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.099**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-50-SF** **East River, UT**

Location: Described in VDH Notice and Description of Shellfish Condemnation 041-092D, 10/28/2008

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS condemnation 041-092A, 12/16/2010
VDH-DSS Shellfish Condemnation 041-092D, 10/28/2008

A portion of the East River was included on the 1998 303(d) list due to VDH-DSS condemnation 92, 1/3/1995. The condemnation expanded in the 2008 cycle and incorporated several tributaries and coves (10/25/2005). During the 2010 cycle, the DEQ developed the Shellfish TMDL; it was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. However, only the original impairment was addressed.

The condemned area retreated in the 2010 cycle and now includes the original 1998 impairment plus an expanded area, Woodas Creek, and two tributaries. The 1998 portion will be considered Category 4A. The TMDLs for the four expansions will be due in 2020. The expansion increased during the 2012 cycle and condemnations A and D joined.

East River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-51-SF** **East River, UT**

Location: Described in VDH Notice and Description of Shellfish Condemnation 041-092C, 12/16/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 041-092C, 12/16/2010

A portion of the East River was included on the 1998 303(d) list due to VDH-DSS condemnation 92, 1/3/1995. The condemnation expanded in the 2008 cycle and incorporated several tributaries and coves (10/25/2005). During the 2010 cycle, the DEQ developed the shellfish TMDL; it was approved by the EPA on 2/27/2008 and by the SWCB on 4/28/2009. However, only the original impairment was addressed.

The condemned area retreated in the 2010 cycle and now includes the original 1998 impairment plus an expanded area, Woodas Creek, and two tributaries. The 1998 portion will be considered Category 4A. The TMDLs for the four expansions will be due in 2020.

East River, UT **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.023**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-52-SF** **Lanes Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 039-099E, 1/28/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 039-099E, 1/28/2010

Lanes Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Non-Point Source

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-53-BAC** **Whites Creek**

Location: Whites Creek at Festival Beach

City / County: Mathews Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

During the 2012 cycle, Whites Creek at Festival Beach was impaired of the Recreation Use due to 7 short-term swimming advisories during the 2010 swim season.

Whites Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.042**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-54-SF** **Davis Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 040-085A, 9/21/2010

City / County: Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 040-085A, 9/21/2010

Davis Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04E-55-SF** **Raymond Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 042-131B, 6/30/2010

City / County: Gloucester Co Mathews Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 042-131B, 6/30/2010

Raymond Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.026**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04R-01-DO** **East River**

Location: Nontidal mainstem of the East River.

City / County: Mathews Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, the nontidal East River was impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/12 at 7-EST008.71, which is located at Rt. 14.

East River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.79**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C04R-01-PH** **East River**

Location: Nontidal mainstem of the East River.

City / County: Mathews Co

Use(s): Aquatic Life

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

During the 2012 cycle, the nontidal East River was impaired of the Aquatic Life Use due to a pH exceedance rate of 8/12 at 7-EST008.71, which is located at Rt. 14.

East River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.79**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C05E-01-SF2** **Ware River**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 043-096A, 9/23/2010 not included in 096A and 096B, 8/12/1996

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 043-096A, 9/23/2010

Fox Mill Run and a portion of the Ware River were included on the 1998 303(d) list due to VDH Shellfish Condemnation 96B and 96A, 8/12/1996. The Ware River condemnation has since expanded to incorporate the Fox Mill Run impairment. However, the DEQ developed the Bacteria TMDL for only the original 1998 portions; the TMDL was approved by the EPA on 6/7/2006. The TMDL for the expanded portion of the Ware River will be due in 2014 since it first expanded in the 2002 list.

The condemnation shrank slightly in the 2012 cycle.

Ware River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.212**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C05E-02-SF2** **Wilson Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 043-096B, 9/23/2010 not included in 106, 8/12/1996

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 043-096B, 9/23/2010

A portion of Wilson Creek was included on the 1998 303(d) list due to VDH Shellfish Condemnation 106, 8/12/1996. The condemnation has since expanded and contracted. During the 2010 cycle, VDH Shellfish Condemnation 043-096B, 9/24/2008 was larger than it was in the 1998 cycle. However, the DEQ developed the Bacteria TMDL for only the original 1998 portion; the TMDL was approved by the EPA on 6/7/2006.

During the 2012 cycle, the condemnation shrank and split into sections B and C. Section C now matches the 1998 impairment (Category 4A). Section B remains impaired and is addressed in fact sheet C05E-02-SF2; the TMDL is due in 2014 since it first expanded in the 2002 list.

Wilson Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.077**		

Sources:

Non-Point Source

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C06R-01-DO** **Northwest Branch of Severn River**

Location: From its headwaters to the limit of tide.

City / County: Gloucester Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, station 7-SEN004.04 had a dissolved oxygen violation rate of 2/12, therefore the segment was considered impaired of the Aquatic Life Use. The TMDL is due in 2020.

During the 2010 cycle, it was determined that the station is tidally influenced. However, additional monitoring at station 7-SEN004.78 confirmed the impairment.

The exceedance rate was 4/10 during the 2012 cycle.

Northwest Branch of Severn River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.22**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-01-PCB** **Chesapeake Bay & Tidal Tributaries VDH Fish Consumption Advisory for PCBs**

Location: This cause encompasses the Chesapeake Bay & Tidal Tributaries within the lower bay.

City / County: Hampton City Poquoson City York Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs fish tissue contamination within the Chesapeake Bay issued 12/13/04. Previous Use ID (2006 IR) as TMDL ID: VDH-Bay PCBs.

Chesapeake Bay & Tidal Tributaries VDH Fish Consumption Advisory for PCBs **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**16.015**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-04-BAC2** **Poquoson River - Upper**

Location: This cause encompasses the area from Pilney Point Estates downstream to end of Calthrop Neck.

City / County: York Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on the exceedance of the criteria for Enterococcus bacteria at the upstream station 7-POQ004.12 (20 violates / 36 obs.) exceeding the swimming indicator criteria.

Poquoson River - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.121**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-05-BAC2** **Southwest Br. Back River - Mouth**

Location: This cause encompasses the lower portion of the SW Branch Back River to the confluence with mainstem Back River.

City / County: Hampton City Poquoson City

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is not supporting based on the previous Fecal Coliform data recorded during the 2002 IR which indicated exceedance of the bacteria criteria. There are no current data for Enterococcus bacteria to assess the Recreation Use. This area was not included in the EPA approved Back R TMDL 8/2/2006.

Southwest Br. Back River - Mouth **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.227**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-11-SF2** **Poquoson River - Upper**

Location: This cause encompasses the area past confluence of Quarter March Cr downstream approx 0.8 mi.

City / County: York Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 053-137B. Not included in Poquoson R. TMDL.

Poquoson River - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.054**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-24-SF** **Unnamed Cove @ Crane & Adjacent Mouth Patricks Creek & Upper Hodges Creek**

Location: This cause encompasses this tributary to the north shore tributary to Poquoson R (incl. area adjacent to mouth of Patricks Creek) at Crane. CBP Segment MOBPH.

City / County: York Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired due to the DSS shellfish harvesting condemnation # 053-137A (20080320). Previously (2006 IR) listed as TMDL-ID: VAT-C07E-11. Not Covered under TMDL (25403) EPA approved for "Poquoson River" 8/2/2006 under VAT-C07E-11-SF. In 2010 remove 4A designation.

Unnamed Cove @ Crane & Adjacent Mouth Patricks Creek & Upper Hodges Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.059**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-25-SF** **Lyons Creek - Upper, Middle and Lower**

Location: This cause encompasses this south shore tributary to Poquoson R, in area of York Haven Anchorage. East of Roberts Creek and north of White House Cove. CBP Segment MOBPH.

City / County: Poquoson City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS Shellfish condemnation.

Lyons Creek - Upper, Middle and Lower **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.120**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-26-SF** **Floyds Bay**

Location: This cause encompasses Floyds Bay. CBP Segment MOBPH.

City / County: Poquoson City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS Shellfish condemnation.

Floyds Bay **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.052**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-33-EBEN** **Northwest Br. Back River - Upper near Marsh Point**

Location: This cause encompasses the impairment located in the Northwest Branch Back River - Upper portion near Marsh Point. This cause encompasses the benthic community related to the ProbMon station 7-NWB002.18.

City / County: Hampton City Poquoson City

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per benthic community structure analysis. There is no source/stressor currently identified as source for the impairment.

Northwest Br. Back River - Upper near Marsh Point **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**0.261**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-34-SF** **Unnamed Inlet - Back River South Shore near Wallace Creek**

Location: This cause encompasses the Unnamed Inlet Back River. South Shore near Wallace Cr west of Dandy Point. CBP Segment MOBPH

City / County: Hampton City Poquoson City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish condemnation # 054-215 M1 (effective 20101115).

Unnamed Inlet - Back River South Shore near Wallace Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.006**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-36-SF** **Grandview Pier & Saltponds Beaches [No TMDL]**

Location: This cause encompasses Grandview Beach southwest to northeast of Buckroe Beach. Shoreward of GRV01A06. DSS shellfish condemnation # 055-216 A (effective 20080530). No EPA approved TMDL.

City / County: Hampton City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish condemnation # DSS shellfish condemnation # 055-216 A (effective 20080530). No EPA approved TMDL.

Grandview Pier & Saltponds Beaches [No TMDL] **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.119**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-37-SF** **Boathouse Creek - Upper**

Location: This cause encompasses the area from the end of tidal waters downstream 1/2 length of creek. CBP Segment MOBPH.

City / County: York Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to the DSS shellfish harvesting area # 053-221 A (effective 20100302). Segment split because half of Boathouse Creek is condemned for SF while the other half is open. Segment size decrease.

Boathouse Creek - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.042**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-38-SF** **Bennett Creek - Upper (DSS_06-IR)**

Location: This cause encompasses the Bennett Creek upstream portion (S of Poquoson R mouth) tributary to Poquoson River. From end of tidal waters downstream 0.1 mi. CBP Segment MOBPH.

City / County: Poquoson City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to the DSS shellfish harvesting area # 053-222 (effective 20090323).

Bennett Creek - Upper (DSS_06-IR)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	**0.032**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-39-SF** **Easton Cove**

Location: This cause encompasses the area located in southeast corner of Bennett Cr, trib to Poquoson River. Area of York Haven Anchorage. CBP Segment MOBPH.

City / County: Poquoson City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to the DSS shellfish harvesting area # 053-222 F effective 20090323.

Easton Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.057**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-40-SF** **Grunland Creek - Mouth**

Location: This cause encompasses the south shore trib. to mainstem Back River. Adjacent to Grandview area. CBP Segment MOBPH

City / County: Hampton City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Shellfishing Use is not supporting based on the DSS shellfish condemnation # 054-215 C(effective 20101115).

Grunland Creek - Mouth **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.048**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07E-41-SF** **Unsegmented estuaries in Back River - DSS**

Location: This cause encompasses the non segmented areas of C07E. CBP Segment MOBPH.

City / County: Hampton City Poquoson City York Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting based on the DSS Shellfish Condemnation # 054-021 B (effective date 20101115).

Unsegmented estuaries in Back River - DSS **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.097**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07L-01-CU** **Harwood Mills Reservoir**

Location: This cause encompasses the Harwood Mills Reservoir, portion of Poquoson River upstream of dam @ RM 5.7. PWS for York County.

City / County: York Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Copper / 5A

The Aquatic Life and Wildlife Uses impairments are related to the Aquatic Life impairment, and is carried from 2004 IR, due to water column copper exceedances of the acute criteria. Data supplied by USGS @ Station 01677850 - surface layer in September 2002. Exceedance of Cu freshwater acute criteria at violation rate of 100% (3 violates / 3 surface obs.).

Harwood Mills Reservoir **Wildlife**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:		**515.36**	

Sources:

Municipal (Urbanized High Density Area) Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07L-01-DO** **Harwood Mills Reservoir**

Location: This cause encompasses the Harwood Mills Reservoir, portion of Poquoson River upstream of dam @ RM 5.7. PWS for York County.

City / County: York Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired due to dissolved oxygen concentrations below the minimum criteria (4.0 mg/L). The DO impaired pooled violation rate (15/60= 20.5 %) Individual station violation rates (7-POQ005.72 @ 15/ 41, 7-POQ006.84 @ 0/19). pH supporting pooled (0/60).

Harwood Mills Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**257.68**	

Sources:

Residential Districts Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C07R-01-DO** **Newmarket Creek - Lower Riverine**

Location: This cause encompasses Newmarket Creek from 0.1 mi. below Chestnut Ave. downstream to 0.65 mi. below Aberdeen Rd. crossing. Lowermost riverine portion, prior to start of tidal influence. In area of Mount Olive Cemetery.

City / County: Hampton City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life impairment is carried from 2004 IR, due to site specific dissolved oxygen concentrations (3 violates / 8 obs.) below the minimum criteria (4.0 mg/L). Possibly related to downstream DO impairment (TMDL_ID VAT-C07E-03). Monitoring at DEQ (AQM) station @ 7-NEW005.44 outside 2008 IR data window (1/1/2001-12/31/2006). Within area of dense residential and commercial development.

Newmarket Creek - Lower Riverine **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.98**

Sources:

Municipal (Urbanized High Density Area)	Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08E-01-EBEN** **Lynnhaven River - Mainstem**

Location: This cause encompasses the entirety of the Lynnhaven River CBP-BIBI segment LYNPHa and Tributaries. Tributary to south shore of Chesapeake Bay. Mainstem area near mouth. CBP segment LYNPH. BIBI segment LYNPHa.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool identified sediment contaminants as source for the impairment.

Lynnhaven River - Mainstem **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**7.915**		

Sources:

Contaminated Sediments

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08E-01-PCB** **Lynnhaven River System VDH Fish Consumption Advisory**

Location: This cause encompasses the complete Lynnhaven River System

City / County: Norfolk City Virginia Beach City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs for the Eastern Branch Lynnhaven River issued 12/13/04. Previously (2006 IR) listed as TMDL-ID: VDH-Bay PCBs.

Lynnhaven River System VDH Fish Consumption Advisory **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**3.537**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-01-CHLA** **Lake Whitehurst**

Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Chlorophyll-a / 5A

The Aquatic Life Use is impaired based on chlorophyll a concentrations below the DEQ minimum allowable criteria. Lake Whitehurst pooled nutrient results: 2 viol/ 2 obs TP & Chla (2005, 2008). Both nutrients are assessed since algaecide was applied during the monitoring year. Exceedance of either criterion (Chla or TP) during the monitoring will determine the lake impaired for nutrients.

Lake Whitehurst **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**494.93**	

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-01-DO** **Lake Whitehurst**

Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life impairment is due to dissolved oxygen concentrations below the DEQ minimum criteria (4.0 mg/L)) as assessed from pooled observations (25 violates / 82 obs.). Sample Station 7-LAW000.04 (14 violates/ 49 obs.) and 7-LAW001.24 (11 Violates/ 33 Obs).

Lake Whitehurst **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**494.93**	

Sources:

Residential Districts Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-01-HG** **Lake Whitehurst**

Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Fish Consumption

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

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for Mercury for Lake Whitehurst issued 12/13/04. DEQ (CORE) monitoring at 7-LAW001.00 for fish tissue results have an observed effect for Hg.

Lake Whitehurst **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**494.93**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-01-PCB** **Lake Whitehurst VDH Fish Consumption Advisory**

Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs for Lake Whitehurst issued 12/13/04 modified 10/7/09. DEQ (CORE) monitoring at 7-LAW001.00 for fish tissue results exceeded DEQ-SV for PCBs.

Lake Whitehurst VDH Fish Consumption Advisory **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**494.93**	

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-01-TP** **Lake Whitehurst**

Location: This cause encompasses the entirety of Lake Whitehurst, from Rt. 60 south to the border of Norfolk Intl Airport. City of Norfolk PWS.

City / County: Norfolk City

Use(s): Aquatic Life

Cause(s) /
VA Category: Phosphorus (Total) / 5A

The Aquatic Life Use is impaired based on total phosphorus concentrations below the DEQ minimum allowable criteria. Lake Whitehurst pooled nutrient results: 2 viol/ 2 obs TP & Chla (2005, 2008). Both nutrients are assessed since algaecide was applied during the monitoring year. Exceedance of either criterion (Chla or TP) during the monitoring will determine the lake impaired for nutrients.

Lake Whitehurst **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**494.93**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-03-CHLA** **Little Creek Reservoir**

Location: This cause encompasses the upper portion of the lake, beginning at Rt 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Chlorophyll-a / 5A

The Aquatic Life Use is impaired based on chlorophyll a concentrations below the DEQ minimum allowable criteria. Lake Smith pooled nutrient results: 2 viol/ 2 obs TP & Chla (2005, 2008). Both nutrients are assessed since algaecide was applied during the monitoring year. Exceedance of either criterion (Chla or TP) during the monitoring will determine the lake impaired for nutrients.

Little Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**199.79**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-03-DO** **Little Creek Reservoir**

Location: This cause encompasses the upper portion of the lake, beginning at Rt 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is based on dissolved oxygen concentrations below the minimum criteria (4.0 mg/L) as reported by observations pooled for 7-LTR000.04, 7-LTR000.95 and LC1 (18 violates /79 obs.) sampled during the current cycle. Individual station observations include 7-LTR000.04 (9 violates/ 42 obs.), 7-LTR000.95 (9 violates/ 37 obs.) and LC1 (3 violates/ 11 obs.).

Little Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**199.79**	

Sources:

Residential Districts	Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-03-PCB** **Little Creek Reservoir VDH Fish Consumption Advisory**

Location: This cause encompasses the upper portion of the lake, beginning at Rt 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.

City / County: Virginia Beach City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs for Little Creek Reservoir issued 12/13/04.

Little Creek Reservoir VDH Fish Consumption Advisory **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**199.79**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-03-TP** **Little Creek Reservoir**

Location: This cause encompasses the upper portion of the lake, beginning at Rt 13 (RM 1.0) downstream to north, ends at lake terminus @ route 60 (RM 0.0). City of Norfolk PWS.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Phosphorus (Total) / 5A

The Aquatic Life Use is impaired based on total phosphorus concentrations below the DEQ minimum allowable criteria. Little Creek Res pooled nutrient results: 2 viol/ 2 obs TP & Chla (2005, 2008). Both nutrients are assessed since algaecide was applied during the monitoring year. Exceedance of either criterion (Chla or TP) during the monitoring will determine the lake impaired for nutrients.

Little Creek Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**199.79**	

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-04-CHLA** **Lake Smith**

Location: This cause encompasses the entirety of Lake Smith. City of Norfolk PWS.

City / County: Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Chlorophyll-a / 5A

The Aquatic Life Use is impaired based on chlorophyll a concentrations below the DEQ minimum allowable criteria. Lake Smith pooled nutrient results: 2 viol/ 2 obs TP & Chla (2005, 2008). Both nutrients are assessed since algaecide was applied during the monitoring year. Exceedance of either criterion (Chla or TP) during the monitoring will determine the lake impaired for nutrients.

Lake Smith **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:		**184.89**	

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-04-DO** **Lake Smith**

Location: This cause encompasses the entirety of Lake Smith. City of Norfolk PWS.

City / County: Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is retained from the 2002 303d listing, due to dissolved oxygen concentration measurements below the minimum criteria (4.0 mg/L). Pooled stations include 7-LAS00.06, 7-LAS001.03, 7-LAS001.44 and Norfolk's station SM1. Lake Smith's pooled DO violation rate is 38/105 = 36.1%. Individual station exceedances for DO include 7-LAS00.06 (15/42), 7-LAS001.03 (14/34), and 7-LAS001.44 (6/14). This lake is non-stratified.

Lake Smith **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**184.89**	

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-04-TP** **Lake Smith**

Location: This cause encompasses the entirety of Lake Smith. City of Norfolk PWS.

