

Virginia Department of Environmental Quality

Water Quality Monitoring Program



Trend Stations

- Historically located, long-term water quality monitoring stations.
- Used to assess changes in water quality over long periods of time.
- Sampled at least 6 times/year.



- Major parameters tested for typically include:
 - Bacteria
 - Dissolved Oxygen
 - Total Nitrogen
 - Total Phosphorus
 - pH
 - Water Temperature
 - Total Suspended Solids
 - Specific Conductance

Trend Stations in the Upper York Tributaries Watersheds:

Pamunkey Creek
Station 8-PMC009.85 at Route 651

Watershed Stations

- Typically located near the mouth of a watershed or subwatershed.
- Designed to provide comprehensive statewide coverage of smaller watersheds.
- Watershed is sampled 12 times over a consecutive two-year period (sampling occurs every other month).
- Each watershed is monitored for a two-year term within a six-year rotational cycle.
- Major parameters tested for typically include:
 - Bacteria
 - Dissolved Oxygen
 - Total Nitrogen
 - Total Phosphorus
 - pH
 - Water Temperature

Watershed Stations in the Upper York Tributaries Watersheds: 2011 - 2012 Rotation

Terrys Run

Station 8-TRY004.98 at Route 629

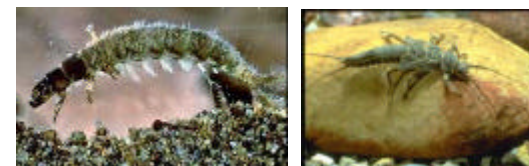
White Creek

Station 8-WHT001.33 at Route 669



Biological Stations

- Sample for benthic macroinvertebrates.
- Collect observational habitat data.
- Sampled on a yearly basis, 2 samples per year (one in the Spring, one in the Fall).
- Evaluate the diversity and abundance of the species present in the sample. Use that information to determine if the stream is healthy.



Biological Stations in the Upper York Tributaries Watersheds: 2011

Beaver Creek

Station 8-BRC001.88 at Route 638

Pamunkey Creek

Station 8-PMC014.75 at Route 630

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8-PMC009.85

The first number identifies the station as being located in a specific river basin within Virginia. For example, “8” means the station is located in the York River Basin.

The three letters are the code for a specific stream. Each stream within a river basin is given a unique identifying stream code. For example, “PMC” refers to the Pamunkey River.

The last five numbers refer to the number of miles upstream from the mouth of a stream the station is located. For example, “009.85” means that the station is located 9.85 rivermiles upstream from the mouth of the Pamunkey River.

