



§319 Final Reports

Waterbody Improved Where from agricultural production and the presence of livestock in riparian areas degraded water quality in Kitchen Creek. As a result, the stream was placed on the 2008 Clean Water Act (CWA) section 303(d) list as impaired for fecal coliforms. The West Virginia Conservation Agency (WVCA) developed and implemented a watershed-based plan to address the problem through practices such as limiting livestock access to the stream and constructing waste storage facilities. Water quality has generally improved in response to this restoration work; bacteria levels have decreased and habitat conditions have improved.

Problem
Kitchen Creek is in the Gap Mills area of Monroe County in southeastern West Virginia. It flows along the mountain foot of Penns Mountain from the central divide, and flows southwest to Second Creek. Second Creek flows northwest to the Greenbrier River. Kitchen Creek is a 6.6-mile-long stream that flows into Second Creek at Gap Mills (Figure 1). The Kitchen Creek watershed contains mostly of pasture-land pasture used for beef cattle and dairy operations.

West Virginia's fecal coliform (FC) bacteria standard states that water samples are no to exceed 200 coliform (col) per 100 milliliters (mL) as a monthly mean, based on at least five samples per month. In addition, no more than 10 percent of all samples taken during the month may exceed 400 col/100mL. Data collected in 2010 and 2012 failed these criteria, causing Kitchen Creek (segment WVNS-20-2) to be placed on the 2010 CWA section 303(d) list for FC bacteria. A total maximum daily load (TMDL) was developed for the Greenbrier River in 2010, which included Kitchen Creek and Second Creek. The TMDL analysis revealed that the use of the stream for agricultural purposes was the root of the bacteria contamination. At one time there were three dairies and two large beef feedlots with very little, if any, waste storage, and much of that waste was able to enter the stream (Figure 2).

Chickens in the area allowed unrestricted grazing of beef cattle along the riparian areas, while also over-applying liquid and solid manure, poultry litter, and fertilizer to pasture and cropland. In addition, the farm geology of the area might have led to a slow release of bacteria into the stream from underground sources.

Project Highlights
The key best management practices (BMPs) implemented to address the FC bacteria contamination included installing alternative water systems, limiting livestock access to the riparian area, and building waste storage facilities. The majority of these practices were implemented from 2010 to 2016 as part of the Second Creek watershed-based plan (see Figure 1 for BMP implementation locations).

The 11 alternative watering systems were vital to restricting livestock access to the riparian portion. These systems provided cleaner and fresher water for livestock while grazing, and also allowed farmers to implement rotational grazing systems to decrease bacteria-laden runoff. Some of the alternative water sources also used renewable energy such as wind and solar power for pumping.

Figure 1. Kitchen Creek watershed and BMP locations.

When the project is completed the **Basin Coordinator**, NPS Coordinator or designee conducts a **final inspection** with the local project manager and completes the final inspection form (FIF). In addition to this inspection a **final report** is required. The final report is due no more than 30-days after the end of the grant's performance period but should be submitted prior to that date, if possible.

The final report is a summary of the entire life of the project. It is submitted to USEPA and becomes part of the project record in GRTS. It should correctly reconcile all information from previous semi-annual reports and should be written in a format similar to USEPA's §319 **Success Story** (SS).

1. Title and summary (i.e., abstract)
2. Location and problem description
3. Project highlights: What was accomplished; how does it compare to the work plan goals/objectives.
4. Results: i.e., number and types of BMPs and the dimensions (acres, feet, square-feet etc.), load reductions, outreach etc.
5. Partners and funding: Include a table that compares the original budget to the actual expenditures. **Don't forget your match.**

Note: If the project is complete at or near the semi-annual reporting deadline, submit the final report only.

As stated above, the final report is a summary of the project and although important details are critical the length should be no more than 3-5 pages, preferably less if possible. **Important note:** A two-page **Success Story** [an annual §319 program requirement] is often developed from a final report. A final report that is similar in a SS format to a success story makes the writing and approval process more efficient and easier.

A final word

Your §319 report should be well-written, accurate and submitted on time. Reports must follow the guidelines provided. Your report should **tell the entire story** of the project. It should be specific to the work plan activities and budget expenditures. Progress narratives for each activity should include work completed, pollution reductions, partners involved, other funding secured for the implementation of the activities, etc. If the project is/did not progress as planned, the narrative should discuss and indicate what efforts/plans were made to overcome those challenges.