City / County: Norfolk City Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Phosphorus (Total) / 5A

The Aquatic Life Use is impaired based on total phosphorus concentrations below the DEQ minimum allowable criteria. Lake Smith pooled nutrient results: 2 viol/ 2 obs TP & Chla (2005, 2008). Both nutrients are assessed since algaecide was applied during the monitoring year. Exceedance of either criterion (Chla or TP) during the monitoring will determine the lake impaired for nutrients.

Lake Smith **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Phosphorus (Total) - Total Impaired Size by Water Type:		**184.89**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-06-HG** **Lake Trashmore - Western Pond VDH Fish Consumption Advisory for Mercury**

Location: This cause encompasses the entirety of Lake Trashmore - Western Pond. Includes western portion of dual ponds lake system, pond on eastern side of Mt. Trashmore is not included in VDH advisory.

City / County: Virginia Beach City

Use(s): Fish Consumption

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

The Fish Consumption Use is impaired based on the VDH fish consumption advisory (Carp and Largemouth Bass) for mercury in fish tissue contamination (issued 9/30/04 for Hg). DEQ (CORE) monitoring at 7-MTL000.20 for fish tissue results exceeded DEQ-SV for Hg. 03, 08-IM, FT_Met-Hg Largemouth Bass, Perch.

Lake Trashmore - Western Pond VDH Fish Consumption Advisory for Mercury **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**54.39**	

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C08L-06-PCB** **Lake Trashmore - Western Pond VDH Fish Consumption Advisory for PCBs**

Location: This cause encompasses the entirety of Lake Trashmore - Western Pond. Includes western portion of dual ponds lake system, pond on eastern side of Mt. Trashmore is not included in VDH advisory.

City / County: Virginia Beach City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on the VDH fish consumption ban (for Carp) and advisory (for Yellow Perch) for PCBs fish tissue contamination issued 12/13/04. DEQ (CORE) monitoring at 7-LAW001.00 for fish tissue results exceeded DEQ-SV for HG & PCBs. 03,08-IM, FT_PCB Largemouth Bass, Perch, Carp, Gizzard Shad, Walleye.

Lake Trashmore - Western Pond VDH Fish Consumption Advisory for PCBs **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**54.39**	

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C09R-02-BAC** **Unnamed tributary to Pitts Creek**

Location: This cause encompasses the riverine portion of this tributary to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired (8 violate / 27 obs.) at station 7-XAE001.42 due to exceedance of the instantaneous criteria for Ecoli bacteria. Previous (2006 IR) Use Flag ID = VAT-C09R-02. For 2006 IR mistakenly coded as VAT-C09R-01, the FC parameter was not included in the CD (Attachment B).

Unnamed tributary to Pitts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.32**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C09R-02-PH** **Unnamed tributary to Pitts Creek**

Location: This cause encompasses the riverine portion of this tributary to Pitts Creek. Includes unnamed tributary (south bank) of this unnamed tributary to Pitts Creek. Located northwest of New Church in Accomack County.

City / County: Accomack Co

Use(s): Aquatic Life

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

The Aquatic Life Use is impaired due to low pH (6 violates / 35 obs.; VAT-C09R-02) concentrations at station 7-XAE001.42, which exceed the minimum criteria for this parameter. Although pH impairment from 1998 303d was delisted in the 2004 IR, more recent data indicates impairment and need to re-add pH again as impairment to the TMDL listing. Need to investigate if natural conditions (leaf litter/organic content) may be the cause of the low pH.

Unnamed tributary to Pitts Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.32**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10E-02-BAC** **Muddy Creek - Upper**

Location: This cause encompasses the upper portion of Muddy Creek, from end of tidal waters downstream to Pettigrew Bend. Portion of CBP segment POCMH.

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impairment is retained for 2012 IR. Data within assessment window is from 2005 & 2006. Current viol rate is 1/12. Enterococcus bacteria data from 2010 at DEQ AQM station @ 7-MUD002.29 (3 viol / 15 obs.). Previous Use ID (2006 IR) = VAT-C10E-02.

Muddy Creek - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.214**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10E-12-SF2** **Guilford Creek - Upper [No TMDL]**

Location: This cause encompasses the area northeast of the Town of Guilford. To include the Upper portion of the creek, from the end of the TMDL coverage downstream to the end of the DSS condemnation.

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 076-176 B (effective 20080708).

Guilford Creek - Upper [No TMDL] **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.033**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10E-13-SF** **Starling Creek - Lower**

Location: This cause encompasses the area along the northwest shore of Saxis Island. Lower portion of creek, from end of DSS condemnation downstream to mouth. Portion of CBP segment POCMH.

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS shellfish harvesting condemnation & seasonal # 075-118 A (effective 20091023).

Starling Creek - Lower **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.055**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10E-17-SF2** **Messongo Creek - Middle [NO TMDL]**

Location: This cause encompasses the middle portion of Messongo Creek, from Green Point upstream 0.1 mi. Portion of CBP segment POCMH.

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to the DSS condemnation # 076-167 A (effective 20070718) shellfish harvesting condemnation which is present. Previous Use ID (2008 IR) = C10E-17-SF.

Messongo Creek - Middle [NO TMDL] **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.058**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10E-19-SF** **Starling Creek - Upper**

Location: This cause encompasses the area along Saxis Island, southwest of Pocomoke Sound. Embayment at town of Saxis. From end of tidal waters downstream to end of DSS condemnation. Portion of CBP segment POCMH.

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on DSS condemnation # 075-118 A (effective date 20091023).

Starling Creek - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.036**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10R-01-BAC2** **Unnamed tributary from Tyson Foods**

Location: This cause encompasses the area south of Makemie Park. A portion of unnamed trib. from origin at outfall 001 of VPDES VA0004049 downstream to the confluence of the UT from north (upstream of Rt 693 crossing).

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is not supporting based on the exceedances of the criteria for E.coli bacteria (4 viol / 11 obs.) at the downstream station 7-XAZ000.30. This segment is an extension of the stream that was on the CD. The impaired segment was not included in the EPA approved (11/7/2008) TMDL for Ecoli for Holdens Creek and Sandy Bottom Branch and UT to SBB.

Unnamed tributary from Tyson Foods **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.60**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10R-01-BEN2** **Unnamed tributary from Tyson Foods**

Location: This cause encompasses the area south of Makemie Park. A portion of unnamed trib. from origin at outfall 001 of VPDES VA0004049 downstream to the confluence of the UT from north (upstream of Rt 693 crossing).

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. This assessment is made from the downstream station at DEQ (Bio) station @ 7-XAZ000.30. Benthic impairment assessment is based on biological benthic monitoring noting MI MI:S&F-06,07,09 & S-05,08; SI:F-05,08; VI: S-10] DEQ (BIO) station @ 7-XAZ000.30.

Unnamed tributary from Tyson Foods **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.60**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C10R-03-BEN** **Guilford Creek**

Location: This cause encompasses Guilford Creek, from confluence of two branches west of Rt 316 downstream to Rt 658 crossing.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. Assessment is based on biological benthic monitoring noting MI [MI: S&F 05,06] at DEQ (BIO) station @ 7-GLF003.77.

Guilford Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.85**

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C11E-15-SF** **Matchotank Creek - Upper**

Location: This cause encompasses the upper portion of Matchotank Creek. CBP segment CB7PH.

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation. Previous Use ID (2006 IR) as TMDL ID: VAT-C11E-15. Shellfish TMDL approved 8/2/06 under TMDL ID = VAT-C11E-14-SF(25415).

Matchotank Creek - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.069**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C11E-20-SF** **Parkers Creek - Upper & Middle**

Location: This cause encompasses the upper and middle portions of Parkers Creek. CBP segment CB7PH.

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation.

Parkers Creek - Upper & Middle **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.076**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C11E-22-SF** **Chesconessex Creek - N. Branch - DSS Condemnation**

Location: This cause encompasses the North Branch portion of Creek, including tidal tribs., marina area DSS condemnation # 079-112 B. Portion of CBP segment CB7PH. DSS shellfish direct harvesting condemnation # 079-112 B (effective 20070625).

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish condemnation # 079-112 B (effective 20070625).

Chesconessex Creek - N. Branch - DSS Condemnation **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.030**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C11R-01-BAC** **Joynes Branch**

Location: This cause encompasses Joynes Branch, eastern riverine tributary to the Central Branch of Onancock Creek

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired due to exceedance of the criteria for Ecoli bacteria (4 violates / 9 obs.) at DEQ (AQM) station @ 7-JOY000.59.

Joynes Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.17**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C12R-01-BEN** **Taylor Creek**

Location: This cause encompasses the riverine portion of Taylor Creek, from the point where stream forks north of Rt 180 downstream to the confluence of UT below Rt 178.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. Assessment is based on biological benthic monitoring noting [VI:F-10 ; MI: S-10] at DEQ (BIO) station @ 7-TAY003.11. 2006 IR Use ID = VAT-C12R-01.

Taylor Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.88**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C12R-02-BEN** **Bull Branch**

Location: This cause encompasses the riverine portion of Bull Branch, from headwaters near Rt 609 (Accomack Co. Airport) downstream to confluence with eastern prong of upper Pungoteague Creek.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impairment is retained due to impacts to the stream's benthic population. Assessment is based on biological benthic monitoring noting MI [MI: S&F-03, S-04; SI: F-04] at DEQ (BIO) station @ 7-BBR001.31.

Bull Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.20**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C13E-02-BAC** **Nassawadox Creek - Lower**

Location: This cause encompasses the lower mainstem of Nassawadox Creek. Portion of CBP segment CB7PH.

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data which exceeded the criteria. (6 violate / 36 obs.) at DEQ (AQM) station @ 7-NSS001.62. Use ID = VAT-C13E-02.

Nassawadox Creek - Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**2.070**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C13E-11-SF2** **Church Creek - Middle, UT North Cove [No TMDL]**

Location: This cause encompasses the area of Elliotts Neck. Tributary to Church Creek - Middle, UT North Cove. Portion of CBP segment.

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to the DSS shellfish direct harvesting condemnation # 085-185 A (effective 20100629) outside of Nassawadox Creek Watershed (33777) EPA approved 9/20/2007.

Church Creek - Middle, UT North Cove [No TMDL] **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.027**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C13E-18-SF2** **Mclean Gut - Lower**

Location: This cause encompasses the lower portion of McLean Gut from the Southwest area of Fairview Neck area to the Middle south shore tributary of middle Nandua Creek.

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS shellfish direct harvesting condemnation # 082-160 B (effective 20100922). Impairment is contiguous extension of SF impairment C13E-18-SF. The EPA approved TMDL (6/7/2006) for Nandua & Currituck Cr does not include the new shellfish impairment. Not able to nest in 2012 IR.

Mclean Gut - Lower **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.018**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C13E-20-SF** **Nassawadox Creek - Middle, N. Shore Tribs**

Location: Occohannock Neck Area. This cause encompasses two mainstem North Shore tributaries middle mainstem Nassawadox Creek (outside of area of TMDL-bact 6/07).

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 085-110 A & C (effective 20100629). Added in 2008 IR DSS closures. Not covered under TMDL for "Nassawadox Creek Watershed" (33777) EPA approved 10/20/2007.

Nassawadox Creek - Middle, N. Shore Tribs **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.140**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C13E-22-SF** **Shields Cove**

Location: This cause encompasses the estuarine portion of Shields Cove that is NW of Youngs Pt.

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to DSS shellfish direct harvesting condemnation # 084-043 B (effective 20101216). Not covered under TMDL for "Nandua and Currituck Creeks" (25419) EPA approved 6/7/2006).

Shields Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.025**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C13E-23-SF** **Fisher Cove**

Location: This cause encompasses the area west of Belle Haven. South shore tributary of Occohannock Cr, south of Davis Wharf. Portion of CBP segment CB7PH.

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS Condemnation # 084-043 C (effective date 20101216). Not covered under the TMDL.

Fisher Cove **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.028**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C13R-01-BEN** **Taylor Branch - Occohannock Creek**

Location: This cause encompasses Taylor Branch, from the confluence of two branches upstream of station downstream to the confluence with Occohannock Creek.

City / County: Accomack Co Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. Assessment is based on biological benthic monitoring noting [VI: F-10; MI:S-10] at DEQ (BIO) station @ 7-TLR000.70

Taylor Branch - Occohannock Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.97**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C14E-18-SF** **UT to Hungars Creek**

Location: This cause encompasses the northern trib between Great Neck and Sparrow Point. Portion of CBP segment CB7PH.

City / County: Accomack Co Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired due to the DSS shellfish harvesting condemnation.

UT to Hungars Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.050**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C15E-13-SF** **Kings Creek - Upper Middle [No TMDL]**

Location: This cause encompasses from 0.16 mi. past confluence of the two most upstream forks downstream to confluence of N. & S. UT forks approx. 1 mi downstream of mouth. Portion of CBP segment CB7PH.

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired due to the DSS shellfish direct harvesting condemnation # 088-139 A (20100728). No TMDL. Outside area of TMDL for "Cherrystone Inlet" which includes Kings Creek (33772) VAT-C15E-10-SF, EPA approved 9/20/2007.

Kings Creek - Upper Middle [No TMDL] **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.016**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **C16E-10-SF2** **Old Plantation Creek - Upper**

Location: This cause encompasses the Upper portion of Old Plantation Creek not within TMDL-Bact (33771).

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting due to the DSS shellfish harvesting condemnation # 090-152 A,B,C (effective 20101222).

Old Plantation Creek - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.176**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **CB7PH-EBEN-BAY** **Chesapeake Bay segment CB7PH**

Location: The cause encompasses only the "mainstem" part of CBP segment CB7PH. It does not include any tributary associated with this segment.

City / County: Chesapeake Bay - Coı Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The estuarine benthic index of biological integrity assessment showed that the mainstem waters of CBP segment CB7MH has impaired benthic macroinvertebrate communities.

Chesapeake Bay segment CB7PH **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**544.619**		

Sources:

Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling	Loss of Riparian Habitat
Source Unknown	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D01E-02-DO** **Little Mosquito Creek**

Location: This cause encompasses the upper and lower portions of the Creek.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO data that exceed the criteria for this parameter at both upper and lower portions of Little Mosquito Creek. The lower portion is impaired for DO with (6 violate / 35 obs.).The data to assess the Aquatic Life Use for the upper portion of Little Mosquito Creek was extrapolated from downstream station (DEQ-AQM station @ 7-LTM000.80).

Little Mosquito Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.208**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D01E-03-BAC** **Powells Bay**

Location: This cause encompasses the entirety of Powells Bay. NW of Wallops Island, between Watts and Bogues Bays.

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreational Use impairment is maintained for this assessment. Three data points from 2005 are supporting Enterococci. No new data since listing station therefore segment will remain impaired until new data is collected.

Powells Bay **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.595**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D01E-04-DO** **Swan Gut Creek**

Location: This cause encompasses the entirety of Swan Gut Creek. From Virginia/Maryland state line downstream to Rivermile 0.13, above the confluence with Chincoteague Bay.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use will remain impaired since DO data no later that 2006. Dissolved oxygen concentrations (1 violates / 12 obs.) below the criteria minimum at Station 7-PWB000.20.

Swan Gut Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.100**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D02E-01-DO** **Assawoman Creek**

Location: This cause encompasses the entirety of Assawoman Creek. This Creek is North of Assawoman Island and discharges to Womans Bay.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO concentrations that exceed the criteria for this parameter with 8 violates/ 35 obs. At Station 7-ASW003.36. The upper portion of Assawoman Creek assessed using downstream monitoring at Station 7-ASW003.36.

Assawoman Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.136**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D02E-11-SF** **Little Cat Creek**

Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 099-135B (effective 2005-12-12).

City / County: Accomack Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish harvesting condemnation # 099-135B (effective 2005-12-12).

Little Cat Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.096**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03E-01-DO** **Gargathy Creek - Upper & Lower**

Location: This cause encompasses the entirety of the Gargathy Creek upper and lower portions.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life use is impaired based on concentrations that exceed the criteria for this parameter (7 violates / 36 obs.) at Station 7-GAR001.80.

Gargathy Creek - Upper & Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.130**		

Sources:

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

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03E-02-BAC** **Finney Creek - Upper**

Location: This cause encompasses the upper portion of Gargathy Creek. Tributary to Hummock Cove, station located near Locustville. Upper portion upstream of widening (approx, RM 2.38).

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired based on Fecal Coliform data that is older than 5 years. Need Enterococci data.

Finney Creek - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.002**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03E-04-DO** **Folly Creek - Upper & Middle**

Location: This cause encompasses the upper and middle portions of Folly Creek. Tributary to Metompkin Bay. Upper estuarine portion of Folly Creek, from headwaters past Cross Creek and discharges into Metompkin Bay.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life use is impaired based on dissolved oxygen concentrations that exceed the criteria for this parameter (5 violates / 36 obs.).

Folly Creek - Upper & Middle **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.376**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03E-07-BAC** **Wachapreague Channel**

Location: This cause encompasses a portion of Wachapreague Channel. Portion below Bunting Point Road to boat launch. Segment around area at Wachapreague Harbor.

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on the Enterococci concentrations that exceed the swimming criteria indicator (2 violates/ 9 obs.) at Station 7-WAS003.26.

Wachapreague Channel **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.032**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03E-08-DO** **Northam Creek**

Location: This cause encompasses a portion of Northam narrows between Hog Neck Creek and Mud Narrows, below Assawoman Creek.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is retained due to dissolved oxygen concentrations from 2008 Assessment (3 violates / 3 obs.) below the criteria minimum.

Northam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.028**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03R-02-BAC** **Gargathy Creek**

Location: This cause encompasses the Riverine portion of Gargathy Creek, from headwaters downstream to beginning of tidal waters. Located southeast of Nelsonia.

City / County: Accomack Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use impairment is retained from 2004 list date for Fecal Coliform. No bacteria data within assessment window.

Gargathy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.69**

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03R-02-BEN** **Gargathy Creek**

Location: This cause encompasses the Riverine portion of Gargathy Creek, from headwaters downstream to beginning of tidal waters. Located southeast of Nelsonia.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired for benthics. DEQ Streams Benthic-Macroinvertebrate Bioassessments using Regional Reference method. The Aquatic Life Use is impaired due to impacts to the stream's benthic population. Benthic population impacts were recorded at the following sample events: 7-GAR006.01 - moderately impaired [MI: S-08,10; F-05, 06, 10].

Gargathy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.69**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03R-03-BEN** **Ross Branch**

Location: This cause encompasses the Riverine section of Ross Branch, segment begins at headwaters extending downstream to start of tidal waters. Located south of Accomack. Tributary to Folly Creek.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired due to impacts to the stream's benthic population. Benthic population impacts were recorded at the following sample events: 7-RSS001.40 - moderately impaired [VI:S&F-06, S-07,08 & F-10; MI:F-05 & S-10].

Ross Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.07**

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03R-04-BEN** **Unnamed tributary to Folly Creek**

Location: This cause encompasses the headwaters downstream to start of tidal waters. Located east of Accomack, near Edge Hill Cemetery.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the streams Benthic population as recorded at the following sample events: 7-XDE000.40 - moderately impaired [VI: F-10; MI:S&F-07,08 & F-05,10 & S-06 petroleum smell present at site for years].

Unnamed tributary to Folly Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.46**

Sources:

Leaking Underground Storage Tanks	Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D03R-05-BEN** **Rattrap Creek**

Location: This cause encompasses the end of Finneys Creek near Locustville. Near Intersection of Drummond Rd and Locustville Rd, approx 2.6 mi.

City / County: Accomack Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the streams Benthic population as recorded at the following sample event: 7-RTT000.49 with [MI:S&F-10].