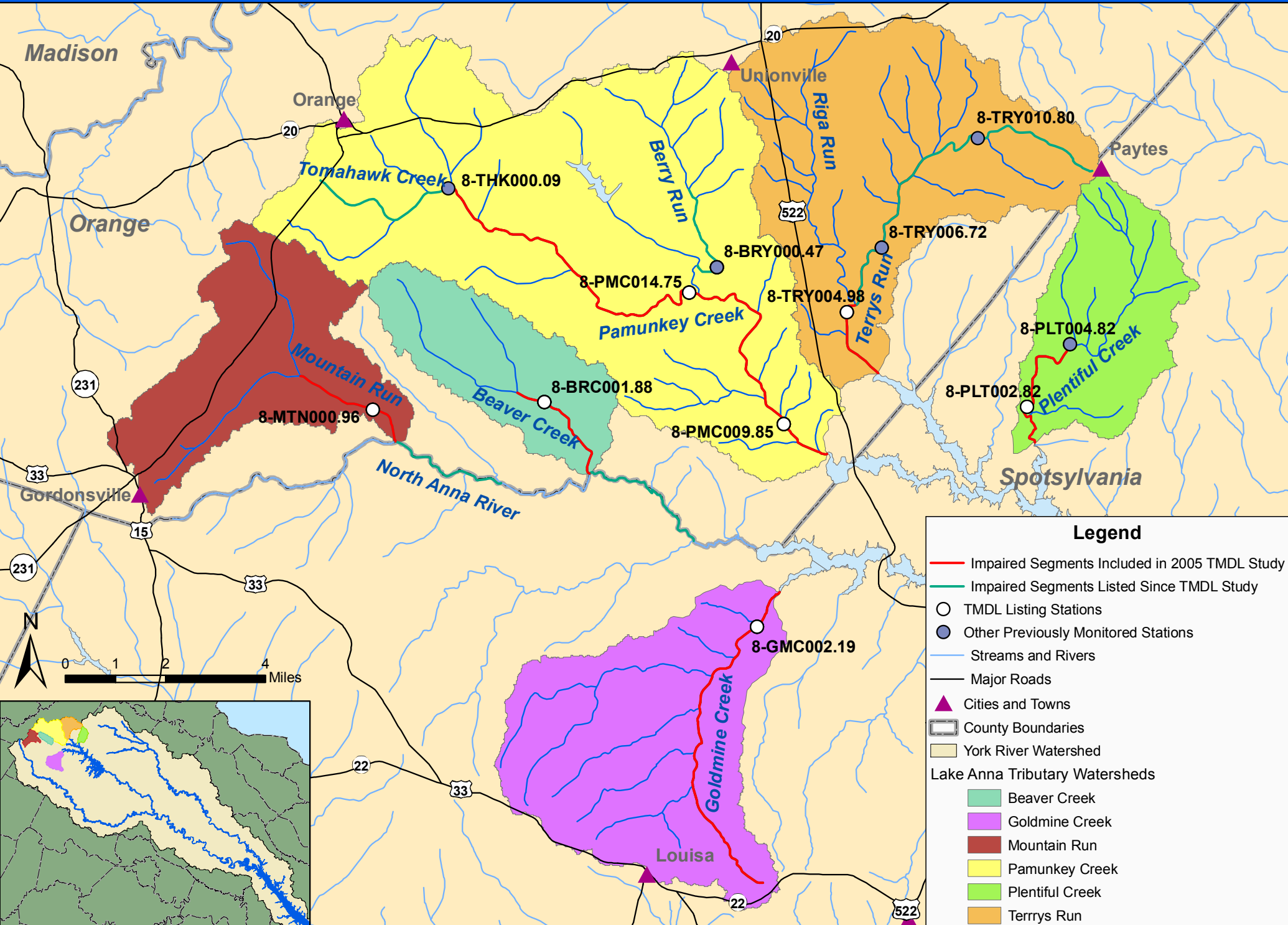


For more information, check out Virginia's Water Quality Monitoring Programs website:
<http://www.deq.virginia.gov/watermonitoring/homepage.html>



Stations are placed at locations where DEQ has public access (i.e. bridge crossings)

