

Project Location and Background

The Upper Robinson River drains into the Rapidan River, which joins Rappahannock River then empties into the Chesapeake Bay. The Upper Robinson River and Little Dark Run watersheds are located in Madison County, Virginia. The Lower Robinson River watershed runs along border between Madison and Culpeper Counties. The 30,892 acre Upper Robinson River watershed is primarily forested (84%) and agricultural (15%) land. Similarly, the 124,326 acre of Lower Robinson River watershed is primarily forested (64%) and agricultural (34%) land. The 2,334 acre of Little Dark Run watershed is also mainly forested (58%) and agricultural (29%) land. The Upper and Lower Robinson River and Little Dark Run were initially listed as impaired for bacteria on the Commonwealth of Virginia's Section 303(d) List of Impaired Waters in 1994, 2002, and 2004, respectively. A TMDL implementation plan was developed in 2011 to address these impairments. A state supported project started in 2012 and a 319(h) funded project began in 2015.

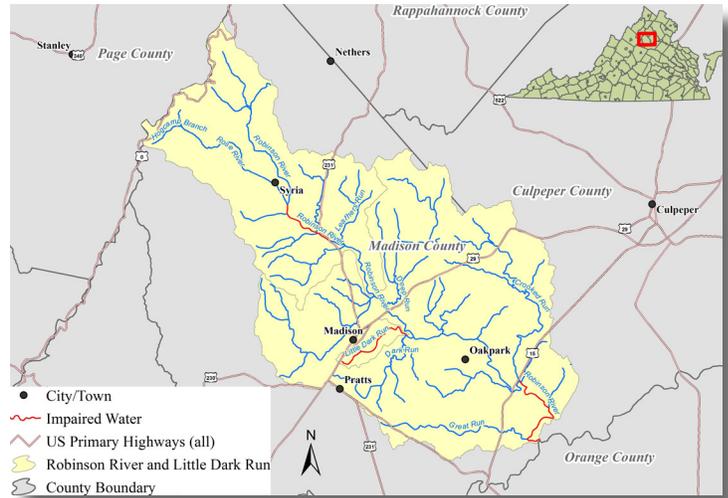


Table 1. Robinson River and Little Dark Run BMP Summary: July 2012 – June 2015

Control measure	Units	Needed	Installed	%
Agricultural				
Livestock exclusion fencing	F	1.48M	31,490	2
Livestock exclusion fencing	S	562	10	2
Improved pasture mgmt.	A	37,250	-	-
Reforestation of crop and pasture land	A	165	-	-
Manure incorporation	A	1,363	-	-
Veg. cover on cropland	A	325	17	5
Small grain cover crop	A	-	52	-
Urban/Residential Pet Waste				
Pet waste digester	S	35	0	-
CCU Waste treat. system	S	3	0	-
New conventional septic	S	116	0	-
Pet waste education pgm.	p	1	0	-
Residential septic				
Septic tank pumpout	S	364	97	27
Septic system repair	S	436	9	2
Septic system installation	S	219	7	3
Alternative waste treat.	S	85	1	1

Note: All activity reported before 2015 was funded with state funds; A = Acres, S = System, F = Feet, P = Program, CCU = Concentrated Canine Unit

Implementation Highlights

The Little Dark Run and Robinson River implementation project is administered by the Culpeper Soil and Water Conservation District. The District was contracted to provide technical assistance and educational outreach to farmers and homeowners for residential BMP implementations. Table 1 shows BMPs implemented in the watersheds since the project began in July 2012 and implementation goals established for each of the project areas. Outreach efforts for the project have included newspaper articles, mailings to landowners in the watersheds, and presentations to community organizations. Between July 2012 and June 2015, 97 septic tank pumpouts, nine septic system repairs, seven septic system replacements, and one alternative waste treatment system were completed in the watersheds. Additionally, between July 2014 and June 2015, ten stream exclusion fencing systems were installed, protecting 31,490 feet of stream.

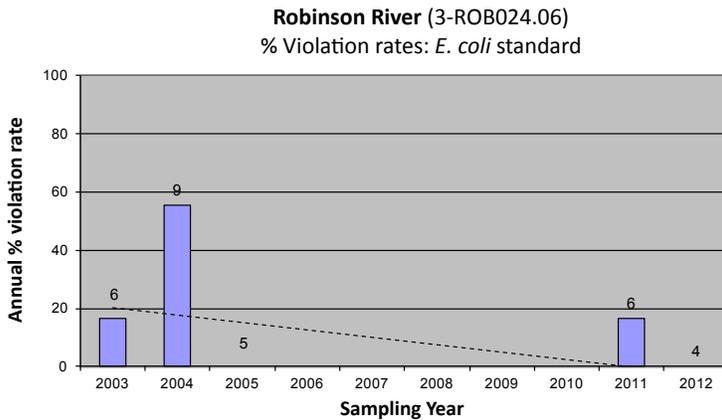
Pollution Reductions

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 Robinson River and Little Dark Run: July 2012-June 2015

Period	Pathogens: coliform (cfu/100mL)	Nitrogen (lbs/yr)	Phosphorous (lbs/yr)	Sedimentation-Siltation (T/yr)
July 2014-June 2015	8.93E+14	3,056	449	562
July 2012 -June 2013	1.12E+12	665	-	114

Water Quality Monitoring Results



Water quality data collected by VADEQ from 2003 through 2012 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-ROB024.06 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 trend fitted to the data shows a decreasing trend in violation rates over the sampling period, indicating improvements in water quality condition in the Robinson River watershed.

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>

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