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

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04E-01-BAC** **Red Bank Creek - Middle & Lower**

Location: This cause encompasses the middle portion of Red Bank Creek that is within the end of Route 617 at Public Boat Landing to confluence with Phillips Creek. Tributary to Hog Island Bay.

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococci concentrations that exceed the swimming criteria indicator (3 violates/ 9 obs.).

Red Bank Creek - Middle & Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.029**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04E-01-DO** **Red Bank Creek**

Location: This cause encompasses all portions of Red Bank Creek. Tributary to Hog Island Bay.

City / County: Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired for DO based on exceedance of criteria. Upper and Lower segments of Creek are impaired for DO(3 violates / 9 obs.) at DEQ station @ 7-RBC002.06. Middle segment is impaired with 3 viol. / 8 obs.

Red Bank Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.023**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04E-01-SF** **Red Bank Creek - Upper & Middle**

Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 095-192A(effective 2005-9-21).

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish condemnation # 095-192A(effective 20100830).

Red Bank Creek - Upper & Middle **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.012**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04E-02-DO** **Unnamed tributary to Red Bank Creek**

Location: This cause encompasses a portion of an unnamed Tributary to Red Bank Creek. Southeast of Marionville, near Brick House Neck. Segment from first branching of creek (RM 0.3) downstream to confluence with Red Bank Creek. DSS shellfish direct harvesting condemnation # 095-192A (effective 2005-9-21).

City / County: Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is retained based on DO violations. Previous Assessment: The Aquatic Life Use is impaired due to dissolved oxygen concentrations (2 violates / 4 obs.) below the criteria minimum (4.0 mg/l).

Unnamed tributary to Red Bank Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.009**		

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04E-02-SF** **Unnamed tributary to Red Bank Creek**

Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 095-192A (effective 2005-9-21).

City / County: Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish condemnation #095-192A (effective 2005-9-21).

Unnamed tributary to Red Bank Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.009**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04E-05-BAC** **Machipongo River**

Location: This cause encompasses from the end of tidal waters downstream to 0.5 mi. south of Rt 182 crossing (minus area at mouth of Greens Creek).

City / County: Accomack Co Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Ecoli concentration exceed the swimming criteria indicator at station 7-MAC008.55 (2 violates/ 15 obs.).

Machipongo River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.314**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04E-05-SF** **Machipongo River**

Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation #096-218A (effective date 2006-10-10).

City / County: Accomack Co Northampton Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish condemnation #096-218A (effective date 2006-10-10).

Machipongo River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.314**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04R-01-BAC** **Red Bank Creek**

Location: This cause encompasses the area from headwaters downstream to end of tidal waters. Southeast of Marionville

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired (2006 IR) due to exceedance of the instantaneous criteria for fecal coliform at station 7-RBC003.87 (2 violates / 3 obs.)

Red Bank Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.27**

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04R-02-BEN** **Greens Creek**

Location: This cause encompasses the area located east of Hare Valley and northeast of Nassawadox. Tributary to Machipongo River.

City / County: Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impaired based on benthic data Benthic IM [SI: F-08,09 ; MI: S-09].

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

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D04R-03-BEN** **Frogstool Branch**

Location: This cause encompasses the area near Red Hill.

City / County: Accomack Co Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Aquatic Life Use is not supported based on the Benthic IM[MI:S&F-10] at Station 7-FRB001.94.

Frogstool Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.11**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D05E-01-HG** **Oyster Slip (Harbor) - Upper**

Location: This causes encompasses the area adjacent to Brockenberry Bay within upper portion of the harbor. Located in the town of Oyster, east of Cheriton.

City / County: Northampton Co

Use(s): Fish Consumption

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

The Fish Consumption is impaired based on Fish Tissue data collected for Mercury in Sandbar Shark in 2008.

Oyster Slip (Harbor) - Upper **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:	**0.034**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D05R-01-BAC** **Taylor Creek**

Location: This cause encompasses area from Penn Central RR crossing downstream to impoundment 0.1 mi. downstream of station. Located northeast of Simpkins.

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired based on Ecoli exceedance of the swimming criteria (10 violates / 11 obs.).

Taylor Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.22**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D05R-02-BAC** **Holt Creek**

Location: This cause encompasses the area from headwaters downstream to start of tidal waters. Located east of Martins Siding.

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on Ecoli concentrations exceeding the instantaneous swimming indicator criteria with 4 violates/ 12 obs.

Holt Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.91**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D05R-03-BAC** **Holt Creek Unnamed Tributary**

Location: This cause encompasses the area from Penn Central RR crossing near headwaters downstream to confluence with Holt Creek. Located east of Martins Siding.

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use impairment is retained based on Fecal Coliform data. Current E.coli data collected is 1 violates / 2 obs. Previous (2006 IR) TMDL ID = VAT-D05R-03.

Holt Creek Unnamed Tributary **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.38**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D05R-03-BEN** **Holt Creek Unnamed Tributary**

Location: This cause encompasses the area from Penn Central RR crossing near headwaters downstream to confluence with Holt Creek. Located east of Martins Siding.

City / County: Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on the benthic data collected at 7-XDI000.88 : IM [MI: F-06,08,09 & S-07,09].

Holt Creek Unnamed Tributary **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.38**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D06E-01-DO** **Magothy Bay - Lower**

Location: This cause encompasses the area east of Skidmore Island.

City / County: Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life use is impaired based on data from 2008 Assessment for the DO concentration exceeding the criteria for this parameter (4 violates / 21 obs.). Now data from 01 and 02 drop out therefore 1 /24 violate. Can not delist DO at Station 7-MAG004.06 until additional data is collected to provide support for ALUS.

Magothy Bay - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.037**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D06E-02-PCB** **Raccoon Creek**

Location: This cause encompasses Raccoon Creek. The area southwest of Magothy Bay.

City / County: Northampton Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Fish Consumption Use is impaired based on Fish Tissue data collected for PCBs with an observed effect for arsenic. Station 7-RAC000.00 is impaired for PCBs in FT found in Bass, Trout and Blue Crab.

Raccoon Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**0.004**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D06R-01-PH** **Mill Creek**

Location: This cause encompasses the area at the start of Mill Creek upstream of Penn central RR crossing and ends downstream of Rt 600 at the beginning of the impoundment upstream of tidal waters. Located north of Capeville.

City / County: Northampton Co

Use(s): Aquatic Life

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

The Aquatic Life use is impaired based on pH concentrations exceed the criteria for this parameter (3 violates / 10 obs.).

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.57**

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D06R-02-BAC** **Narrow Channel Branch**

Location: This cause encompasses the area from headwaters downstream to start of tidal waters. Located east of Bayview.

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired based on the Fecal Coliform exceedance of the swimming criteria (2 violates / 2 obs.). Need additional data, minimal observations (2) on which to base assessment.

Narrow Channel Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.33**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D06R-02-BEN** **Narrow Channel Branch**

Location: This cause encompasses the area from headwaters downstream to start of tidal waters. Located east of Bayview.

City / County: Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained for 2010 Assessment. The Aquatic Life Use is impaired based on the impacts to the stream's benthic population. DEQ (Bio) monitoring determines impairment by benthic assessment ratings of SI (spring 2001) & MI (fall 2001).

Narrow Channel Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.33**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D06R-03-BAC** **Tommy's Ditch**

Location: This cause encompasses the entirety of Tommy's Ditch west of Kiptopeke State Park.

City / County: Northampton Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired based on the Ecoli exceedance of the swimming criteria with 3 violates / 8 obs.

Tommy's Ditch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.29**

Sources:

Source Unknown

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D06R-03-DO** **Tommy's Ditch**

Location: This cause encompasses the entirety of Tommy's Ditch west of Kiptopeke State Park.

City / County: Northampton Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on the Dissolved Oxygen concentrations exceed the criteria for this parameter (2 violates / 8 obs.).

Tommy's Ditch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.29**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D07E-02-BAC** **Lake Rudee - Upper**

Location: This cause encompasses the upper portion of Lake Rudee, from end of Owl Creek downstream to approx. RM 0.4 (upstream of confluence of Lake Holly with Rudee Inlet canal).

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use impairment is retained for the 2012 Assessment. Data within 2012 window is 2005 & 2006. No new data since listing just drop off dates. Wait for new data to determine if the Recreation Use can be delisted.

Lake Rudee - Upper **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.089**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D07E-02-SF** **Lake Rudee - Upper**

Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 073-074A (effective 2006-08-29).

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish condemnation # 073-074A (effective 2006-08-29)

Lake Rudee - Upper **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.089**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D07E-04-BAC** **Owl Creek - Upper & Lower**

Location: This cause encompasses the Headwaters of Owl Creek to tributary to Lake Rudee, located west of Lake Christine.

City / County: Virginia Beach City

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The Recreation Use is impaired due to Enterococcus bacteria concentrations exceeding (3 violates / 13 obs.) TMDL due date same as original FC impairment.

Owl Creek - Upper & Lower **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Enterococcus - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D07E-04-DO** **Owl Creek - Upper & Lower**

Location: This cause encompasses the Headwaters of Owl Creek to tributary to Lake Rudee, located west of Lake Christine.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life use is impaired based on the dissolved oxygen concentrations exceed the criteria for this parameter at Upper segment (4 violates / 13 obs.) and Lower segment (8 viol. / 18 obs.).

Owl Creek - Upper & Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D07E-04-SF** **Owl Creek - Upper & Lower**

Location: Described in VDH Notice and Description of Shellfish Direct Harvesting Condemnation # 073-074A (effective 2006-08-29).

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfishing Use is not supporting with DSS shellfish condemnation # 073-074A (effective 2006-08-29).

Owl Creek - Upper & Lower **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D07E-10-DO** **Lake Wesley**

Location: This cause encompasses Lake Wesley the Upstream Branches.

City / County: Virginia Beach City

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO violations with 3 viol / 16 obs.

Lake Wesley **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:	**0.034**		

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

Chesapeake Bay/Atlantic/Small Coastal Basins

Cause Group Code: **D07E-10-SF** **Lake Rudee - Lower and Lake Wesley**

Location: This cause encompasses Lake Wesley the Upstream Branches and the Lower portion of Lake Rudee, including Rudee Inlet Canal.

City / County: Virginia Beach City

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The Shellfish Use is impaired based on DSS Condemnation # 073-074 A effective date 8-29-2006.

Lake Rudee - Lower and Lake Wesley **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.060**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F01L-01-HG** **Lake Gordonsville**

Location: Includes the entirety of Lake Gordonsville, also known as Bowlers Mill Lake.

City / County: Louisa Co

Use(s): Fish Consumption

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

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 09/30/04, limits largemouth bass consumption to no more than two meals per month.

Lake Gordonsville **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**77.23**	

Sources:

Source Unknown

York River Basin

Cause Group Code: **F01R-01-BEN** **South Anna River**

Location: Begins at the headwaters of an unnamed tributary, located approximately 1 mile downstream of the Route 860 bridge, to the South Anna River and continues downstream until the confluence with Dove Fork.

City / County: Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

8 biological monitoring events at station 8-SAR097.82 in 2005, 2006, 2007 and 2008 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

South Anna River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.83**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F01R-01-DO** **Hudson River**

Location: Begins at the confluence of Bunch Creek and Fielding Creek and continues downstream until the confluence with Wheeler Creek.

City / County: Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Excursions below the minimum dissolved oxygen criterion (2 of 10 samples - 20.0%) from station 8-HUD001.80, at Route 695.

Hudson River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.42**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F01R-02-BEN** **Wheeler Creek**

Location: Begins at the headwaters of Wheeler Creek and continues downstream until the confluence with Camp Creek.

City / County: Albemarle Co Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A total of 6 biological monitoring events in 2006, 2008, 2009, and 2010 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Wheeler Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.66**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F01R-03-BEN** **Camp Creek**

Location: Begins at the confluence with Central Branch and continues downstream to the confluence with Wheeler Creek.

City / County: Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Three of three biological monitoring events in 2006 and 2008 at station 8-WLR000.31 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Camp Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.88**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F03R-03-DO** **Cub Creek**

Location: Begins at the confluence with Turners Creek and continues downstream until the confluence with the South Anna River.

City / County: Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Excursions below the minimum dissolved oxygen criterion (5 of 15 samples - 33.3%) from station 3-CUB001.73, at Route 601.

Cub Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.04**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F04R-03-DO** **Stagg Creek**

Location: Headwaters to mouth at South Anna River

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Stagg Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 2/11 at 8-STG005.46 (Route 686).

No additional data was collected during the 2010 or 2012 cycles at 8-STG005.46, however 2009 sampling at freshwater probabilistic monitoring station 8-STG000.73 was acceptable, therefore further monitoring is warranted.

Stagg Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.52**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: F06R-04-BAC **North Anna River**

Location: Begins at the confluence with Mountain Run and continues downstream until the confluence with White Oak Creek and begins again at the confluence with Beaver Creek and continues downstream until the confluence with Hickory Creek.

City / County: Louisa Co Orange Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 28 samples - 28.6%) from station 8-NAR061.09, at Route 651, and E. coli bacteria criterion excursions (9 of 12 samples - 75.0%) from station 8-NAR066.42, at Route 639. E. coli bacteria criterion excursions at citizen monitoring stations 8NAR-EX5-LACA (7 of 17 samples - 41.1%) and 8NAR-EX4-LACA (7 of 23 samples - 30.4%).

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

Sources:

Source Unknown

York River Basin

Cause Group Code: **F06R-05-BAC** **Christopher Creek**

Location: Begins at an unnamed tributary to Christopher Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 11 samples - 72.7%) from station 8-CRC001.82, at Route 613.

Christopher Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.82**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F06R-06-BAC** **Hickory Creek**

Location: Begins at the confluence of North Fork Hickory Creek and South Fork Hickory Creek, and continues downstream to the confluence with the North Anna River.

City / County: Louisa Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) from station 8-HIK001.20, at Route 669. E. coli bacteria criterion excursions at citizen monitoring station 8HIK-EX2-LACA (17 of 19 samples - 89.5%).

Hickory Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.58**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F07L-01-BZOKFL** **Gold Mine Creek**

Location: Segment begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Benzo[k]fluoranthene / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 5.5 parts per billion (ppb) for benzo(k)fluoranthene in fish tissue were recorded in two species of fish samples (2 total samples); largemouth bass (2003) and carp (2003), collected at monitoring station 8-GMC001.43.

Gold Mine Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo[k]fluoranthene - Total Impaired Size by Water Type:		**73.82**	**7.33**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F07L-01-HG** **Lake Anna**

Location: Segment includes the lower portion of Lake Anna, beginning near the northern end of the Route 690 bridge, and continues downstream until the dam.

City / County: Louisa Co Spotsylvania Co

Use(s): Fish Consumption

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

2010 Assessment: Excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in tissue from one specie of fish (carp) sampled in 2003 and in tissue from one specie of fish (channel catfish) sampled in 2006 at monitoring station 8-NAR034.92.

Lake Anna **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**1,562.92**	

Sources:

Source Unknown

York River Basin

Cause Group Code: F07L-01-PAHHMW Gold Mine Creek

Location: Begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Benzo(a)pyrene (PAHs) / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 5.5 parts per billion (ppb) for benzo(a)pyrene in fish tissue were recorded in two species of fish samples (2 total samples); largemouth bass (2003) and carp (2003), collected at monitoring station 8-GMC001.43.

Gold Mine Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo(a)pyrene (PAHs) - Total Impaired Size by Water Type:		**73.82**	**7.33**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F07L-01-PCB** **Lake Anna and Contrary Creek, Goldmine Creek, and Terrys Run tributaries**

Location: Includes the entirety of Lake Anna, including its tributaries Terrys Run, Goldmine Creek, and Contrary Creek.

City / County: Louisa Co Orange Co Spotsylvania Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A PCB in Water Column / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 06/15/04 and modified 12/13/04 and 08/31/07, limits carp, largemouth bass, striped bass, white perch, white catfish, channel catfish, and bluegill sunfish consumption to no more than two meals per month. Additionally, there is a ban on the consumption of gizzard shad.

Lake Anna and Contrary Creek, Goldmine Creek, and Terrys Run tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**9,594.16**	**22.34**

Lake Anna and Contrary Creek, Goldmine Creek, and Terrys Run tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:		**1,245.08**	

Sources:

Source Unknown

York River Basin

Cause Group Code: **F07L-02-HG** **Terrys Run/Lake Anna**

Location: Segment includes the Terrys Run arm of Lake Anna.

City / County: Orange Co Spotsylvania Co

Use(s): Fish Consumption

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

2010 Assessment: Excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in tissue from one specie of fish (carp) sampled in 2003 and in tissue from one specie of fish (largemouth bass - 2 samples) sampled in 2006 at monitoring station 8-TRY001.33.

Terrys Run/Lake Anna **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**442.34**	

Sources:

Source Unknown

York River Basin

Cause Group Code: F07L-02-PAHHMW Gold Mine Creek

Location: Begins at the headwaters of Gold Mine Creek and continues downstream until the confluence with Lake Anna.

City / County: Louisa Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Benzo[b]fluoranthene / 5A

2010 Assessment: Excursions above the water quality criterion based fish tissue value (TV) of 5.5 parts per billion (ppb) for benzo(b)fluoranthene in fish tissue were each recorded in two species of fish samples (2 total samples); largemouth bass (2003) and carp (2003), collected at monitoring station 8-GMC001.43.

Gold Mine Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benzo[b]fluoranthene - Total Impaired Size by Water Type:		**73.82**	**7.33**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F07R-01-BEN** **Pamunkey Creek**

Location: Begins at the confluence of Tomahawk Creek and Church Creek, forming Pamunkey Creek, and continues downstream until the confluence with Clear Creek.

City / County: Orange Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2010 at station 8-PMC014.75 resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Pamunkey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.82**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F08R-01-CD** **Contrary Creek**

Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Cadmium / 5A

Sufficient excursions above the freshwater, acute criterion for cadmium (2 excursions in 2006) were recorded station (8-CON005.38) at Route 522. Monitoring at station 8-CON003.86 in 2006 revealed excursions above the freshwater, acute criterion for the aquatic life use for cadmium (2).

Contrary Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Cadmium - Total Impaired Size by Water Type:		**52.76**	**10.84**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

York River Basin

Cause Group Code: **F08R-01-CU** **Contrary Creek**

Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Copper / 5A

Sufficient excursions above the freshwater, acute criterion for copper (3 excursions in 2006) were recorded at station (8-CON005.38) at Route 522. Monitoring at station 8-CON003.86 in 2006 revealed excursions above the freshwater, acute criterion for the aquatic life use for copper (2).

Contrary Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:		**52.76**	**10.84**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

York River Basin

Cause Group Code: **F08R-01-PH** **Contrary Creek**

Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (29 of 29 samples - 100.0%) from station 8-CON005.38, at Route 522, and (2 of 2 samples - 100%) from station 8-CON003.86.

Contrary Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:		**26.38**	**5.42**

Sources:

Impacts from Abandoned
Mine Lands (Inactive)

York River Basin

Cause Group Code: **F08R-01-ZN** **Contrary Creek**

Location: Begins at the headwaters of Contrary Creek and continues downstream until approximately rivermile 3.53, partially into the inundated waters of Lake Anna.

City / County: Louisa Co

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Zinc / 5A

Sufficient excursions above the freshwater, acute criterion for zinc (3 excursions in 2006) were recorded at station (8-CON005.38) at Route 522. Monitoring at station 8-CON003.86 in 2006 revealed excursions above the freshwater, acute criterion for the aquatic life use for zinc (2).

Contrary Creek **Wildlife**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Zinc - Total Impaired Size by Water Type:		**52.76**	**10.84**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

York River Basin

Cause Group Code: **F09R-01-DO** **Northeast Creek**

Location: Begins at the headwaters of Northeast Creek and continues downstream until the confluence with another unnamed tributary to Northeast Creek, approximately 0.67 rivermiles upstream from Route 622.

