

Project Location and Background

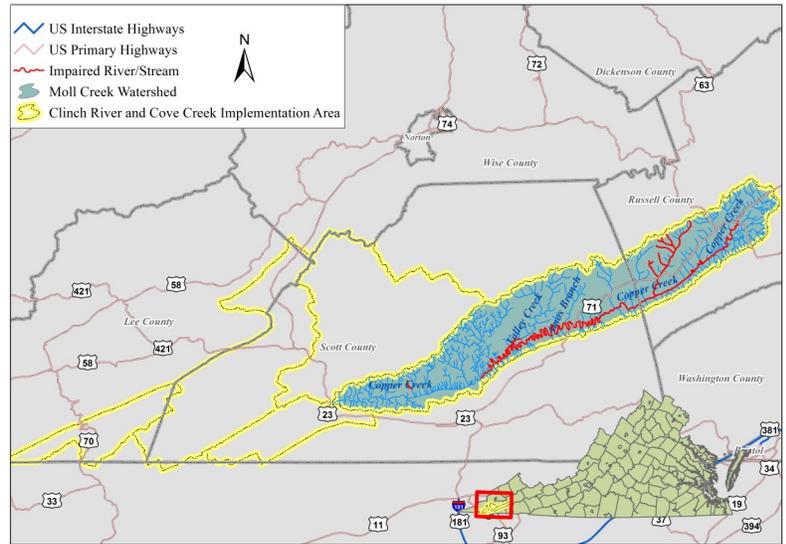
The Clinch River and Cove Creek watershed is located in the Clinch River Basin in Scott, Russell, and Lee Counties, Virginia. The watershed is approximately 235,880 acres in size, and land use is predominantly forested (67%) and pasture (22%). Eleven (11) segments of the Clinch River and Cove Creek watershed are listed on the *Section 303(d) Total Maximum Daily Load (TMDL) Priority List and Reports* due to violations of the state’s water quality standards for *E. coli* bacteria. The Clinch River and Cove Creek TMDL was approved in April 2014, and a TMDL implementation plan was completed in January 2017 and approved in December 2017. There is one implementation project underway in Russell County in the Moll Creek subwatershed (started in November 2018). Additional agricultural BMPs funded by the Department of Conservation and Recreation (DCR) since January 2018 are also reported herein.

Implementation Highlights

The Clinch River and Cove Creek implementation project, administered by the Clinch Valley Soil and Water Conservation District (CVSWCD), focuses on the Moll Creek subwatershed in Russell County. Table 1 shows all BMPs implemented since the project began in 2018 as well as agricultural BMPs installed by the Virginia Agriculture Cost-Share Program and overall implementation goals for the IP area.

Cumulatively, these projects have resulted in the implementation of over 2.6 miles of stream exclusion and 176 acres of grazing land management in the watershed. No residential septic or urban BMPs have been installed to date.

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**Table 1: Clinch River and Cove Creek BMP Summary :
 January 2018—June 2019**

Control Measure	Units	Goal	Installed	%
Agricultural				
Stream Exclusion Fencing	F	1,678,333	13,693	1
Stream Exclusion Fencing	S	1,495	16	1
Stream Protection	S	13	0	0
Improved Pasture Mgmt	A	50	176	352
Residential Septic				
Septic Tank Pump-out	S	5,718	0	0
Connection to Public Sewer	S	3	0	0
Septic System Repair	S	134	0	0
Septic System Installation	S	547	0	0
Alternative Waste Treatment System	S	172	0	0
Residential/Urban				
Rain Garden	A	220	0	0
Infiltration Trench	A	220	0	0
Bioretention Basin	A	220	0	0
Pet Waste Education Program	P	4	0	0

A = Acres, F = Linear Feet, S = System, P=Program; Note: BMP counts only include 319-funded and state VACS. NRCS EQIP funded practices are not included.

Implementation Highlights— Continued

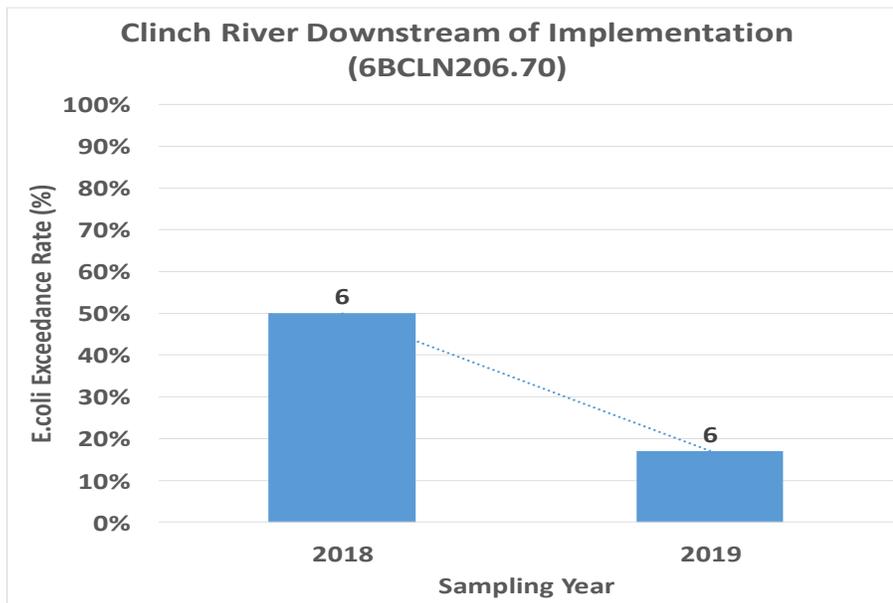
Bacteria reductions from BMP installations are summarized below.

Period	Pathogens (Coliform) (CFU)
January 2018-June 2019	2.13E+15

Table 2: Pollution Reductions for Clinch River and Cove Creek Watershed

Water Quality Monitoring Results

Water quality data collected by DEQ for the period of 2018 through 2019 were analyzed to determine the impact of BMPs implemented in the project area on *E. coli* violation rates and associated long-term trends, if any, in water quality. The bar graph below shows the percent violation rate for samples collected annually at monitoring station 6BCLN206.70, which 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 decrease in bacteria violation rates over the two-year sampling, indicating a possible improvement in water quality in the Clinch River and Cove Creek watershed. Monitoring over a longer period of time with consistent trends is needed to corroborate water quality changes.



Graph 1: *E. coli* data for Clinch River and Cover Creek watershed (Station 6BCLN206.70), 2018-2019

For More Information Please Contact:

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