Project Location and Background

The Smith River watershed is located in the Dan River Basin in Henry and Patrick Counties, Virginia. This project focuses on the Smith River #1 area of the watershed encompassing northwest Henry County, as well as Blackberry Creek. The two watersheds are approximately 242,181 acres in size, and land use is predominantly forest and hay/pasture. Smith River and its tributaries were listed as impaired on Virginia’s 2002 Section 303(d) Total Maximum Daily Load Priority List and Report due to violations of the State’s Water Quality Standards for fecal coliform bacteria. The Smith River TMDL was completed in May 2010 and a TMDL implementation plan was completed for the watershed in May 2013.

Implementation Highlights

The Smith River and Blackberry Creek TMDL implementation project is administered by Blue Ridge Soil and Water Conservation District (BRSWCD) in partnership with Henry County, the Dan River Basin Association (DRBA) and the Virginia Department of Health (VDH). The project area covers only the Henry County portion of the implementation watersheds. The table on the right shows BMPs implemented for the entire IP from 2012 through June 2019, in addition to overall implementation stage 1 goals for the implementation plan area. This project focuses specifically on implementing residential septic BMPs and a citizen water quality monitoring program administered by DRBA.

(continued on pg. 2)
Implementation Highlights—Continued

The residential program generated interest early on in the project. Blue Ridge SWCD participated in local outreach events, developed a project flyer and issued a press release which appeared in two local newspapers. Blue Ridge SWCD’s more recent outreach efforts have not been as successful. Road signage and a radio announcement did not increase sign-up as intended. This particular project area is very challenging in that the area is very rural. It is difficult to inform the public about the septic opportunity. Many residents tend to be lower income and elderly. Additionally, many residents do not have internet access. Bacteria reductions from BMP installations are summarized below.

<table>
<thead>
<tr>
<th>Period</th>
<th>Pathogens (Coliform) (CFU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2012-June 2019</td>
<td>7.58E+15</td>
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Table 2: Pollution Reductions for Smith River and Blackberry Creek Watershed

Water Quality Monitoring Results

Water quality data collected by DEQ for the period of 2009 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. The bar graph below shows the percent violation rate for samples collected annually at monitoring station 4ASRE033.19, located at the Rt. 57 and Field Ave. bridge in the community of Fieldale. This monitoring station did not meet the water quality standard of 235 cfu/100 mL. The number of water quality samples collected is shown above each bar. The linear regression fitted to the data suggests possible water quality degradation in the Smith River, however, there is significant annual variation. Monitoring over a longer period of time with consistent improvement is needed to corroborate water quality improvements.

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