City / County: Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Excursions below the minimum dissolved oxygen criterion (2 of 18 samples - 11.1%) from station 8-NST011.67, at Route 208 and [2010 Assessment] excursions below the minimum dissolved oxygen criterion (2 of 7 samples - 28.6%) from station 8-NST007.84, at Route 614.

Northeast Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**9.38**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F09R-01-PH** **Northeast Creek**

Location: Begins at the confluence with an unnamed tributary to Northeast Creek, approximately 0.67 rivermiles upstream from Route 622, and continues downstream until the confluence with another unnamed tributary to Northeast Creek.

City / County: Spotsylvania Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (3 of 26 samples - 11.5%) from station 8-NST003.46, at Route 622.

Northeast Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.03**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F09R-02-BEN** **North Anna River, UT (XHS)**

Location: Unnamed Tributary XHS from its headwaters to its mouth at the North Anna River

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The unnamed tributary was assessed as not supporting of the Aquatic Life Use in the 2008 cycle due to impairment of the benthic community at station 8-XHS000.72.

North Anna River, UT (XHS)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**0.98**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F09R-02-PH** **Northeast Creek**

Location: Begins at the headwaters of Northeast Creek and continues downstream until the confluence with an unnamed tributary to Northeast Creek, approximately 2.28 rivermiles downstream from Route 208.

City / County: Spotsylvania Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (3 of 18 samples - 16.6%) from station 8-NST011.67, at Route 208.

Northeast Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.24**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F09R-03-BAC** **Northeast Creek**

Location: Begins at the confluence with an unnamed tributary to Northeast Creek and continues downstream until the confluence with the North Anna River.

City / County: Spotsylvania Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

2010 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) from station 8-NST000.58, at a private road crossing,

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

Sources:

Source Unknown

York River Basin

Cause Group Code: **F09R-03-PH** **North Anna River, UT (XIM)**

Location: Unnamed Tributary XIM from its mouth at the North Anna River to the first tributary (near Chandler Crossing)

City / County: Caroline Co

Use(s): Aquatic Life

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

During the 2010 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2/2 at freshwater probabilistic monitoring station 8-XIM000.53.

North Anna River, UT (XIM) **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.69**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F09R-04-BAC** **Mill Creek**

Location: Mill Creek in its entirety.

City / County: Caroline Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Mill Creek was impaired of the Recreation Use due to an E. coli violation rate of 7/13 at the Route 652 bridge (8-MLL001.19).

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

Sources:

Source Unknown

York River Basin

Cause Group Code: **F09R-04-PH** **Mill Creek**

Location: Mill Creek in its entirety.

City / County: Caroline Co

Use(s): Aquatic Life

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

During the 2012 cycle, Mill Creek was impaired of the Aquatic Life Use due to a pH violation rate of 5/13 at the Route 652 bridge (8-MLL001.19).

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.39**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F10R-01-BAC** **Little River**

Location: Begins at the confluence with Hawkins Creek and continues downstream until the confluence with Locust Creek.

City / County: Louisa Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 26 samples - 23.1%) from station 8-LTL030.55, at Route 654 (Signboard Road).

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

Sources:

Source Unknown

York River Basin

Cause Group Code: **F10R-01-DO** **Little River**

Location: Begins at the confluence with Hawkins Creek and continues downstream until the confluence with Locust Creek.

City / County: Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Excursions below the minimum dissolved oxygen criterion (5 of 26 samples - 19.2%) from station 8-LTL030.55, at Route 654 (Signboard Road).

Little River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: F11R-01-BAC **Little River**

Location: The Little River from its confluence with Locust Creek downstream to the confluence with Beaverdam Creek.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, the segment was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/10 at the Route 715 bridge (8-LTL024.86). Additional monitoring at station 8-LTL018.80 in the 2012 cycle confirmed the impairment with a violation rate of 3/12.

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.77**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F11R-01-BEN** **Locust Creek**

Location: Begins at the headwaters to of Locust Creek and continues downstream until the confluence with Little River.

City / County: Hanover Co Louisa Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2007 at station 8-LOC000.20 (0.9 miles upstream from Route 608) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Locust Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.29**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F11R-01-DO** **Little River**

Location: The Little River from its confluence with Locust Creek downstream to the confluence with Beaverdam Creek.

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, the segment was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen violation rate of 2/9 at the Route 715 bridge (8-LTL024.86). However, during the 2012 cycle, dissolved oxygen monitoring at station 8-LTL018.80 was acceptable, therefore further monitoring is warranted.

Little River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**10.77**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F11R-02-BAC** **Beaverdam Creek**

Location: Beaverdam Creek mainstem in its entirety.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Beaverdam Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 4/9 at the Route 601 bridge (8-BDC000.05).

Beaverdam Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.47**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F11R-02-PH** **Beaverdam Creek**

Location: Beaverdam Creek mainstem in its entirety.

City / County: Hanover Co

Use(s): Aquatic Life

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

During the 2012 cycle, Beaverdam Creek was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 3/10 at the Route 601 bridge (8-BDC000.05).

Beaverdam Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**8.47**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-03-DO** **Hornquarter Creek**

Location: All of mainstem Hornquarter Creek

City / County: Caroline Co King William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Hornquarter Creek is impaired of the Aquatic Life Use during the 2012 cycle due to a dissolved oxygen violation rate of 2/12 at 8-HQT002.12, the Route 614 bridge. Monitoring at 8-HQT004.62 is acceptable (0/3).

Hornquarter Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.79**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F12R-03-PH** **Hornquarter Creek**

Location: All of mainstem Hornquarter Creek

City / County: Caroline Co King William Co

Use(s): Aquatic Life

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

Hornquarter Creek was initially evaluated not supporting of the Aquatic Life Use support goal during the 2002 cycle based on pH standard exceedances at the Route 614 bridge (8-HQT002.12). During the 2012 cycle, the violation rate was 5/11.

Hornquarter Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.79**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F12R-05-DO** **Mechumps Creek**

Location: Headwaters to the confluence with unnamed tributary to XEG

City / County: Hanover Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

During the 2010 cycle, Mechumps Creek from its headwaters to the confluence with tributary XEG was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen exceedance rate of 4/23 at 8-MCP009.56, which is located at Arbor Oak Drive.

Mechumps Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.05**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-05-PH** **Mechumps Creek**

Location: Headwaters to the confluence with unnamed tributary to XEG

City / County: Hanover Co

Use(s): Aquatic Life

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

During the 2006 cycle, Mechumps Creek from its headwaters to the confluence with tributary XEG was assessed as impaired of the Aquatic Life Use due to pH exceedances at 8-MCP009.56, which is located at Arbor Oak Drive. The exceedance rate during the 2010 cycle was 7/23.

Mechumps Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.05**

Sources:

Source Unknown

York River Basin

Cause Group Code: F12R-07-BAC **Crump Creek**

Location: The mainstem of Crump Creek.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, Crump Creek was assessed as not supporting of the Recreation Use based on E.coli exceedances at the Route 605 bridge (8-CRU000.92). During the 2012 cycle the violation rates in the segment were as follows:

5/33 at 8-CRU000.92
3/12 at 8-CRU005.61
2/12 at 8-CRU008.30

Crump Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.08**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-07-PH** **Crump Creek**

Location: The mainstem of Crump Creek.

City / County: Hanover Co

Use(s): Aquatic Life

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

During the 2010 cycle, Crump Creek was assessed as not supporting of the Aquatic Life Use based on pH violations at the Route 605 bridge (8-CRU000.92). During the 2012 cycle, the violation rates in the segment were as follows:

8/34 at 8-CRU000.92
5/12 at 8-CRU005.61
10/12 at 8-CRU008.30

Crump Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.08**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-08-BAC** **Pamunkey River**

Location: The Pamunkey River from its start at the confluence of the South Anna and North Anna Rivers downstream to the confluence with Mechumps Creek.

City / County: Caroline Co Hanover Co King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, the segment was assessed as not supporting of the Recreation Use based on E. coli violations at the Route 614 bridge (8-PMK082.34). During the 2012 cycle, the violation rate was 4/25. Sampling at 8-PMK088.11 was acceptable (1/12).

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.26**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-10-PH** **Millpond Creek**

Location: The mainstem of Millpond Creek downstream of Gravatts Millpond.

City / County: King William Co

Use(s): Aquatic Life

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

During the 2012 cycle, Millpond Creek was assessed as not supporting of the Aquatic Life Use based on a pH violation rate of 4/13 at the Route 614 bridge (8-MLP002.74).

Millpond Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.02**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-11-BAC** **Kersey Creek**

Location: Kersey Creek mainstem in its entirety.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Kersey Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/12 at the Route 301 bridge (8-KER001.31).

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

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-11-PH** **Kersey Creek**

Location: Kersey Creek mainstem in its entirety.

City / County: Hanover Co

Use(s): Aquatic Life

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

During the 2012 cycle, Kersey Creek was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 4/12 at the Route 301 bridge (8-KER001.31).

Kersey Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.76**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-12-BAC** **XJC - Crump Creek, UT**

Location: XJC mainstem in its entirety.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, XJC was assessed as impaired of the Recreation Use due to an E. coli violation rate of 5/12 at the Route 301 bridge (8-XJC001.12).

XJC - Crump Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**1.79**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-12-PH** **XJC - Crump Creek, UT**

Location: XJC mainstem in its entirety.

City / County: Hanover Co

Use(s): Aquatic Life

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

During the 2012 cycle, XJC was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 5/12 at the Route 301 bridge (8-XJC001.12).

XJC - Crump Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**1.79**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-13-BAC** **Pollard Creek**

Location: Pollard Creek mainstem in its entirety.

City / County: Hanover Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Pollard Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 2/12 at the Route 647 bridge (8-PLD001.73).

Pollard Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.06**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F12R-13-PH** **Pollard Creek**

Location: Pollard Creek mainstem in its entirety.

City / County: Hanover Co

Use(s): Aquatic Life

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

During the 2012 cycle, Pollard Creek was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 8/12 at the Route 647 bridge (8-PLD001.73).

Pollard Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.06**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F13E-01-BAC** **Pamunkey River**

Location: From the tidal limit at Totopotomoy Creek to Pampatike Landing

City / County: Hanover Co King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Pamunkey River from Pampatike Landing to Macon Creek was initially listed on the 1998 303(d) list as impaired of the Recreation Use goal because of fecal coliform exceedances at Pampatike Landing (Route 654). EPA also identified the station on their list of "Waters Identified to Virginia for Consideration During Development of the Next Listing Cycle." This inclusion was probably in error as the segment was already 303(d) listed.

During the 2006 cycle, the bacteria standard changed to E. coli and the segment had acceptable violation rates: 1/19 at 8-PMK048.80 and 0/12 at 8-PMK039.74 and the segment was delisted. However, although the segment had been delisted, it was included in the Pamunkey Basin TMDL which was approved by the EPA on 8/2/2006.

During the 2008 cycle, the Pamunkey River again failed the Recreation Use and expanded upstream to the tidal limit based on E. coli exceedances at 8-PMK048.80 and 8-PMK056.87. Station 8-PMK039.74 had an acceptable violation rate (0/21).

8-PMK056.87 - 8/32
8-PMK048.80 - 6/27

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.305**		

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source

York River Basin

Cause Group Code: **F13R-02-PH** **Totopotomoy Creek**

Location: Strawhorn Creek to the Pamunkey River.

City / County: Hanover Co

Use(s): Aquatic Life

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

In the 2004 cycle, Totopotomoy was assessed as not supporting the Aquatic Life Use due to pH exceedances at 8-TPT004.37. The pH TMDL is due in 2016. During the 2010 cycle, the violation rate was 7/37. The impairment is most likely due to natural conditions, therefore the water is considered Category 5C. Although monitoring at NPS station 8-TPT-RICH-05-NPS was acceptable (0/4) during the 2012 cycle, no additional data was collected at 8-TPT004.37 therefore the segment will remain listed.

Totopotomoy Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**10.26**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-03-BAC** **Jacks Creek and major tributaries**

Location: Jacks Creek, Acquinton Creek, and Mallory Creek in their entireties.

City / County: King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2008 cycle, the streams were assessed as not supporting of the Recreation Use based on an E. coli violation rate of 4/22 at the Route 621 bridge (8-JKC004.15). No additional data has been collected.

Jacks Creek and major tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**21.05**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F13R-03-DO** **Jacks Creek and major tributaries**

Location: Jacks Creek, Acquinton Creek, and Mallory Creek in their entireties.

City / County: King William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The mainstem of Jacks Creek was assessed as fully supporting but threatened of the Aquatic Life Use in 1998 due to dissolved oxygen exceedances at the Rt. 621 bridge (8-JCK004.15). In 2002, the segment was downgraded to impaired and extended to incorporate Acquinton and Mallory Creeks based on the results of a special study:
DO 1/1 at 8-ACQ008.01;
DO 1/1 at 8-ACQ001.35;
DO 1/1 at 8-MLY001.58.

During the 2008 cycle, the violation rate was 6/34 at 8-JKC004.15, so the segment remained impaired. The TMDL is due in 2014.

Extensive watershed monitoring during the 2012 cycle confirmed the dissolved oxygen impairments on Acquinton and Jacks Creeks. Although Mallory Creek had an acceptable violation rate, due to historical violations, Mallory Creek will remain impaired this cycle.

Jacks Creek and major tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**21.05**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-04-PCB** **Moncuin Creek, Webb Creek**

Location: From the headwaters of Webb Creek downstream to the swampy area around river mile 2.0.

City / County: King William Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

During the 2010 cycle, Moncuin and Webb Creeks were assessed as impaired of the Fish Consumption Use due to exceedances of the PCB tissue value. PCBs exceeded in yellow bullhead catfish in 2003 and American eel in 2008.

Moncuin Creek, Webb Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**12.39**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F13R-04-PH** **Moncuin Creek, Webb Creek**

Location: From the headwaters of Webb Creek downstream to the swampy area around river mile 2.0.

City / County: King William Co

Use(s): Aquatic Life

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

In the 2002 cycle, the segment was assessed as not supporting of the Aquatic Life because of pH exceedances. The TMDL is due in 2014. During the 2012 cycle, the segment remains impaired for pH:

pH 3/18 at 8-MNQ004.19 (Rt. 618)
pH 3/12 at 8-MNQ007.65 (Rt. 611)
pH 4/12 at 8-WEB002.00 (Rt. 610)

Natural conditions are suspected, therefore the water is considered a Category 5C water.

Moncuin Creek, Webb Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**12.39**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-05-DO** **Governor Swamp**

Location: Governor Swamp in its entirety

City / County: King William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Governor Swamp was initially assessed as not supporting of the Aquatic Life Use during the 2010 cycle based on dissolved oxygen violations at 8-GOV000.14. The 2012 violation rate was 4/12.

Governor Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.24**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-05-PH** **Governor Swamp**

Location: Governor Swamp in its entirety

City / County: King William Co

Use(s): Aquatic Life

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

Governor Swamp was initially assessed as not supporting of the Aquatic Life Use during the 2010 cycle based on pH violations at 8-GOV000.14. The 2012 violation rate was 8/12.

Governor Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.24**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-06-DO** **Sullens Creek**

Location: Sullens Creek in its entirety.

City / County: King William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2012 cycle, Sullens Creek was impaired of the Aquatic Life Use due to dissolved oxygen violation rates of 5/14 at the Rt. 652 bridge (8-SLN001.46) and 2/12 at the Rt. 614 bridge (8-SLN003.07).

Sullens Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.55**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-06-PH** **Sullens Creek**

Location: Sullens Creek in its entirety.

City / County: King William Co

Use(s): Aquatic Life

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

Sullens Creek from the pond at Etna Mills downstream to its mouth at Mehixen Creek was initially assessed as not supporting of the Aquatic Life Use goal during the 2004 cycle based on pH exceedances at the Route 652 bridge (8-SLN001.46).

During the 2012 cycle, the impairment was expanded upstream to the headwaters based on a violation rate of 8/13 at 8-SLN001.46 and 6/11 at 8-SLN003.07.

Sullens Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.55**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-09-BAC** **UT XDX to UT XDW to Pamunkey River**

Location: The mainstem of unnamed tributary XDX.

City / County: King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The tributary was initially considered as not supporting of the Recreation Use goal during the 2004 cycle based on a fecal coliform violation rate of 2/3 at the Route 604 bridge (8-XDX000.38). The impairment converted to E.coli during the 2012 cycle based on a violation rate of 3/12 at 8-XDX000.38.

UT XDX to UT XDW to Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.85**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F13R-09-PH** **UT XDX to UT XDW to Pamunkey River**

Location: The mainstem of unnamed tributary XDX.

City / County: King William Co

Use(s): Aquatic Life

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

The tributary was considered as not supporting of the Aquatic Life Use goal during the 2012 cycle based on a pH violation rate of 2/11 at the Route 604 bridge (8-XDX000.38).

UT XDX to UT XDW to Pamunkey River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.85**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-10-PH** **Mallory Creek**

Location: Mallory Creek from its headwaters to its mouth at Jacks Creek.

City / County: King William Co

Use(s): Aquatic Life

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

Mallory Creek was impaired of the Aquatic Life Use during the 2012 cycle due to a pH violation rate of 4/11 at the Rt. 632 bridge (8-MLY001.58).

Mallory Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.02**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F13R-11-BAC** **UT XDW to Pamunkey River**

Location: The mainstem of unnamed tributary XDW.

City / County: King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The tributary was assessed as not supporting of the Recreation Use goal during the 2012 cycle based on an E. coli exceedance rate of 3/12 at the Route 604 bridge (8-XDW000.67).

UT XDW to Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.51**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F13R-11-PH** **UT XDW to Pamunkey River**

Location: The mainstem of unnamed tributary XDW.

City / County: King William Co

Use(s): Aquatic Life

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

The tributary was assessed as not supporting of the Aquatic Life Use goal during the 2012 cycle based on a pH exceedance rate of 4/11 at the Route 604 bridge (8-XDW000.67).

UT XDW to Pamunkey River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**5.51**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-12-PH** **Judy Swamp**

Location: Judy Swamp from its headwaters to its mouth at the Pamunkey River.

City / County: King William Co

Use(s): Aquatic Life

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

During the 2012 cycle, Judy Swamp was impaired of the Aquatic Life Use due to pH violation rates of 4/10 at 8-JDY000.19 and 7/11 at 8-JDY001.27, the Rt. 604 and Rt. 639 bridges, respectively.

Judy Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.32**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F13R-13-HG** **Pamunkey River**

Location: The Pamunkey River from Nelson Bridge Road (Route 15) downstream approximately 72 miles to the mouth at the York River.

City / County: Hanover Co King William Co New Kent Co

Use(s): Fish Consumption

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

On 9/30/2004, VDH issued a fish consumption advisory from Nelson Bridge Road to Jacks Creek near Liberty Hall. The advisory recommends that no one eat more than 2 meals per month of blue catfish because of mercury contamination in the fish tissue.

This condemnation was expanded on 10/7/2009 and now extends downstream to the mouth at the York River.

The advisory is based on mercury fish tissue exceedances at DEQ monitoring stations 8-PMK056.87, 8-PMK032.00, and 8-PMK006.36.

Pamunkey River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:	**10.507**		**11.49**

Sources:

Atmospheric Deposition - Toxics Source Unknown

York River Basin

Cause Group Code: **F13R-13-PCB** **Pamunkey River**

Location: The Pamunkey River from Nelson Bridge Road (Route 15) downstream approximately 72 miles to the mouth at the York River.

City / County: Hanover Co King William Co New Kent Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

On 10/7/2009, VDH issued a fish consumption advisory from Nelson Bridge Road to the mouth at West Point. The advisory recommends that no one eat more than 2 meals per month of gizzard shad because of PCB contamination in the fish tissue.

