

319H TMDL Implementation Project Report

CRAIG, BROWN & MARSH RUNS

Virginia Nonpoint Source MANAGEMENT PROGRAM

Project Location and Background

The Craig, Brown, and Marsh Run watersheds are located in Fauquier County, VA in the Rappahannock River Basin. The watersheds comprise approximately 29,400 acres, with agriculture and forest as the predominant land uses. Marsh Run, Browns Run, and Craig Run were initially placed on Virginia’s Section 303(d) Total Maximum Daily Load Priority List and Report in 1996, 2002, and 2004 respectively for exceeding the bacteria standard. Bacteria TMDLs were completed for the creeks in April 2007 as part of the Rappahannock River Basin TMDL. A TMDL implementation plan was completed for Craig, Browns and Marsh Runs in November 2010; the implementation project began in January 2012 and has continued through June 2015.

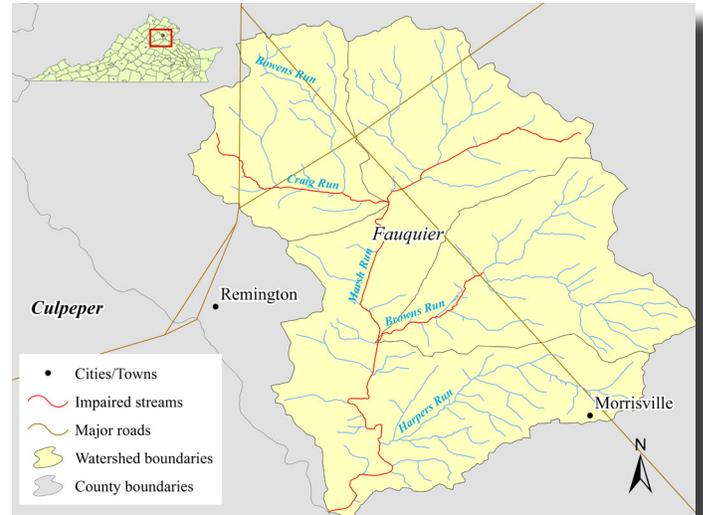


Table 1. Craig, Brown and Marsh Runs BMP Summary:
January 2012 – June 2015

Control measure	Units	Needed	Installed	%
Agricultural				
Livestock exclusion fencing	F	343,320	46,760	14
Livestock exclusion fencing	S	93	11	12
Riparian buffer	A	14,544	444	3
Improved pasture mgmt.	A	80	0	-
Vegetative cover on cropland	A	80	58	72
Residential septic				
Septic tank pumpout	S	40	13	3
Connection to sewer	S	5	0	-
Septic system repair	S	266	1	<1
Septic system installation	S	138	3	2
Alternative waste sewage system	S	44	0	-
Pet waste education pgm.	P	1	1	100

NOTE: BMP counts only include 319 funded projects and BMPs funded by the VA Agricultural Cost Share and Conservation Resource Enhancement Programs; A = Acres, S = System, F = Feet

Implementation Highlights

The John Marshall SWCD administers the implementation project for the Craig, Brown and Marsh Run TMDLs. The SWCD was awarded funds for agricultural and residential BMP implementation in July 2012. The SWCD is working to implement education and outreach strategies that have proven successful in other TMDL implementation project areas including working with home owner associations, community based organizations and local businesses to increase awareness of local water quality issues and the availability of the cost-share assistance. Between July 2014 and June 2015, 152 acres of pasture management, 300 acres of cover crops, and 32 acres of permanent vegetative cover on cropland were implemented/planted. In addition, six livestock stream exclusion projects were completing during this period, totaling 24,480 linear feet of fencing. A summary of the BMPs installed since this project began is provided in Table 1.

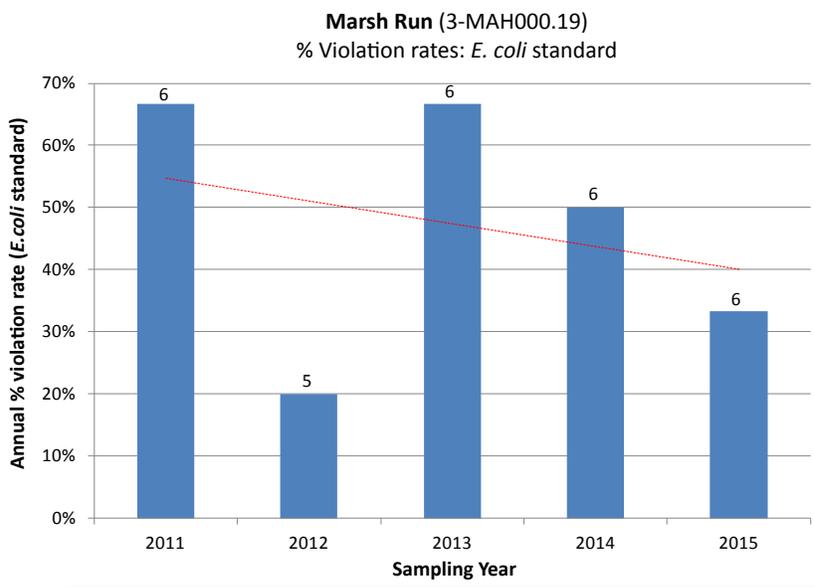
Pollution Reductions

Pollution reductions for bacteria, nitrogen, phosphorus and sediment for BMPs installed during the project period are summarized in Table 2.

Table 2. Pollution Reductions for Craig, Brown and Marsh Runs: July 2012-June 2015

Period	Pathogens: coliform (cfu/100mL)	Nitrogen (lbs/yr)	Phosphorous (lbs/yr)	Sedimentation-Siltation (T/yr)
July 2014-June 2015	1.68E+15	2,651	390	487
July 2012 -June 2015	3.46E+15	8,390	1,215	1,518

Water Quality Monitoring Results



Water quality data collected by VADEQ from 2011 through 2015 was analyzed to determine the impact of BMPs implemented in the project area on *E. coli* violation rates and associated long term trends.

The bar graph above shows the percent violation rate for samples collected annually at monitoring station 3-MAH000.19, located near the mouth of Marsh Run, that did not meet the water quality standard of 235 cfu/100 mL. The number of samples collected each year is shown above each bar. The linear regression fitted to the data shows a decreasing trend in violation rates over the sampling period, indicating improvements in water quality in Marsh Run.

This Virginia Nonpoint Source Management Program is managed by Virginia Department of Environmental Quality and is funded, in part, through grants from the U.S. Environmental Protection Agency, under the Clean Water Act Section 319.

For more information regarding Virginia's Nonpoint Source Management Program, please visit us on the web at: <http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollutionManagement.aspx>

For more information, contact:

May Sligh, VADEQ Northern Regional Office
Non Point Source Coordinator
may.sligh@deq.virginia.gov
(804) 450-3802



Jennifer Hoysa, John Marshall SWCD
District Manager
jennifer.hoysa@fauquiercounty.gov