Upper York Tributaries - Past (1998-2010) DEQ Bacteria Monitoring Stations



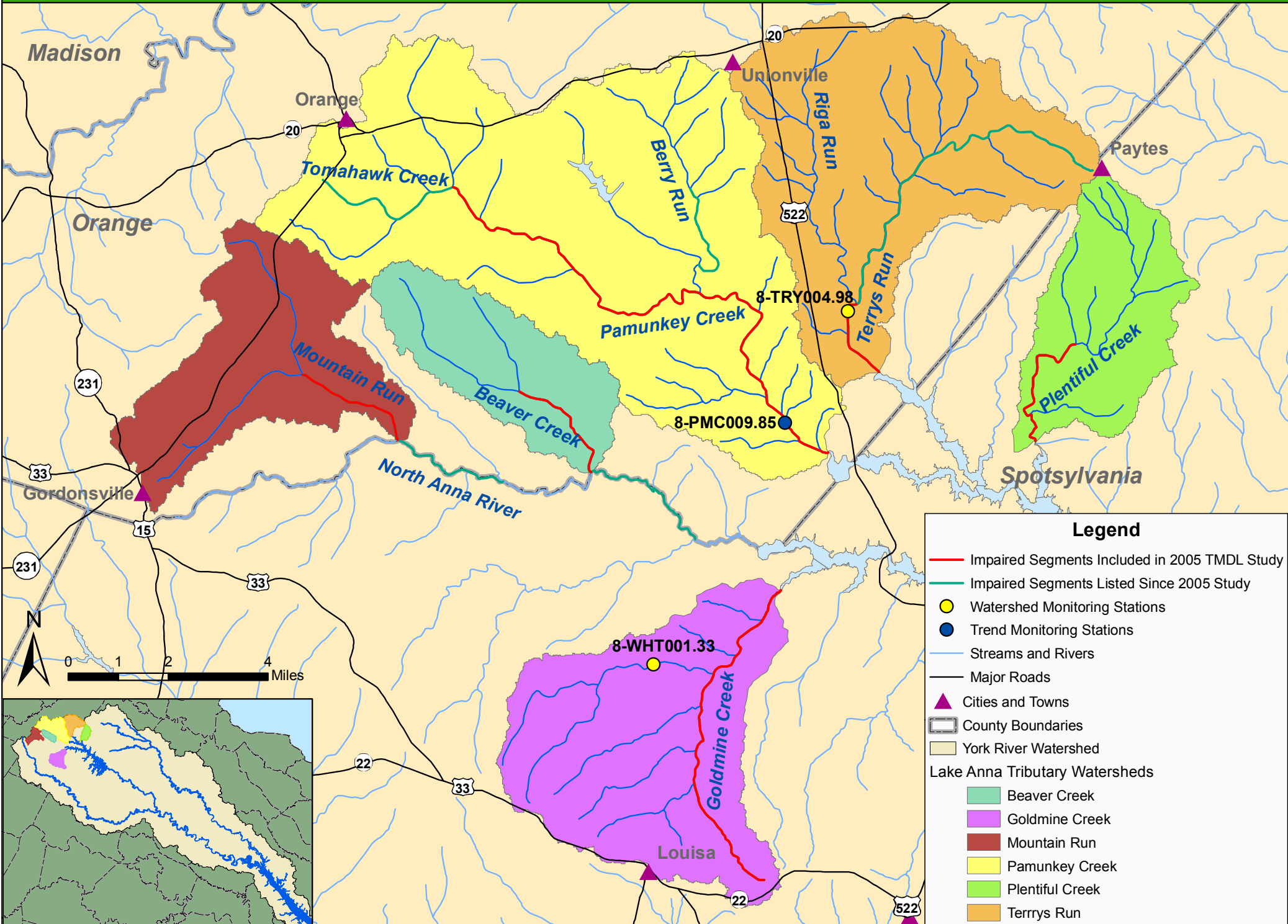
Legend

- Impaired Segments Included in 2005 TMDL Study
- Impaired Segments Listed Since TMDL Study
- TMDL Listing Stations
- Other Previously Monitored Stations
- Streams and Rivers
- Major Roads
- ▲ Cities and Towns
- ▭ County Boundaries
- ▭ York River Watershed

Lake Anna Tributary Watersheds

- ▭ Beaver Creek
- ▭ Goldmine Creek
- ▭ Mountain Run
- ▭ Pamunkey Creek
- ▭ Plentiful Creek
- ▭ Terrys Run

Upper York Tributaries - Present (2011-2012) DEQ Bacteria Monitoring Stations



Stream Name and Station ID	Station Location	Date Station was Last Sampled	2004 Exceedance Rate (Fecal coliform)	2006 Exceedance Rate (<i>E. coli</i>)	2008 Exceedance Rate (<i>E. coli</i>)	2010 Exceedance Rate (<i>E. coli</i>)
Beaver Creek 8-BRC001.88	Rt. # 638	12/4/2008	4 of 21 samples (19.0%)	6 of 13 samples (46.2%)	6 of 12 samples (50.0%)	11 of 25 samples (44.0%)
Goldmine Creek 8-GMC002.19	Rt. # 613	12/2/2010	8 of 22 samples (36.4%)	3 of 12 samples (25.0%)	3 of 12 samples (25.0%)	4 of 18 samples (22.2%)
Mountain Run 8-MTN000.96	Rt. # 643	7/13/2004	3 of 17 samples (17.6%)	6 of 12 samples (50.0%)	6 of 12 samples (50.0%)	6 of 12 samples (50.0%)
Berry Run 8-BRY000.47	Rt. # 629	12/28/2010	Not Assessed	8 of 16 samples (50.0%)	8 of 20 samples (40.0%)	8 of 20 samples (40.0%)
Plentiful Creek 8-PLT002.82	Rt. # 653	12/1/2008	4 of 19 samples (21.1%)	3 of 13 samples (23.1%) FC	3 of 13 samples (23.1%) FC*	3 of 12 samples (25.0%)
Plentiful Creek 8-PLT004.82	Rt. # 601	6/29/2005	Not Assessed	7 of 15 samples (46.7%)	7 of 19 samples (36.8%)	7 of 20 samples (35.0%)
Pamunkey Creek 8-PMC009.85	Rt. # 651	6/29/2010	6 of 18 samples (33.3%)	9 of 19 samples (47.4%)	12 of 24 samples (50.0%)	17 of 33 samples (51.5%)
Pamunkey Creek 8-PMC014.75	Rt. # 630	12/28/2010	2 of 13 samples (15.4%)	7 of 16 samples (43.7%)	8 of 20 samples (40.0%)	8 of 20 samples (40.0%)
Tomahawk Creek 8-THK000.09	Rt. # 733	6/2/2005	2 of 10 samples (20.0%)	2 of 7 samples (28.6%) FC	2 of 7 samples (28.6%) FC*	2 of 7 samples (28.6%) FC*
Terrys Run 8-TRY004.98	Rt. # 629	12/4/2008	6 of 18 samples (33.3%)	8 of 16 samples (50.0%)	8 of 19 samples (42.1%)	9 of 27 samples (33.3%)
Terrys Run 8-TRY006.72	Rt. # 624	12/4/2008	Fully Supporting	2 of 2 samples (100.0%)	2 of 2 samples (100.0%)	3 of 9 samples (33.3%)
Terrys Run 8-TRY010.80	Rt. # 692	12/4/2008	Not Assessed	Not Assessed	Not Assessed	2 of 8 samples (25.0%)

	Impaired (More than 2 exceedances and a greater than 10.5% exceedance rate)
	Not Assessed

* Assessment was carried over from previous year, as no new bacteria data was collected

2004 Assessment used data from: 1998 – 2002
2006 Assessment used data from: 2000 – 2004
2008 Assessment used data from: 2001 – 2006
2010 Assessment used data from: 2003 – 2008

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Link to the Final Upper York River Basin TMDL for Bacteria

EPA Approval Date: 11/04/2005

<http://www.deq.virginia.gov/tmdl/apptmdls/yorkrvr/lakeanna.pdf>