The advisory is based on PCB fish tissue exceedances at DEQ monitoring stations 8-PMK056.87, 8-PMK032.00, and 8-PMK006.36.

Pamunkey River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**10.507**		**11.49**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F13R-14-PH** **Mehixen Creek and tributary XIV**

Location: Sullens Creek in its entirety.

City / County: King William Co

Use(s): Aquatic Life

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

During the 2012 cycle, the creeks were impaired of the Aquatic Life Use due to pH violation rates of 4/11 at stations 8-MHX001.50 and 8-XIV000.88, which are both located at Rt. 652.

Mehixen Creek and tributary XIV **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.42**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F14E-01-BAC** **Pamunkey River**

Location: The Pamunkey River from Macon Creek it the tidal freshwater/oligohaline boundary.

City / County: King William Co New Kent Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, the Pamunkey River from Macon Creek to the transition zone boundary was assessed as not supporting of the Recreation Use due to E. coli violations at 8-PMK034.17, which is located at the railroad trestle at White House. The violation rate was 9/70 during the 2012 cycle.

Pamunkey River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**3.634**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F14E-05-EBEN** **Pamunkey River**

Location: The oligohaline Pamunkey mainstem.

City / County: King William Co New Kent Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The oligohaline Pamunkey River mainstem initially failed the Chesapeake Bay Index of Biologic Integrity during the 2010 cycle. The impairment continued during the 2012 cycle.

Pamunkey River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:	**5.284**		

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source	Source Unknown

York River Basin

Cause Group Code: **F14E-06-BAC** **Harrison Creek**

Location: The tidal portion of Harrison Creek.

City / County: King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, tidal Harrison Creek was impaired of the Recreation Use due to an E.coli exceedance rate of 3/9 at 8-HSN000.92, which is located at Elsing Green Road.

Harrison Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.048**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F14R-01-DO** **Cohoke Mill Creek**

Location: Cohoke Mill Stream mainstem from its headwaters downstream to Cohoke Millpond

City / County: King William Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

During the 2010 cycle, Cohoke Mill Stream was assessed as not supporting of the Aquatic Life Use based on a dissolved oxygen exceedance rate of 4/15 at 8-CMC005.16, which is located at the Route 626 bridge.

Cohoke Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**6.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F14R-02-BAC** **Harrison Creek**

Location: Harrison Creek and tributary upstream of pond at Elsing Green upstream to nearest tributaries.

City / County: King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Harrison Creek was assessed as not supporting of the Recreation Use in 2008 based on an E. coli violations at the Route 632 bridge (8-HSN002.12). During the 2012 cycle, the violation rates were as follows:

7/19 at 8-HSN002.12
3/8 at 8-HSN002.43
1/6 at 8-HSN003.93

Harrison Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.80**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F14R-03-PH** **UT to Cohoke Mill Creek**

Location: Mainstem upstream of Cohoke Millpond

City / County: King William Co

Use(s): Aquatic Life

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

The UT was initially assessed as not supporting of the Aquatic Life Use in 2004 based on a pH violation rate of 2/2 at 8-XDM000.50 (Route 30 bridge). During the 2008 cycle, the segment remained impaired (6/13). No additional data was collected during the 2010 or 2012 cycles.

UT to Cohoke Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.23**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F14R-04-BAC** **XJD - Harrison Creek, UT**

Location: Harrison Creek, UT from its headwaters to its mouth at Harrison Creek

City / County: King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The UT was impaired of the Recreation Use during the 2012 cycle based on an E. coli violation rate of 4/8 at 8-XJD000.02.

XJD - Harrison Creek, UT **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.16**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F14R-04-PH** **XJD - Harrison Creek, UT**

Location: Harrison Creek, UT from its headwaters to its mouth at Harrison Creek

City / County: King William Co

Use(s): Aquatic Life

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

During the 2012 cycle, XJD was impaired of the Aquatic Life Use due to a pH exceedance rate of 3/7 at 8-XJD000.02.

XJD - Harrison Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.16**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F15R-01-BEN** **Ni River**

Location: Begins at the confluence of an unnamed tributary to the Ni River, approximately 0.95 rivermiles downstream from the Route 608 bridge, and continues downstream until the confluence with the Po River, forming the Poni River.

City / County: Caroline Co Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Out of three biological monitoring events in 2007 and 2008, a total of two sampling events resulted in a VSCI score which indicates an impaired macroinvertebrate community.

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

Sources:

Source Unknown

York River Basin

Cause Group Code: **F15R-01-DO** **Brock Run**

Location: Begins at the headwaters of Brock Run and continues downstream until the confluence with the Ni River.

City / County: Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Sufficient excursions below the minimum dissolved oxygen criterion (3 of 7 samples - 42.9%) were recorded at NPS's water quality monitoring station (8BRK-04-NPS) near Jackson Trail.

Brock Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.17**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F15R-02-BAC** **Brock Run**

Location: Begins at the headwaters of Brock Run and continues downstream until the confluence with the Ni River.

City / County: Spotsylvania Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 9 samples - 22.2%) from station 8-BRK000.06, at Jackson Trail off Route 613.

Brock Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.17**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F15R-02-DO** **Lewis Run**

Location: Begins at the outlet of Cool Spring Lake, and continues downstream to the confluence with the Ni River.

City / County: Caroline Co Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Sufficient excursions below the minimum dissolved oxygen criterion (2 of 9 samples - 22.2%) were recorded at NPS's water quality monitoring station (8LWS-01-NPS) upstream of Sickles Drive.

Lewis Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.04**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F15R-03-DO** **Unnamed tributary to Cool Spring Lake**

Location: Begins at the headwaters of the unnamed tributary, and continues downstream to the inlet of Cool Spring Lake.

City / County: Caroline Co Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Sufficient excursions below the minimum dissolved oxygen criterion (3 of 7 samples - 42.9%) were recorded at NPS's water quality monitoring station (8XJM-02-NPS) downstream of Stuart Drive.

Unnamed tributary to Cool Spring Lake **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**1.27**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F16R-01-BAC** **Po River**

Location: Begins at an unnamed tributary to the Po River and continues downstream until the confluence with the Ni River, forming the Poni River.

City / County: Spotsylvania Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 8-POR004.13, at Route 1.

Po River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.13**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F16R-02-BAC** **Glady Run**

Location: Begins at the headwaters of Glady Run and continues downstream until the confluence with the Po River.

City / County: Spotsylvania Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 8-GDY003.00, at Route 649

Glady Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.61**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F17L-01-HG** **Bowies Pond**

Location: Includes all of Bowies Pond.

City / County: Caroline Co

Use(s): Fish Consumption

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

Excursions above the fish tissue value (TSV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in tissue from three species of fish (bowfin, chain pickerel, largemouth bass) sampled in 2005 at monitoring station 8-CAM001.00 (six total excursions).

Bowies Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**25.37**	

Sources:

Source Unknown

York River Basin

Cause Group Code: **F17R-02-BAC** **Mattaponi River**

Location: Begins at the confluence with an unnamed tributary, draining from Goose Pond, and continues downstream until the confluence with Polecat Creek at the outlet of waterbody F17R.

City / County: Caroline Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 17 samples - 21.4%) from station 8-MPN083.62, at Route 301.

Mattaponi River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.14**

Sources:

Source Unknown

York River Basin

Cause Group Code: F17R-03-BAC **Poni River**

Location: Begins at the confluence with an unnamed tributary and continues downstream until the confluence with the Matta River, forming the Mattaponi River

City / County: Caroline Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 23 samples - 13.0%) from station 8-PNI002.43, at Route 606.

Poni River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.07**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F18R-01-DO** **Ta River**

Location: Begins at the confluence with Bluff Run, approximately 0.7 rivermile upstream from Route 738, and continues downstream until the confluence with the Mat River, forming the Matta River.

City / County: Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Excursions below the minimum dissolved oxygen criterion (2 of 13 samples - 15.4%) from station (8-TAR002.41), at Route 738.

Ta River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**3.30**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F18R-02-BAC** **Matta River**

Location: Begins at the confluence with an unnamed tributary to the Matta River, approximately 0.5 rivermile upstream from the Route 632 bridge, and continues downstream until the confluence with the Poni River, forming the Mattaponi River.

City / County: Caroline Co Spotsylvania Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 28 samples - 28.6%) from station 8-MTA001.69, at Route 632 and (2 of 11 samples - 18.2%) from station MTA008.96, at Route 646.

Matta River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**11.15**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F18R-02-PH** **Ta River**

Location: Begins at the confluence with Bluff Run, approximately 0.7 rivermile upstream from Route 738, and continues downstream until the confluence with the Mat River, forming the Matta River.

City / County: Spotsylvania Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (2 of 13 samples - 15.4%) from station (8-TAR002.40), at Route 738.

Ta River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.30**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: F18R-03-BEN **Matta River**

Location: Begins at the confluence of the Mat River and the Ta River and continues downstream until the confluence with an unnamed tributary to the Matta River, approximately 0.5 rivermile upstream from Route 646.

City / County: Spotsylvania Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of two biological monitoring events in 2003 at station 8-MTA012.09 (upstream of Route 646) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these two samples.

Matta River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.20**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F19R-01-BAC** **South River**

Location: Begins at the confluence with White Run, approximately 0.6 rivermile upstream from Route 638, and continues downstream until the confluence with Mays Run, at rivermile 1.73.

City / County: Caroline Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 24 samples - 12.5%) from station 8-STH004.37, at Route 638.

South River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.26**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F20R-01-PH** **Polecat Creek**

Location: Begins at the confluence with Hackett Creek, approximately 0.5 rivermile upstream from Route 207, and continues downstream until the confluence with the Mattaponi River.

City / County: Caroline Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (5 of 23 samples - 21.7%) from station (8-PCT002.29), at Route 601.

Polecat Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.66**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F20R-02-BAC** **Polecat Creek**

Location: Begins at the headwaters of Polecat Creek and continues downstream until the confluence with Stevens Mill Run.

City / County: Caroline Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) from station 8-PCT010.10, at Route 652.

Polecat Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.07**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F21R-01-BEN** **Herring Creek**

Location: Begins at the headwaters of Herring Creek and continues downstream until the confluence with Millpond Creek.

City / County: Caroline Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2008 Assessment: Two biological monitoring events in 2002 at station 8-HER012.99 (downstream of Route 601) resulted in a MACS score which indicates an impaired macroinvertebrate community.

Herring Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**4.57**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F21R-01-HG** **Herring Creek**

Location: Extends from the Route 628 bridge (Dorrell Road) to the confluence with the Mattaponi River.

City / County: King William Co

Use(s): Fish Consumption

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

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 09/30/04, limits bluegill sunfish and yellow bullhead catfish consumption to no more than two meals per month.

Herring Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**6.99**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F21R-02-HG** **Mattaponi River**

Location: Extends from the Route 628 bridge and continues downstream approximately 55 miles, to the confluence with Pamunkey River near West Point.

City / County: King And Queen Co King William Co

Use(s): Fish Consumption

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

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 09/30/04, limits largemouth bass consumption to no more than two meals per month.

Mattaponi River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:	**6.938**		**15.61**

Sources:

Atmospheric Deposition - Toxics	Source Unknown

York River Basin

Cause Group Code: **F21R-03-BAC** **Reedy Creek**

Location: Begins at the headwaters of Reedy Creek and continues downstream until the start of Reedy Millpond.

City / County: Caroline Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 8-RDY003.43, at Route 648.

Reedy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**12.43**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F21R-03-HG** **Reedy Creek and Reedy Millpond**

Location: Begins at the headwaters of Reedy Creek and continues downstream until the confluence with the Mattaponi River, includes all of Reedy Millpond.

City / County: Caroline Co King And Queen Co King William Co

Use(s): Fish Consumption

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

Excursions above the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury in fish tissue were recorded in 3 species of fish (3 total samples); creek chubsucker (2008), bluegill sunfish (2008), and yellow bullhead catfish (2008), collected at monitoring station 8-RDY003.43. In addition, exceedances of the fish tissue value (TV) for mercury (Hg) in fish tissue were recorded in tissue from two species (bowfin, largemouth bass) of fish sampled in 2003 at monitoring station 8-RDY000.87 (four total excursions). Also, the fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury fish consumption advisory. The advisory, dated 10/07/09, limits redbreast sunfish and yellow bullhead catfish consumption to no more than two meals per month. The affected area extends from the Route 301 bridge crossing downstream to the confluence with the Mattaponi River.

Reedy Creek and Reedy Millpond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**41.08**	**12.55**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F21R-04-PH** **Chapel Creek**

Location: Begins at the confluence with Beaver Branch and continues downstream until the confluence with the Mattaponi River.

City / County: King And Queen Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (2 of 6 samples - 33.3%) from station 8-CPL004.15, at Route 721.

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

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F22L-01-HG** **Collins Pond**

Location: Segment includes all of Collins Pond.

City / County: Caroline Co

Use(s): Fish Consumption

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

Excursions above the fish tissue value (TSV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in tissue from two species (largemouth bass, yellow bullhead catfish) of fish samples collected in 2003 at monitoring station 8-DOC003.63 (three total excursions).

Collins Pond **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:		**53.56**	

Sources:

Source Unknown

York River Basin

Cause Group Code: **F22R-01-BAC** **Maracossic Creek**

Location: Begins at the confluence with Beverly Run and continues downstream until the confluence with the Mattaponi River.

City / County: Caroline Co King And Queen Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 28 samples - 10.7%) from station 8-MAR003.24, at Route 627.

Maracossic Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.27**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F22R-02-PH** **Root Swamp**

Location: Begins at the headwaters of Root Swamp and continues downstream until the confluence with Beverly Run.

City / County: King And Queen Co

Use(s): Aquatic Life

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

2008 Assessment: Excursions below the lower limit of the pH criterion range (3 of 6 samples - 50.0%) from station 8-ROT003.65, at Route 649, and excursions below the lower limit of the pH criterion range (2 of 2 samples - 100%) from station 8-ROT007.85, at Route 635.

Root Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**7.63**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F22R-03-DO** **Unnamed tributary to Root Swamp**

Location: Begins at the headwaters of an unnamed tributary to Root Swamp and continues downstream until the confluence with Root Swamp.

City / County: King And Queen Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

2008 Assessment: Excursions below the minimum dissolved oxygen criterion (2 of 6 samples - 33.3%) from station 8-XDY000.27, at Route 689.

Unnamed tributary to Root Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.70**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F22R-03-PH** **Unnamed tributary to Root Swamp**

Location: Begins at the headwaters of an unnamed tributary to Root Swamp and continues downstream until the confluence with Root Swamp.

City / County: King And Queen Co

Use(s): Aquatic Life

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

2008 Assessment: Excursions below the lower limit of the pH criterion range (6 of 6 samples - 100%) from station 8-XDY000.27, at Route 689.

Unnamed tributary to Root Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.70**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F22R-04-PH** **Beverly Run**

Location: Begins at the confluence with Shady Grove Run and continues downstream until the confluence with Mason Swamp.

City / County: Caroline Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (2 of 6 samples - 33.3%) from station 8-BEV008.47, at Route 665.

Beverly Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**3.19**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: F22R-05-PH **Doctors Creek**

Location: Begins at the confluence with Tanyard Swamp and continues downstream until the confluence with Maracossic Creek.

City / County: Caroline Co

Use(s): Aquatic Life

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

Excursions below the lower limit of the pH criterion range (3 of 6 samples - 50.0%) from station 8-DOC000.69, at Route 644.

Doctors Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**2.21**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F23E-03-BAC** **Mattaponi River**

Location: The Mattaponi River from the tidal limit near the Route 360 bridge downstream to the confluence with Aylett Creek

City / County: King And Queen Co King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, the Mattaponi River from the tidal limit near the Route 360 bridge downstream to the confluence with Aylett Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 5/34 at 8-MPN039.10.

Mattaponi River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:	**0.159**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F23R-01-BAC** **Garnetts Creek**

Location: The mainstem of Garnetts Creek from the confluence with Dickeys Swamp to the tidal limit.

City / County: King And Queen Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2010 cycle, Garnetts Creek from the confluence with Dickeys Swamp downstream to the tidal limit was assessed as impaired of the Recreation Use due to an E. coli exceedance rate of 2/12 at the Route 633 bridge (8-GNT001.54).

Garnetts Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.83**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F23R-02-DO** **Dickeys Swamp, Garnetts Creek, and Tributaries**

Location: Dickeys Swamp, Dogwood Fork, Garnetts Creek, and Fleets Creek in their entireties and Market Swamp below Walker Coleman Pond.

City / County: King And Queen Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Dickeys Swamp from Dogwoods Fork downstream to the mouth was initially assessed as fully supporting but threatened in 1998 based on dissolved oxygen exceedances at the Route 620 bridge (8-DKW000.12).

The segment was downgraded and extended in 2002 cycle to incorporate Dogwood Fork, the UT to Garnetts Creek (at the confluence of Garnetts and Dickeys), and the headwaters of Dickeys Swamp based on the results of a special study. The TMDL is due in 2014.

In the 2004 cycle, the dissolved oxygen exceedance rate at 8-DKW000.12 was still unacceptable (3/19), but monitoring upstream on Dickeys Swamp showed acceptable results. However, the segment length was not modified pending further monitoring.

Additional monitoring in the 2010 cycle confirmed the impairment throughout the segment with violations at 8-DKW000.12, 8-DKW001.12, 8-DKW004.31, 8-DKW005.73, 8-DWD000.77, and 8-XDN000.12.

In addition, the impairment was expanded to include Garnetts Creek, Fleets Creek, and Market Swamp below Walker Coleman Pond due to exceedances at 8-GNT001.54, 8-FTS001.98, and 8-MKT001.04.

During the 2012 cycle, the UT to Garnetts Creek XDN was delisted because additional monitoring showed an acceptable violation rate (1/14). The remaining stations had the following exceedance rates:

3/12 at 8-DKW000.12
3/12 at 8-DKW001.12
5/12 at 8-DKW004.31
4/12 at 8-DKW005.73
4/12 at 8-DWD000.77
4/26 at 8-GNT001.54
3/12 at 8-FTS001.98
3/12 at 8-MKT001.04

Dickeys Swamp, Garnetts Creek, and Tributaries **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**21.04**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F23R-03-DO** **Walkerton Branch**

Location: Watershed upstream of Walkerton Millpond

City / County: King And Queen Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Walkerton Branch was initially assessed as not supporting of the Aquatic Life Use for dissolved oxygen in 2006 based on exceedances at Route 636 (8-WKN003.16). During the 2008 cycle, the segment remained impaired for dissolved oxygen (8/13). The DO TMDL is due in 2018.

No additional data has been collected since the 2008 cycle.

Walkerton Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**4.63**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F23R-03-PH** **Walkerton Branch**

Location: Watershed upstream of Walkerton Millpond

City / County: King And Queen Co

Use(s): Aquatic Life

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

Walkerton Branch was initially assessed as not supporting of the Aquatic Life Use goal in 2004 based on pH exceedances at Route 636 (8-WKN003.16). During the 2008 cycle, the segment remained impaired for pH (12/13). The pH TMDL is due in 2016.

No additional data has been collected since the 2008 cycle.

Walkerton Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**4.63**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F23R-04-BAC** **Aylett Creek**

Location: The mainstem of Aylett Creek.

City / County: King William Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

During the 2012 cycle, Aylett Creek was impaired of the Recreation Use due to an E. coli violation rate of 3/11 at 8-AYL002.27, which is located at the Route 600 bridge.

Aylett Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.60**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F23R-04-PH** **Aylett Creek**

Location: The mainstem of Aylett Creek.

City / County: King William Co

Use(s): Aquatic Life

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

Aylett Creek was impaired of the Aquatic Life Use during the 2012 cycle due to a pH exceedance rate of 6/13 at the Route 600 bridge (8-AYL002.27).

Aylett Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**6.60**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F23R-06-PCB** **Mattaponi River**

Location: The Mattaponi River from the Route 628 bridge downstream to the mouth at West Point.

City / County: King And Queen Co King William Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

During the 1998 cycle, the Mattaponi River from Herring Creek to the tidal limit was considered fully supporting but threatened of the Fish Consumption Use due to exceedance of a PCB screening value in 1 species (white perch) in 1996.

During the 2006 cycle, 2003 monitoring at 8-MPN041.41 indicated exceedances of the fish tissue level for PCBs in 2 species. In addition, the VDH issued a fish consumption advisory on 12/13/2004 for PCBs from Herring Creek to Aylett Creek which recommends that adults eat no more than 2 meals/month of anadromous striped bass, white perch, and gizzard shad. The TMDL is due in 2018.

The advisory was revised on 10/7/2009. The advisory now extends from Route 628 downstream approximately 55 miles to the mouth of the Mattaponi at West Point. No more than two meals/month of anadromous (coastal) striped bass, white perch, and gizzard shad are recommended due to PCBs.

The advisory is based on the results of DEQ's fish tissue monitoring program, which indicated PCB exceedances at 8-MPN029.08, 8-MPN014.33 and 8-MPN041.41.

Note: In the 2002 cycle, PCBs were accidentally included as an impairment, however previous and current guidance states that confirmation is needed before an impairment, therefore the listing was in error.

Mattaponi River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**6.938**		**15.61**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F23R-07-PH** **Walkerton Branch**

Location: Nontidal Walkerton Branch below Walkerton Millpond dam

City / County: King And Queen Co

Use(s): Aquatic Life

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

During the 2012 cycle, the portion of Walkerton Branch from the dam to the tidal limit was impaired of the Aquatic Life Use due to a pH exceedance rate of 2/11 at 8-WKN000.42, which is located at Route 629.

Walkerton Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.17**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F24R-02-PH** **Mill Creek**

Location: Mill Creek from Curtis Pond to the tidal limit

City / County: King William Co

Use(s): Aquatic Life

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

During the 2012 cycle, Mill Creek below Curtis Pond was impaired of the Aquatic Life Use due to a pH violation rate of 2/12 at 8-MIL001.19, which is located on Rt. 625.

Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.40**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F25R-02-DO** **Tastine Swamp**

Location: From the headwaters of Tastine Swamp downstream to the confluence with Little Tastine Swamp

City / County: King And Queen Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Tastine Swamp from its headwaters down to the confluence with Little Tastine Swamp was assessed as not supporting of the Aquatic Life Use in the 2010 cycle due to a dissolved oxygen violation rate of 2/12 at station 8-TST003.16.

No additional data was collected in the 2012 cycle.

Tastine Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**2.15**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

York River Basin

Cause Group Code: **F26E-01-PCB** **York River and Tributaries**

Location: The York River from West Point downstream to the mouth near Tue Point and the tidal portion of the following tributaries: King Creek, Queen Creek, and Wormley Creek

City / County: Gloucester Co, James City Co, King And Queen Co, King William Co, New Kent Co, Williamsburg City, York Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The segments are included under a 12/13/2004 VDH Fish Consumption Advisory due to polychlorinated biphenyls (PCBs) in fish tissue. The advisory recommends that adults eat no more than two meals/month of croaker, gizzard shad, and spot. High risk individuals such as women who are pregnant or may become pregnant, nursing mothers, and young children are advised not to eat any fish contaminated with PCBs.

The advisory is based on the results of DEQ's fish tissue monitoring program, which indicated fish tissue value exceedances at the following stations:

8-YRK031.48
8-YRK016.57
8-YRK022.70
8-YRK005.93
8-QEN002.47
8-QEN005.62
8-KNG001.36
8-KNG000.18
8-WOR000.35

The TMDL is due in 2018.

York River and Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**57.809**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26E-02-SF** **Aberdeen Creek**

Location: Portion of VDH-DSS condemnation 047-078A, 7/8/2010 not included in 78, 4/7/1997

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS condemnation 047-078A, 7/8/2010

A portion of Aberdeen Creek has been impaired since the 1998 cycle due to VDH shellfish condemnation 4/7/1997. The condemnation has since expanded and is currently included under 047-078A, 7/8/2010. However, the TMDL "York River: Gloucester Point to Jones Creek", which was approved by the EPA on 7/30/2007, only addressed the 1998 portion. The downstream expansion is Category 5B. As the condemnation first expanded in the 2002 cycle, the TMDL will be due in 2014.

Aberdeen Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26E-06-SF** **Fox Creek**

Location: Described in VDH-DSS condemnation 047-072A, 7/8/2010

City / County: York Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 047-072A, 7/8/2010

Fox Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.022**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26E-10-SF** **Carter Creek / York River**

Location: Described in VDH-DSS condemnation 050-079A, 6/25/2007

City / County: James City Co King And Queen Co New Kent Co York Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 050-079A, 6/25/2007

Carter Creek has been impaired since the 2004 cycle due to a VDH condemnation. During the 2012 cycle, the condemnation extends into a portion of the York River.

Carter Creek / York River **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.054**		

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26L-01-DO** **Waller Mill Reservoir**

Location: Headwater impounded portion of Queen Creek. North of Williamsburg in York County.

City / County: York Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is retained from 2008. Aquatic Life Use is not supporting based on samples taken at stations 8-QEN007.02, 8-QEN007.22, 8-QEN008.02, 8-QEN008.58 for dissolved oxygen with a pooled violation rate of 24.4% (31 violations / 127 obs.). Individual exceedances include 8-QEN007.02 (0 violates / 28 obs.), 8-QEN007.22 (15 violates / 49 obs.), 8-QEN008.02 (10 violates / 28 obs.), and 8-QEN008.58 (6 violates / 22 obs.).

During the 2012 cycle the segment was Impaired for DO with a pooled violation rate of 2/98.

Waller Mill Reservoir **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:		**287.70**	

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Source Unknown

York River Basin

Cause Group Code: **F26R-01-BAC** **Carter Creek**

Location: Carter Creek from the tidal limit upstream to the confluence with an unnamed tributary

City / County: York Co

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Carter Creek is impaired of the Recreation Use due to fecal coliform exceedances at 8-CTC003.78. The exceedance rate was 2/3 during the 2006 cycle. No additional monitoring has been conducted.

Carter Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.30**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26R-01-BEN** **Carter Creek**

Location: Carter Creek from the tidal limit upstream to the confluence with an unnamed tributary

City / County: York Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic biological monitoring previously conducted at station 8-CTC003.78 (located at State Route 604) indicated the stream's benthic community was moderately impaired (Benthic MI: 1999, SI S&F 2000, MI F 2001]. As a result, DEQ's General Standard (VR680-21-01.2) is not met for the protection of benthic aquatic life and this segment is assessed as not supporting of the Clean Water Act's Aquatic Life Use. Impairment retained as no more recent data available since 2001.

Carter Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.30**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26R-02-BEN** **XEA - Bland Creek, UT**

Location: Tributary XEA from its headwater to its mouth at Bland Creek.

City / County: Gloucester Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic life use is not supporting based on benthic population diversity and abundance measures at this Freshwater Probabilistic Monitoring (FPM) station. The Aquatic Life Use is not supporting based on benthic population diversity and abundance measures at this Freshwater Probabilistic Monitoring (FPM) station, IM-carried forward as no data in cycle. The Aquatic Life Use is not supported based on the benthic data collected in 2001 (Benthic ProbMon-Benthic IM [MI: S&F-01]. Benthic biological monitoring at station 8-XEA000.12 (FPM) indicated the stream's benthic community was moderately impaired. As a result, DEQ's General Standard (VR680-21-01.2) is not met for the protection of benthic aquatic life and this segment is assessed as not supporting of the Clean Water Act's Aquatic Life Use.

XEA - Bland Creek, UT **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.21**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26R-03-DO** **France Swamp**

Location: France Swamp around station 8-FRS001.17

City / County: James City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

France Swamp was assessed as impaired of the Aquatic Life Use during the 2010 cycle due to a dissolved oxygen exceedance rate of 3/12 at monitoring station 8-FRS001.17.

France Swamp **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**0.85**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F26R-04-BEN** **Bird Creek**

Location: Bird Creek from its headwater to its mouth at Ware Creek.

City / County: James City Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2012 cycle, Byrd Creek was impaired of the Aquatic Use due to a slightly impaired benthic community at freshwater probabilistic monitoring station 8-BRD000.43.

Bird Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.43**

Sources:

Source Unknown

York River Basin

Cause Group Code: **F27E-20-SF** **Cedarbush Creek**

Location: Portion of VDH-DSS condemnation 047-078C, 7/8/2010 not included in the TMDL.

City / County: Gloucester Co

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation 047-078C, 7/8/2010

An upstream portion of Cedarbush Creek was impaired in the 1998 cycle. That portion was covered under TMDL "York River: Gloucester Point to Jones Creek" VAT-F26E-13, 15-18, EPA approved 7/30/2007. However, the condemnation subsequently expanded past the TMDL study area. This portion will be considered Category 5B; the TMDL is due in 2022.

The condemnation shrank in the 2012 cycle, but is still larger than the original impairment.

Cedarbush Creek **Shellfishing**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:	**0.014**		

Sources:

Source Unknown

New River Basin

Cause Group Code: **N01R-01-BAC** **Big Horse Creek**

Location: Tributary to North Fork New River in North Carolina. This is a loop that flows into Virginia from North Carolina and back into North Carolina. This segment was previously BHC01A02 and BUR01A02.

City / County: Grayson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The ambient water quality monitoring station 9-BHO017.70 had a 25% exceedance of the E. coli water quality standard.

Big Horse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.99**

Big Horse Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.99**

Sources:

Source Unknown

New River Basin

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

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

City / County: Grayson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The ambient water quality monitoring station 9-LHC001.92 had a 58% exceedance of the E. coli water quality standard.

Little Helton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.42**

Little Helton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.42**

Sources:

Source Unknown

New River Basin

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

Location: This segment begins at the North Carolina state line, includes Fields Dam, and extends downstream to the New River confluence with Saddle Creek at the Route 601 bridge. This segment includes Grassy Creek from the headwaters downstream to the North Carolina state line.

City / County: Grayson Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 9-NEW187.46 had an 18% exceedance of the E. coli water quality standard and station 9-NEW181.66 had a 16% exceedance of the E. coli water quality standard. Station 9-GRA003.36 had a 33% exceedance of the E. coli water quality

New River and Grassy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.50**

New River and Grassy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.89**

Sources:

Grazing in Riparian or Shoreline Zones | Source Unknown | Unrestricted Cattle Access

New River Basin

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

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

City / County: Grayson Co Wythe Co

Use(s): Fish Consumption

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

Station 9-NEW171.94 showed smallmouth bass, rock bass and carp exceeded the level of concern for Mercury; a second flathead catfish exceeded the Virginia Department of Health's level of concern. Station 9-NEW158.40 was monitored for sediment and fish tissue. Mercury exceeded the level of concern in several species. 9-NEW117.47 was monitored for sediment and fish tissue in 2004. Mercury was found in the fish tissue.

New River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**32.43**

Sources:

Source Unknown

New River Basin

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

Location: This segment includes the Wilson Creek mainstem from the New River confluence upstream 8.8 miles.

City / County: Grayson Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station 9-WLS002.57 had a 25% exceedance of the E. coli water quality standard.

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**8.81**

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.81**

Sources:

Livestock (Grazing or Feeding Operations)

New River Basin

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

Location: This segment includes the mainstem of Fox Creek from the Mill Creek confluence to the New River confluence, Middle Fox Creek from the Fox Creek confluence upstream 4.1 miles and Mill Creek from the confluence with Fox Creek upstream to the headwaters. Little Fox Creek is included in this segment and it extends from the Fox Creek confluence upstream 2.2 miles.

City / County: Grayson Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

Designated a natural trout stream. The AWQM station, 9-FXC003.35, had a 25% exceedance in the E. coli water quality standard, station 9-LFX000.06 had a 45% exceedance of the E.coli standards, stations 9-MIR000.13 and 9-MIR000.28 both had a 25% exceedance of the E. coli water quality standard.

Fox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**18.57**

Fox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.67**

Sources:

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

New River Basin

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

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

City / County: Grayson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 9-LVR001.34, had a 25% exceedance of the fecal coliform water quality standard in the 2004 WQA. The station was moved to 9-NEW002.65 in 2003 and had an 8% exceedance of the E. coli water quality standard.

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.24**

Sources:

Rural (Residential Areas)

New River Basin

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

Location: This segment includes the mainstem from Beaverdam Creek confluence downstream to New River confluence and Peach Bottom Creek from the headwaters downstream to the confluence of Little Beach Bottom Creek.

City / County: Grayson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-PBC001.12, had a 27% exceedance of the E.coli water quality standard.

Peach Bottom Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**16.14**

Peach Bottom Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.73**

Sources:

Source Unknown

New River Basin

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

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

City / County: Grayson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 9-SDL000.05, had a 58% exceedance of the E.coli water quality standard.

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

Sources:

Animal Feeding Operations (NPS)	Livestock (Grazing or Feeding Operations)

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

Cause Group Code: **N05R-01-BEN** **Elk Creek**

Location: This segment includes the mainstem from the confluence of Comers Rock Branch downstream to Turkey Fork.

City / County: Grayson Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Probabilistic Monitoring station located at 9-EKC013.81 was impaired based on the VSCI score.

Elk Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**8.94**

Sources:

Animal Feeding Operations (NPS) Unrestricted Cattle Access

New River Basin

Cause Group Code: **N06R-03-BAC** **Meadow Creek**

Location: This segment includes Meadow Creek and its tributaries.

City / County: Grayson Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station located at 9-MCR000.20 had a 77% exceedance of the E. coli water quality standard.

Meadow Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.63**

Sources:

Source Unknown Unrestricted Cattle Access

New River Basin

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

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

City / County: Carroll Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-CRK020.79, had a 27% exceedance of the E. coli water quality standard. This segment is designated natural trout waters. Station 9-CRK015.69 had a 50% exceedance of the E.coli water quality standard.

Crooked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**24.95**

Crooked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**20.77**

Sources:

Source Unknown Unrestricted Cattle Access

New River Basin

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

Location: This segment of Crooked Creek begins at Route 707 and continues to Route 620.

City / County: Carroll Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station located at 9-CRK015.69 had a 30% exceedance of the temperature standard for natural trout streams.

Crooked Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.18**

Sources:

Grazing in Riparian or Shoreline Zones

New River Basin

Cause Group Code: **N08R-01-BAC** **New River and Tributaries**

Location: This segment includes the mainstem of the New River from the Reed Creek confluence downstream to the Big Reed Island Creek confluence including Pine Run.

City / County: Carroll Co Pulaski Co Wythe Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

AWQM station is located at 9-NEW107.51; E. coli violations in 11% (4 of 35)of samples collected. Station 9-PRN000.84 had a 41%(5/12) exceedance of the E. coli water quality standard.

New River and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**14.38**

New River and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**3.63**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Source Unknown
Unrestricted Cattle Access	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl

New River Basin

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

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

City / County: Carroll Co Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-SRT000.12, had a 100% exceedance of the E. coli water quality standard.

Shorts Creek and Unnamed Tributary **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**10.47**

Shorts Creek and Unnamed Tributary **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**10.47**

Sources:

Animal Feeding Operations (NPS)

Grazing in Riparian or Shoreline Zones

Livestock (Grazing or Feeding Operations)

New River Basin

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

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

City / County: Smyth Co Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

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

Slate Spring Branch and Dean Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.64**

Slate Spring Branch and Dean Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**5.90**

Sources:

Source Unknown Unrestricted Cattle Access

New River Basin

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

Location: Reed Creek mainstem from Venrick Run upstream to South Fork.

City / County: Wythe Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

Water temperature was exceeded for Class IV WQS at 9-RDC038.01 and at 9-RDC033.94.

Reed Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.44**

Sources:

Grazing in Riparian or Shoreline Zones

New River Basin

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

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

City / County: Smyth Co Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 9-MCE000.37, had a 50% exceedance of the E.coli water quality standard. Station 9- RSF000.08 had a 67% exceedance of the E.coli water quality standard.

South Fork Reed Creek and Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**27.44**

Sources:

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

New River Basin

Cause Group Code: N10R-02-TEMP **Reed Creek**

Location: From South Fork Reed Creek confluence upstream to the Stony Fork confluence west of Petunia.

City / County: Wythe Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station at 9-RDC038.01 exceeded the temperature WQS for Class IV waters.

Reed Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**5.17**

Sources:

Grazing in Riparian or Shoreline Zones

New River Basin

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

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

City / County: Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 9-SFK000.28, had a 58% exceedance of the E. coli water quality standard and station 9-SFK001.51 had a 25% exceedance of the E.coli water quality standard.

Stony Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**6.66**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

New River Basin

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

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

City / County: Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 9-TAT000.46, had a 50% exceedance of the E. coli water quality standard.

Tate Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.52**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

New River Basin

Cause Group Code: **N11R-01-BAC** **Reed Creek**

Location: This segment begins at the Gullion Fork confluence and extends downstream to the Venrick Run confluence. It also includes the lower mainstem of Reed Creek from its confluence with an unnamed tributary east of Route 21 to the confluence with Miller Creek.

City / County: Smyth Co Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-RDC046.65, had a 25% exceedance of the E.coli water quality standard. Station 9-RDC038.01 had a 41% exceedance of the E. coli standard and station 9-RDC033.78 had a 67% exceedance.

Reed Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**42.16**

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

Sources:

Animal Feeding Operations (NPS)	Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Source Unknown
Unrestricted Cattle Access			

New River Basin

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

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

City / County: Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 9-MER000.09, had a 75% exceedance of the E.coli water quality standard.

Miller Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.18**

Sources:

Rural (Residential Areas) Source Unknown Unrestricted Cattle Access

New River Basin

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

Location: This segment includes the mainstem of Miller Creek from the West Fork confluence downstream to Max Meadows. It also includes an unnamed tributary of Reed Creek that drains the Wytheville Community College at the east end of the town of Wytheville.

City / County: Wythe Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station 9-MER002.99 was impaired based on the VSCI score of 38 and station 9-XES000.94 was impaired based on VASCI scores of 41 and 51.

Reed Creek tributary and Miller Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**5.72**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

New River Basin

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

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

City / County: Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

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

McGavock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.45**

Sources:

Animal Feeding Operations (NPS)	Livestock (Grazing or Feeding Operations)

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

Cause Group Code: **N12R-01-BAC** **Cove Creek**

Location: This segment includes the lower Cove Creek mainstem from St. Lukes Fork downstream to the confluence with Reed Creek.

City / County: Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station, 9-CVR003.88, had a 58% exceedance of the E.coli water quality standard.

Cove Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.10**

Sources:

Livestock (Grazing or Feeding Operations)

New River Basin

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

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

City / County: Carroll Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 9-RIC049.29 had a 44% exceedance of the E.coli water quality standard.

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**19.16**

Sources:

Source Unknown

New River Basin

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

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

City / County: Carroll Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Probabilistic Monitoring station located at 9-RIC051.80 was impaired based on the VSCI scores of 53 for both Spring and Fall in 2004.

Big Reed Island Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**19.16**

Sources:

Source Unknown

New River Basin

Cause Group Code: **N13R-01-TEMP** **Snake Creek**

Location: This segment begins at the confluence with Big Reed Creek and extends 3.2 miles upstream.

City / County: Carroll Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

Station 9-SKE000.98 had an 11% exceedance of the temperature water quality standard.

Snake Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.54**

Sources:

Grazing in Riparian or Shoreline Zones	Source Unknown

New River Basin

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

Location: This segment includes the mainstem of Big Reed Island Creek from the confluence of Snake Creek downstream to the confluence with Bobbitt Creek. It also includes the mainstem from the Island Creek confluence downstream to the Big Branch confluence.

City / County: Carroll Co Pulaski Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station, 9-RIC029.23, had a 14% exceedance of the fecal coliform water quality standard and station 9-RIC018.90 had a 33% exceedance of the E. coli water quality standard.

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.58**

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.49**

Sources:

Source Unknown

New River Basin

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

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

City / County: Floyd Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 9-GSC000.03 had a 33% exceedance of the E.coli water quality standard.

Greasy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**13.12**

Sources:

Grazing in Riparian or Shoreline Zones

New River Basin

Cause Group Code: **N14R-02-TEMP** **Big Reed Island Creek**

Location: This segment includes Big Reed Island Creek from the Bobbitt Creek confluence to the Greasy Creek confluence and Greasy Creek from the Carroll - Floyd County line downstream to the Big Reed Island confluence.

City / County: Carroll Co Floyd Co Pulaski Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station at 9-RIC018.90 had a 22% exceedance of the temperature water quality standard.

Big Reed Island Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**26.70**

Sources:

Source Unknown

New River Basin

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

Location: This segment includes the lower mainstem of Big Reed Island Creek from the Greasy Creek confluence downstream to the New River confluence.

City / County: Carroll Co Pulaski Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The AWQM station located at 9-RIC000.50 had a 33% exceedance of the E. coli water quality standard.

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.77**

Sources:

Source Unknown

New River Basin

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

Location: A Big Reed Island Creek tributary northeast of Hillsville.

City / County: Carroll Co Floyd Co Pulaski Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic sampling at 9-ISL003.05 indicated impairment of the aquatic life use. In spring 2010 VSCI was 55.

Island Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**6.21**

Sources:

Source Unknown

New River Basin

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

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

City / County: Carroll Co Pulaski Co Wythe Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

AWQM station 9-LRI001.62 had a 44% exceedance of the E.coli water quality standard, station 9-LRI009.11 had a 22% exceedance, station 9-LRI017.64 had a 55% exceedance, station 9-LRI023.48 had a 66% exceedance, and station 9-LRI031.58 had a 37% exceedance of the E. coli water quality standard.

Little Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**34.87**

Sources:

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

New River Basin

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

Location: This segment begins approximately 1 mile below the Hillsville water intake and continues downstream to the Big Reed Island Creek confluence.

City / County: Carroll Co Pulaski Co Wythe Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

AWQM station 9-LRI001.62 had a 22% exceedance of the temperature water quality standard and station 9-LRI017.64 had a 25% exceedance of the temperature standard.

Little Reed Island Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**19.34**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

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

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

City / County: Radford City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Fecal coliform (FC) bacteria excursions of the former WQS 400 cfu/100 ml instantaneous criterion cause non-support of the Recreational Use for 2.75 miles. The impairment for the 2004 303(d) Listed water remains. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-CNL000.01 (Bissett Park Bridge, Radford) 2012 and 2010 E.coli data exceed the 235 cfu/100 ml instantaneous criterion in four of 12 samples. Excessive values range from 260 to 1260 cfu/100 ml. The 2006 assessment finds FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in three of 11 observations. The range of excursions is from 500 to 1900 cfu/100 ml. The initial 2004 303(d) Listing is based on FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in three of nine observations with the range of exceedance the same as 2006.

Connellys Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.75**

Sources:

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

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

Cause Group Code: **N18R-03-BAC** **Plum Creek**

Location: The upstream limit is the headwaters of Plum Creek extending downstream to its mouth on the New River.

City / County: Montgomery Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This 2004 303(d) Listed water extends for 4.51 miles on Plum Creek. The original Listing basis is two of nine fecal coliform observations exceeding the former 400 cfu/100 ml instantaneous criterion. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-PLM000.60 (Rt. 11 just above the mouth of Plum Creek) There are no additional data beyond the 2010 IR. Both the 2012 and 2010 assessments find Escherichia coli (E.coli) exceeds the WQS 235 cfu/100 ml instantaneous criterion in four of 12 observations. Values in excess of the instantaneous criterion range from 240 to 1020 cfu/100 ml. Fecal coliform (FC) exceeds the former WQS 400 cfu/100 ml instantaneous criterion in two of 11 observations in 2006 and 2008. Values in excess of the former standard are 1100 and 1500 cfu/100 ml.

9PLM-2-NCNR (Plum Cr. Rd. Bridge Off Rt. 11) The 2012 assessment finds full support from E.coli results where no exceedances are recorded from 11 samples. This station is located near the headwaters of Plum Cr. The maximum E.coli result is 225 cfu/100 ml.

Additional data needed to determine the listing status (impaired/not impaired) of these waters in subsequent assessment cycles.

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

Sources:

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

New River Basin

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

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

City / County: Floyd Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The original 2004 10.91 mile fecal coliform (FC) bacteria 303(d) Listing is extended downstream 8.60 miles and upstream 14.04 miles based on Escherichia coli (E.coli) bacteria collections within the 2006 data window. The waters are impaired for 33.55 miles for failure to support the Recreational Use. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

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

9-LRV065.57 (Rt. 639 Bridge) There are no additional data beyond the 2008 IR. The 2008 assessment finds E.coli exceeds the instantaneous criterion in four of 11 samples. Exceeding values range from 430 to 800 cfu/100 ml. 2006 E.coli exceedances are three of nine samples with the same range of exceedance as in 2008.

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

9-LRV044.49 (Rt. 615 Bridge) There are no additional data beyond the 2008 IR where E.coli exceedances are found in three of 11 observations. Exceeding values range from 380 to greater than 2000 cfu/100 ml. Two of eight E.coli exceedances are found in 2006 at 380 and 450 cfu/100 ml.

Little River (Upper) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**33.55**

Sources:

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

New River Basin

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

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

City / County: Floyd Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

The 303(d) Listed natural trout water temperature impairment is extended both upstream and downstream in 2008 from the original 10.91 mile impairment defined by station 9-LRV056.74 in 2002. The upstream extension is based on station 9-LRV065.57 for an additional 14.04 miles. And the downstream extension on station 9-LRV044.49 for an additional 8.60 miles. Total non-support of the Aquatic Life Use is 33.55 miles.

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

9-LRV056.74- (Rt. 221 Bridge) There are no additional data beyond the 2008 IR where temperature exceedances of the natural trout water criterion occur in two of 12 measurements. The excursions occur on 8/02/2004 at 21.4 °C and 6/29/2005 at 21.3°C within the 2008 data window. The 2006 Integrated Report (IR) records two of 12 temperature measurements exceeding the criterion with excursions in May of 2000 (at 21.2°C) and August of 2004 (at 21.4 °C). Two of 11 measurements exceed in 2004. The exceedances occur in July 1998 (at 25.7°C) and May of 2000 (at 21.2°C). The 2002 assessment found temperature exceeds in three of 16 measurements occurring in July 1997 and 1998 (2) and one in May of 2000.

9-LRV044.49- (Rt. 615 Bridge) There are no additional data beyond the 2008 IR where two temperature measurements exceed the Class VI 20 °C natural trout criterion at 23.3 °C (8/02/2004) and 22.8°C (6/29/2005) from 12 measurements.

Little River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**33.55**

Sources:

Source Unknown

New River Basin

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

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

City / County: Floyd Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreational Use remains impaired for 3.70 miles for the original 2006 303(d) Listing.

9-MDR000.34 (Rt. 641 Bridge) Nine of 15 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2012 data window. Exceeding values range from 400 to 1200 cfu/100 ml. The 2008 and 2010 IRs report four of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 630 to greater than 2000 cfu/100 ml. The 2006 range of exceedance is the same from three of nine E.coli observations.

Meadow Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.70**

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

New River Basin

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

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

City / County: Floyd Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 assessment finds the Aquatic Life Use impaired for 3.70 miles from the results of Virginia Stream Condition Index (VSCI) surveys.

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

Meadow Run **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**3.70**

Sources:

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

New River Basin

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

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

City / County: Floyd Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The waters remain impaired for non-support of the Recreational Use. Bacteria exceedances cause the 2006 303(d) Listing for 3.68 miles.

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

Pine Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.66**

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			

New River Basin

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

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

City / County: Floyd Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

The 2010 assessment finds the Aquatic Life Use is not supported due to temperature exceedances of the WQS Class VI natural trout water criterion. The impairment extends 3.68 miles.

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

Pine Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**3.66**

Sources:

Source Unknown

New River Basin

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

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

City / County: Floyd Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

9-DDW000.02 (Rt. 807 Bridge) 2012 Class VI temperature exceedances of the 20°C criterion are found in three of 24 measurements occurring on 7/18/2007 at 20.9°C: 9/11/2007 at 22.3°C and 24.3°C on 8/5/2010. Temperature exceedances within the 2010 data window are found in two of 12 measurements that occur on 7/18/2007 at 20.9°C and 9/11/2007 at 22.3°C. 2002 IR reports temperature exceeds the 20° natural trout criterion in two of two measurements. Exceeding values are 23.3°C on 7/28/99 and 20.1°C on 6/28/00. The 2002 Temperature 303(d) Listing remains.

West Fork Dodd Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**1.17**

Sources:

Source Unknown

New River Basin

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

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

City / County: Floyd Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

The 2012 assessment finds the Aquatic Life Use is impaired for 8.47 miles due to temperature exceedances of these Class V (21°C) stockable trout waters criterion. The impairment is extended upstream 2.19 miles with citizen data from station 9DDD-1-NCNR in the 2010 assessment. The temperature Total Maximum Daily Load (TMDL) Study is currently in draft.

Dodd Creek (Lower): Length 3.78 miles.
9-DDD002.62- (Route 696 Bridge below Floyd STP) The 21°C Class V criterion exceeds in four of 33 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; 21.7°C on 9/11/2007 and 23.9°C on 8/5/2010 within the 2012 data window. The 2010 IR finds three of 21 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; and 21.7°C on 9/11/2007. 2008 results report two of nine measurements at 22.2°C on 8/10/2005 and 21.6°C on 8/14/2006.

9-DDD001.00- (Route 8 Bridge below Floyd STP) The 2012 IR reports The stockable trout water criterion exceeds in four of 33 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; 21.1°C on 9/11/2007 and 23.7°C on 8/5/2010. The 2010 assessment finds the stockable trout water criterion exceeds in three of 21 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; and 21.1°C on 9/11/2007. The 2008 IR found two of nine temperature measurements exceed the Class V criterion at 22.0 on 8/10/2005 and 22.1°C on 8/14/2006.

Dodd Creek (Upper) Length 4.69 miles.
9DDD-1-NCNR (Rt. 710 Bridge) 2012 Citizen Level 3 data finds three of 14 temperature measurements exceed the Class V criterion of 21°C at 25°C on 6/8/2008; 22.5°C on 8/10/2008; and 22.5°C on 9/14/2008. The 2010 data window reveals three of eight temperature measurements exceeding the criterion on the same dates in 2010. These data extended the temperature impairment upstream 2.19 miles in 2010.

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

Historically stations 9-DDD006.27 (Rt. 8 Bridge), 9-DDD004.75 (Rt. 720 Bridge) and 9-DDD004.64 (Route 720 Bridge above Floyd STP) have recorded temperature excursions upstream albeit in drought conditions. 9-DDD006.27 21.6°C on 7/28/99 - One of two temperature measurements exceed the 21°C criterion. 9-DDD004.75 records one excursion at 21.9°C on 7/28/99. The extension of the impairment to the mouth of the West Fork of Dodd Creek is in recognition of these data and temperature exceedances on the West Fork of Dodd Creek.

Dodd Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**8.47**

Sources:

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

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

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

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

City / County: Floyd Co Montgomery Co Pulaski Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

Exceedances of the former WQS fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml required the initial 2002 bacteria 303(d) Listing based on data from the United States Geological Survey (USGS) station 03170000. Two of 14 observations exceed the former instantaneous criterion. Application of the revised 400 cfu/100 ml instantaneous criterion would result in four of 14 exceedances above the former criterion ranging from 420 to 14,900 cfu/100 ml. Due to the previous 2002 1.35 mile riverine 303(d) Listing from Meadow Creek confluence downstream to the backwaters of Little River Reservoir and 2004 bacteria results from 9-LRV000.34 the riverine impairment is extended 0.48 miles downstream. The 2012 Integrated Report (IR) extends the upper limit to the confluence of Dodd Creek incorporating the West Fork of Little River. The impounded waters (60.44 acres) of Little River Reservoir are now bacteria impaired and were incorporated with the 2008 IR.

The 2004 IR establishes a 13.33 mile bacteria impairment at 9-LRV032.72 where three of eight fecal coliform bacteria observations exceed the former WQS 400 cfu/100 ml instantaneous criterion within the 2004 data window. Exceedances range from 600 to 1100 cfu/100 ml. The 2004 303(d) List describes the impaired extent from the end of Rt. 706 downstream to the confluence of Sidney Creek. This 2004 portion of Little River is separate from the original 2002 bacteria 303(d) Listing because of hydrology and the lack of bacteria data between the two initial listings on the mainstem of Little River.

Additional bacteria sample collection within the 2008 and 2010 data windows define the entire 39.05 mile impairment below. Future assessment and 303(d) Listings replace fecal coliform with Escherichia coli (E.coli) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

West Fork Little River:
9-LWF004.55 (Rt 8 Bridge, North of Floyd)- Five of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 2012. Excessive values range from 280 to greater than 2000 cfu/100 ml.

Little River:
9-LRV044.49 (Rt. 615 Bridge) There are no additional data beyond the 2008 IR. E.coli exceedances are found in three of 11 observations within the 2008 and 2010 data windows. Exceeding values greater than the instantaneous criterion of 235 cfu/100 ml range from 380 to greater than 2000 cfu/100 ml. Two exceedances from eight E.coli observations exceed the instantaneous criterion in 2006. Exceeding values are 380 and 450 cfu/100 ml.

9-LRV032.72 (Rt. 617 Bridge) There are no additional data beyond the 2006 IR where four of 11 FC observations exceed the former WQS 400 cfu/100 ml instantaneous criterion. Exceedances range from 600 to 3,300 cfu/100 ml. The same total observations and exceedances are found within the 2008 data window. The remaining FC data within the 2010 data window find one of three samples in excess of the former instantaneous criterion at 3300 cfu/100 ml. There are no Escherichia coli (E.coli) data to assess.

9-LRV016.68 (Rt. 787 Bridge) The 2012 assessment finds two of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 380 and 1200 cfu/100 ml. Data within the 2010 data window find one of two FC samples exceed the former WQS instantaneous criterion of 400 cfu/100 ml at greater than 8000 cfu/100 ml. There are no Escherichia coli (E.coli) data to assess. Two of 10 FC samples exceed the instantaneous criterion within both the 2006 and 2008 data windows. Each excursion is 900 and greater than 8000 cfu/100 ml. There are no additional beyond the 2006 IR. The same total observations and exceedances are found within the 2008 data window.

9-LRV009.11 (Route 693 Bridge at Graysontown) Two of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 400 and 1000 cfu/100 ml in 2012. Data within the 2010 data window find one of three samples in excess of the former WQS instantaneous criterion of 400 cfu/100 ml at 500 cfu/100 ml. Data within both the 2006 and 2008 Irs reveal FC exceeds the instantaneous criterion in two of 11 samples at 500 and 600 cfu/100 ml. The same total observations and exceedances are found within the 2008 data window. Note: USGS 03170000 (Little R. at Graysontown) an original 2002 listing station is at the same location.

New River Basin

9-LRV000.44 (Above Little River Dam) There are no additional data beyond the 2010 IR where E.coli exceeds the 235 cfu/100 ml instantaneous criterion in two of seven observations. Exceeding values are 420 and 1000 cfu/100 ml.

9-LRV000.34 (Route 605 Bridge- below Little River Dam) Both 2012 and 2010 E.coli data exceed the 235 cfu/100 ml instantaneous criterion in three of 12 samples. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. Data within the 2008 data window find four of 14 FC samples in excess of the former 400 cfu/100 ml criterion. The range of exceedance is from 500 cfu/100 ml to 7300. The same four exceeding values are found in the 2006 IR from 20 FC observations.

Little River (Lower) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:		**60.44**	**22.09**

Little River (Lower) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**21.34**

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

New River Basin

Cause Group Code: **N21R-01-BEN** **Little River**

Location: Little River from the mouth of the West Fork of Little River downstream to the confluence of Sidney Creek.

City / County: Floyd Co Montgomery Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 initial 303(d) Listing continues. The 2008, 2010 and 2012 assessments find the Aquatic Life Use is impaired due to impacts to the benthic community for 16.99 miles.

9-LRV035.03- (Upstream of Laurel Fork Mouth) Bio 'IM' There are no additional data beyond the 2008 Integrated Report (IR). Two 2004 Virginia Stream Condition Index (VSCI) surveys with an average score of 57.7. Spring score is 52.2 and fall 62.1. There is less taxonomic diversity in the fall sample, but included a higher percentage of pollution sensitive organisms. In-stream habitat impacts include sediment deposition and lack of diversity in substrate and cover available for fish and benthic macroinvertebrates. The riparian buffer on one bank was impacted by hay fields. Approximately 40% of the land cover upstream of this station is agriculture, potentially impacting the amount of sediment entering the river.

Little River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**16.99**

Sources:

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

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

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

City / County: Montgomery Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

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

9-MDW004.62- Both 2012 and 2010 data produce six exceeding values from 12 observations of the Escherichia coli (E.coli) 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 280 to greater than 2000 cfu/100 ml. The 2006 IR finds FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion in six of 11 observations. The range of exceeding values is from 700 to greater than 8000 cfu/100 ml. FC exceedances and total observations within the 2008 data window are the same.

Meadow Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**4.49**

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			

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

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

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

City / County: Montgomery Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The 2004 Recreational Use impairment continues for 5.76 miles originally due to fecal coliform (FC) bacteria exceedances of the former instantaneous criterion of 400 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

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

Brush Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**5.76**

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			

New River Basin

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

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

City / County: Floyd Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A

Fecal coliform (FC) bacteria exceedances cause this initial 2004 303(d) Listed water to not support the Recreational Use for 3.26 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].

9-LLL000.05- The 2012 assessment finds five of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. The range of exceeding values is 380 to 1200 cfu/10 ml. FC data within the 2010 data window find one of two samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml. Both the 2006 and 2008 Integrated Reports (IR) find FC exceeds the former WQS 400 cfu/100 ml instantaneous criterion in five of 10 samples. The exceedances range from 600 to 2800 cfu/100 ml. FC data within the 2010 data window find one of two samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml.

Laurel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**3.26**

Sources:

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

New River Basin

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

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

City / County: Floyd Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

9-BIC000.14 (Rt. 787 Bridge)- These waters are initially 2010 303(d) Listed due to Escherichia coli (E.coli) excursions of the WQS 235 cfu/100 ml instantaneous criterion. E.coli results find four of 12 samples in excess of the instantaneous criterion with excursions ranging from 350 to 950 cfu/100 ml. There are no additional data beyond the 2010 Integrated Report (IR).

Big Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.56**

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			

New River Basin

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

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

City / County: Montgomery Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Fecal coliform (FC) bacteria exceedances of the former 1000 cfu/100 ml WQS instantaneous criterion in 2002 cause impairment of the Recreational Use. Three of 23 observations exceed the former criterion at station 9-STE002.41 Rt. 705 Bridge (Coal Hollow Road). The 2004 IR at 9-STE002.41 records four exceedances from 35 samples in excess of the current 400 cfu/100 ml WQS instantaneous criterion. Escherichia coli (E.coli) bacteria replaced fecal coliform (FC) in 2006 as the indicator as required by Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 2008 results find E.coli exceedances at 9-STE002.41 are three of 31 samples and resulted in 2.10 miles de-listed with the 2008 IR.

This 2.10 mile portion, delisted (partial - length) with the 2008 assessment, but returned with the 2010 303(d) Listing. The original 7.08 mile impairment returned with the 2010 assessment.

9-STE002.41- (Rt. 705 Bridge- Coal Hollow Road) The 2012 data window finds eight of 36 observations exceeding the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 280 to greater than 2000 cfu/100 ml. 2010 Escherichia coli (E. coli) samples find eight exceed the 235 cfu/100 ml criterion from a total of 32 samples with the same range of exceedance.

9-STE007.29 (Rt. 657 Bridge below old B'Burg STP) The 2012 IR reports eight E.coli samples exceed the instantaneous criterion from a total of 33. Exceeding values range from 280 to greater than 2000 cfu/100 ml. 2010 results find eight exceed from a total of 32 samples with the same range of exceedance as 2012. E.coli results exceed in five of 25 samples. The 2008 exceedance range is from 300 to greater than 2000 cfu/100 ml. 2006 E.coli samples reveal five exceed the instantaneous criterion from a total of 16. Exceeding values range from 490 to greater than 5000 cfu/100 ml.

Stroubles Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**7.08**

Sources:

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

New River Basin

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

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

City / County: Montgomery Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

The initial 2008 5.23 mile impairment is extended upstream 5.72 miles with data provided by the National Committee for the New River (NCNR). The 2012 Integrated Report finds the Aquatic Life Use is impaired for 10.95 miles based on the initial 2008 temperature exceedances and 2012 Citizen temperature measurements of the Class V 21°C stockable trout water criterion.

9TOM-1-NCNR (Off Glade Rd. at Heritage Park Trail) Two temperature measurements exceed the Class V 21°C criterion at 24.5°C on 7/19/2010 and 24.0°C on 8/19/2010 from 10 measurements for 2012.

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

9TOM-2-NCNR (Poverty Creek Rd. Bridge) Three temperature exceedances of the Class V 21°C criterion occur on 6/16/2010 at 22°C; 7/19/2010 at 24.0°C and 8/16/2010 at 24.5°C from 11 measurements for 2012.

Toms Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**10.95**

Sources:

Source Unknown

New River Basin

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

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

City / County: Montgomery Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 assessment finds the Aquatic Life Use via the General Standard (Benthic) is impaired for a total of 2.64 miles. Unnamed Tributary to Slate Branch- XEH for 1.79 miles and Unnamed Tributary XEJ to XEH for 0.85 miles. There are no additional data beyond the 2008 Integrated Report (IR).

9-XEH000.75- (Downstream of Villages Development at NRV Mall) Bio 'IM' Two 2006 Virginia Stream Condition Index (VSCI) surveys with an average score of 23.1. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream near the New River Valley Mall complex. A crayfish/macro invertebrate kill in January 2006 impacted the stream with the source occurring somewhere above this station. The most noticeable difference between this site and the reference station is the low abundance of organisms collected in the spring sample compared to the reference site. The abundance increased in the fall and is comparable to the reference site (Falling Branch).

9-XEJ000.10- (North of NRV Mall) Bio 'IM' Two 2006 VSCI surveys with an average score of 23.8. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream and north of the New River Valley Mall and above the Huckleberry Tail crossing. The main source of impact appears to be recent development and urban land use resulting in altered hydrology, excessive storm water runoff, sediment deposition, bank erosion, and riparian vegetation removal.

Unnamed Tributaries XEJ and XEH to Slate Branch **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**2.64**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization

New River Basin

Cause Group Code: **N23R-01-BAC** **Sinking Creek**

Location: Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of Gravel Hill Branch.

City / County: Craig Co Giles Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The initial 20.96 mile 2010 303(d) Listing of these waters is due to bacteria excursions of the WQS instantaneous criterion for Escherichia coli (E.coli).

9-SNK012.06 (Rt. 42 Bridge)- Three of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The exceedance range is from 250 to greater than 2000 cfu/100 ml.

9-SNK005.38 (Rt. 778 Bridge)- There are no additional data beyond the 2010 Integrated Report (IR) where E.coli excursions of the instantaneous criterion occur in two of 11 observations. Values in excess of the instantaneous criterion are 480 and 600 cfu/100 ml.

Sinking Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**20.96**

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			

New River Basin

Cause Group Code: **N23R-01-TEMP** **Sinking Creek**

Location: Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of an unnamed tributary near the Rt. 700 crossing.

City / County: Craig Co Giles Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5C

The 2010 assessment reveals a 2.99 mile excursion of the stockable trout water criterion.

9-SNK005.38 (Rt. 778 Bridge)- There are no additional data beyond the 2010 Integrated Report (IR). Temperature exceeding values are found in three of 14 measurements. Measurements in excess of the Class V 21°C criterion occur on 7/11/2007 at 21.4°C, 21.2°C on 7/9/2008 and 22.4°C on 9/2/2008.

Sinking Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**2.99**

Sources:

Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

Cause Group Code: **N25R-01-BAC** **Walker Creek and Town Creek**

Location: Walker Creek from the Rt. 52 crossing downstream the confluence of Walker Creek on the New River

City / County: Bland Co Giles Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The 2006 Integrated Report (IR) initially found 68.07 miles impaired for bacteria. This fact sheet describes the lower half (34.92 miles) of the bacteria impairment.

9-WLK058.04 (Bridge #6011 on Rt. 604 near Bland) The bacteria impairment remains as there are no additional data beyond the 2006 IR where two of 12 FC samples exceed the 400 cfu/100 ml WQS instantaneous criterion. Each exceedance is 700 and 800 cfu/100 ml. Escherichia coli (E.coli) will replace fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-WLK044.06 (Rt. 738 Bridge 0.5 mi. S. of Mechanicsburg) There are no additional data beyond the 2008 assessment. E.coli bacteria exceed the 235 cfu/100 ml instantaneous criterion in four of 12 samples. Exceeding values range from 275 cfu/100 ml to greater than 2000. Both the 2006 and 2008 assessments are based on these data.

9-WLK004.34 (Route 622 Bridge - Giles Co.) There are no additional data beyond the 2008 IR. Two of 12 E.coli samples exceed the instantaneous criterion in 2008 where both exceeding values are greater than 800 cfu/100 ml. The 2006 IR reports two of nine excursions with the same exceeding values.

The AWQM station located at 9-WLK060.32 had an exceedance of the E. coli water quality standard and station 9-TNC000.53 had an 83% exceedance of the E. coli water quality standard.

Walker Creek and Town Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**72.04**

Walker Creek and Town Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**24.46**

Sources:

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

New River Basin

Cause Group Code: **N26R-01-BAC** **East Wilderness Creek, Nobusiness Creek and Kimberling Creek**

Location: This segment includes the mainstem of Nobusiness Creek from the Kimberling Creek confluence upstream 6.4 miles, and East Wilderness Creek from the confluence with Wolfpen Branch upstream 3.2 miles.

City / County: Bland Co Giles Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 9-KBL007.29 had a 31% exceedance of the bacteria standard. AWQM station 9-EWL000.06 had 22% of the samples exceed the E.coli water quality standard. Station 9-NBS000.70 had a 33% exceedance of the E. coli water quality standard.

East Wilderness Creek, Nobusiness Creek and Kimberling Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**9.57**

East Wilderness Creek, Nobusiness Creek and Kimberling Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.74**

Sources:

Grazing in Riparian or Shoreline Zones

Unrestricted Cattle Access

New River Basin

Cause Group Code: **N27R-01-BAC** **Little Walker Creek**

Location: Little Walker Creek mainstem from its confluence with Walker Creek upstream to the mouth of Spur Branch.

City / County: Pulaski Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The initial 2004 303(d) Listing of these waters is the result of fecal coliform (FC) bacteria exceedances (two exceeding from 18 observations) causing a 17.16 mile impairment. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LWK000.77 (Rt. 100 Bridge) There are no additional data beyond the 2008 IR. The 2008 assessment finds E.coli exceed the 235 cfu/100 ml instantaneous criterion in five of 12 samples. Values exceeding the criterion range from 320 to 500 cfu/100 ml. Four of nine excursions are reported in 2006 with the range of exceedance from 350 to 500 cfu/100 ml.

Little Walker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**17.16**

Sources:

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

New River Basin

Cause Group Code: **N29R-01-PCB** **New River, Claytor Lake, Peak Creek, Reed Creek and Stony Creek**

Location: The impairment begins at the I-77 bridge crossing the New River and extends downstream to the VA/WV State Line and includes the tributaries Peak Creek and Reed Creek and Stony Creek as described below.

City / County: Giles Co Montgomery Co Pulaski Co Radford City Wythe Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The Virginia Department of Health (VDH) issued a fish consumption advisory on August 6, 2001 for polychlorinated biphenyls (PCBs) for the lower portion of the New River (Rt. 114 Bridge downstream to the VA / WV State Line - 52.0 miles) based on fish tissue collections from Carp. An Advisory extension to Claytor dam was issued 8/06/2003 (11.47 miles) recommends that no carp be consumed in these waters and no more than two meals per month of flathead and channel catfish. The VDH PCB Fish Consumption Advisory was further extended upstream on the New River (13 miles) to the I-77 Bridge to include the lower portions of Peak Creek (4.02 miles), Reed Creek (16.35 miles) and Claytor Lake (4,287 acres) on 12/02/2004. The VDH advises consumption should not exceed two meals per month for carp and smallmouth bass. The VDH level of concern is 50 parts per billion (ppb) in fish tissue.

There are eight fish tissue collection sites within the 2010 data window reporting exceedances of the WQS based 20 ppb fish tissue value (TV) (VDH 50 ppb). These data are reviewed by the VDH in making an advisory determination. A complete listing of collection sites and associated fish tissue data are available at http://www.deq.virginia.gov/fishtissue/fishtissue.html. A more detailed presentation of the data can also be found using an interactive mapping application at http://www.deq.virginia.gov/. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov/Epidemiology/PublicHealthToxicology/Advisories/.

9-SNC000.20- 2004 fish tissue finds with application of the new WQS TV for PCB (20 ppb) the addition of 3 species exceeding the new TV criterion. Rock Bass (size 16-20 cm) at 25.21, SM Bass (size 28.6-30.5 cm) at 22.13 and White sucker (1 fish) at 30.08 ppb. Stony Creek is therefore a 2010 addition based on the new WQS PCB tissue value of 20 ppb.

Station 9-RDC009.00 exceeded the DEQ screening value for PCBs in a carp sample.

New River, Claytor Lake, Peak Creek, Reed Creek and Stony Creek **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:		**4,286.38**	**98.62**

Sources:

Source Unknown

New River Basin

Cause Group Code: **N30R-01-BAC** **Wolf Creek**

Location: This segment extends from the Burkes Garden Creek confluence downstream between the confluence with Clear Fork and Wilderness Creek.

City / County: Bland Co Tazewell Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 9-WFC039.16 had a 33% exceedance of the E.coli water quality standard. Station 9-WFC050.16 had a 42% exceedance of the E. coli water quality standard and station 9-WFC024.57 had a 42% exceedance of the E. coli water quality standard.

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**28.70**

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.98**

Sources:

Unrestricted Cattle Access

New River Basin

Cause Group Code: **N30R-01-BEN** **Little Creek**

Location: This segment includes the mainstem from the confluence with Wolf Creek upstream to the Tazewell County Sportsmens' Club impoundment.

City / County: Bland Co Tazewell Co

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Benthic station 9-LTL001.22 was impaired based on VSCI scores of 33, 46, and 54 in 2007 and 2008.

Little Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			**1.56**

Sources:

Grazing in Riparian or Shoreline Zones

New River Basin

Cause Group Code: N31R-01-TEMP **Hunting Camp Creek**

Location: This segment extends from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50.

City / County: Bland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The temperature violations in this segment are attributed to loss of riparian vegetation from livestock access to the stream and are addressed in the TMDL that is complete. Station 9-HCC001.40 had a 15% exceedance of the temperature water quality standard and 9-HCC000.57 had a 23% exceedance of the temperature water quality standard

Hunting Camp Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**8.45**

Sources:

Crop Production (Crop Land or Dry Land)	Unrestricted Cattle Access

New River Basin

Cause Group Code: N32R-01-BAC **Wolf Creek**

Location: Wolf Creek mainstem waters downstream to the confluence with the New River.

City / County: Bland Co Giles Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The originally listed 2004 portion of the overall extent described above began near the intersection of Routes 61 and 724 at the confluence of an unnamed tributary extending downstream to the mouth of Wolf Creek on the New River. A total of 5.51 miles.

The 2006 Integrated Report (IR) extends the 2004 303(d) Listed fecal coliform (FC) bacteria impairment 16.42 miles upstream. The total bacteria impairment is 21.93 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-WFC017.31 (Bridge #6065 on Rt. 644 off Rt. 61) Two of 15 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml criterion at 300 and 450 cfu/100 ml within the 2012 data window. The 2010 and 2008 assessments find two of 12 E.coli samples exceed the 235 cfu/100 ml criterion at 420 and 1000 cfu/100 ml. Two of nine E.coli samples exceed the criterion with the same exceedances in 2006.

9-WFC011.05- (Rt. 676 Bridge at Boxely) Both the 2008 and 2010 assessments find E.coli bacteria exceed the instantaneous criterion in two of 10 samples. Exceeding values are both at 700 cfu/100 ml. There are no additional data within the 2012 data window.

9-WFC005.61 (Rt. 673 Bridge at Penvir) There are no additional data beyond the 2008 Integrated Report (IR). E.coli exceedances are found in five of 12 samples in 2008 and 2010. Values in excess of the 235 cfu/100 ml criterion range from 250 to greater than 2000. E.coli exceedances are found in three of nine samples and the same range of exceedance as in 2008.

9-WFC000.20 (Rt. 61 Bridge) The 2012 assessment finds one of 14 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion of 235 cfu/100 ml at 1200. E.coli exceeds the instantaneous criterion in three of 12 samples in 2008 and 2010. Each excursion of the criterion is 520, 900 and 1200 cfu/100 ml. E.coli excursions in 2006 are two of nine samples with each excursion of the criterion at 520 and 900 cfu/100 ml. The 2004 Integrated Report (IR) finds FC exceedances of the 400 cfu/100 ml instantaneous criterion in two of 18 samples resulting in a 2004 impairment listing that remains. Exceeding values are 700 and 1500 cfu/100 ml.

The AWQM station located at 9-CLF000.06 had a 20% exceedance rate of the E.coli water quality standard.

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**30.44**

Sources:

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

New River Basin

Cause Group Code: N33R-01-BAC **Laurel Creek**

Location: This segment extends from Wolf Creek upstream to the confluence of Dry Fork and from Dry Fork downstream to North Gap.

City / County: Bland Co

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli / 5A Fecal Coliform / 5A

The AWQM station located at 9-LAC000.56 had a 33% exceedance of the bacteria water quality standard.

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

Laurel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.60**

Sources:

Rural (Residential Areas) Source Unknown

New River Basin

Cause Group Code: **N33R-01-TEMP** **Dry Fork**

Location: This segment includes Dry Fork downstream to north Gap, excluding the headwaters.

City / County: Bland Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Temperature, water / 5A

The AWQM station located at 9-DYF000.07 has a 17% exceedance of the temperature.

Dry Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature, water - Total Impaired Size by Water Type:			**4.96**

Sources:

Source Unknown

New River Basin

Cause Group Code: **N34R-01-BAC** **Rich Creek**

Location: The impaired waters begin just downstream of Peterstown, West Virginia at the mouth of Brush Creek on Rich Creek and extends to the Rich Creek confluence on the New River (Peterstown, WV Quad).

City / County: Giles Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The 2002 2.75 mile fecal coliform (FC) bacteria impairment remains. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-RHC000.08 (Rt. 806 Bridge) Escherichia coli (E.coli) exceed the 235 cfu/100 ml instantaneous criterion in 14 of 32 samples within the 2012 data window. Exceedances range from 350 to 1010 cfu/100 ml. The 2010 assessment finds E.coli exceed the instantaneous criterion in 10 of 21 samples. Exceedances range from 400 to 1010 cfu/100 ml. E.coli exceed the instantaneous criterion in three of nine samples in 2008 ranging from 400 to 900 cfu/100 ml. Data within the 2006 data window exceed the former FC 400 cfu/100 ml instantaneous criterion in five of nine samples with an exceedance range of 1000 to 2800 cfu/100 ml. The 2004 IR reports FC exceeds the former instantaneous criterion in 10 of 18 samples. Exceeding values range from 500 to 2800 cfu/100 ml.

Rich Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**2.75**

Sources:

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

New River Basin

Cause Group Code: **N35R-01-BAC** **Adair Run**

Location: The Adair Run impairment begins at the Virginia / West Virginia State Line and extends downstream to the Adair Run confluence with the New River.

City / County: Giles Co

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The 2004 303(d) Listed 0.38 mile bacteria impaired waters find the Recreational Use is not supported. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-ADR000.13 (Rt. 648 Bridge) There are no additional data within the 2012 data window. The 2010 assessment finds Escherichia coli exceed the 235 cfu/100 ml WQS instantaneous criterion in three of 20 samples. Values in excess of the criterion are 450, 1050 and 1200 cfu/100 ml. The 2004 IR reports fecal coliform exceeds the former 400 cfu/100 ml instantaneous criterion in six of 26 observations. Exceeding values range from 500 to 4200 cfu/100 ml. FC exceeds the former instantaneous criterion in six of 20 observations within the 2006 data window. Exceeding values range from 500 to 4200 cfu/100 ml. FC data within the 2008 data window find four of 14 samples exceeding the former instantaneous criterion.

Adair Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			**0.38**

Sources:

Unspecified Domestic Waste	Wildlife Other than Waterfowl

New River Basin

Cause Group Code: **N36R-01-CDANE** **Bluestone River**

Location: This segment includes the mainstem from the confluence with Big Branch downstream to West Virginia political boundary; may be found on the Bramwell quad sheet.

City / County: Tazewell Co

Use(s): Fish Consumption

Cause(s) /
VA Category: Chlordane / 5A

The fish tissue and sediment sampling stations at 9-BST069.46 and 9-BST066.94 had total chlordane levels detected in the sediment in 2002 above DEQ's screening value.

Bluestone River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			**0.59**

Sources:

Source Unknown

New River Basin

Cause Group Code: **N36R-01-PCB** **Bluestone River**

Location: This segment begins at the Route 460 bridge downstream to the West Virginia political boundary. It also includes a segment of Beaverpond Creek that flows from West Virginia into Virginia, sometimes under city buildings and streets and into the Bluestone River and Brush Fork from the west Virginia state line to the confluence with the Bluestone River in Falls Mills.

City / County: Tazewell Co

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A PCB in Water Column / 5A

In April 2004 a Special Study was conducted by DEQ and USGS. An SPMD deployed at station 9-BPB000.02 indicated Total PCBs in the water column at 3700pg/l and 1300pg/l in 2005. SPMDs deployed at stations 9-BST066.18, 9-BST068.98 and 9-BST072.65 indicated PCB values of 1800 pg/l, 800 pg/l and 230 pg/l. Fish tissue and sediment stations 9-BST0666.94 and 9-BST069.46 found PCB in exceedance of DEQ's screening values in white suckers. Station 9-BST069.46 also had sediment samples that exceeded the ER_M for PCBs. SPMD sampling in 2004 indicated PCB was 3500 pg/l at station 9-BFK003.14.

Bluestone River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:			**13.20**

Bluestone River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Water Column - Total Impaired Size by Water Type:			**4.39**

Sources:

Inappropriate Waste Disposal	Source Unknown

Appendix 5 - List of Impaired (Category 5) Waters in 2012

New River Basin

Cause Group Code: **N37R-02-DO** **Laurel Fork**

Location: This segment extends from upstream of the Curran Branch confluence at Boissevain to the headwaters.

City / County: Tazewell Co

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The AWQM station located at 9-LRR006.43 had a 15% exceedance of the dissolved oxygen criteria.

Laurel Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			**8.01**

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed