

Central Hood Canal Pollution Identification and Correction Project
Jefferson County Public Health
WQC-2017-JeCoPH-00168
 March 1, 2017 – June 30, 2020
 Final Total Project Cost: \$385,166.56
 Final Ecology Grant Contribution: \$288,874.92

Project Description

The goal of this project was to protect human health from risks of waterborne pathogens, keep shellfish beds open, and ensure water safety for recreational use.

Project goals included:

- Conducting four shoreline surveys for *E. coli*: two in the wet season and two in the dry season.
- Conducting 6 monthly marine surveys, monitoring 17 marine stations for *Enterococcus*.
- Conducting 12 monthly river surveys, monitoring 14 stations for fecal coliform and nutrients.
 - Amendment: Additional eight months of only fecal coliform sampling at all stream stations.
 - Extension: Additional six months of fecal coliform sampling at high hit stream stations and stream mouths, and *E. coli* sampling at stations included in an upcoming foundational monitoring project.
- Investigating all areas of concern through resampling, property research, dye testing, and sanitary surveys.
- Completing a minimum of 200 sanitary surveys.
- Conducting education and outreach through factsheets, one-on-one interactions during sanitary surveys, and two public meetings.

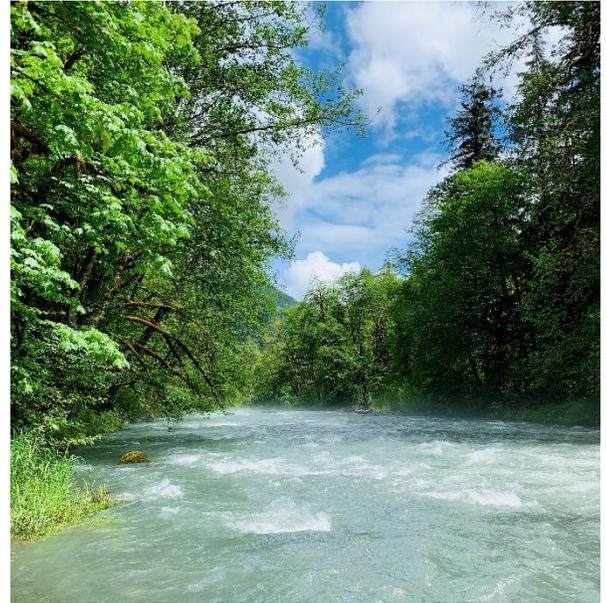


Figure 1. Upper Dosewallips River (DOS/9.5)

Project Accomplishments

Staff completed monitoring for *E. coli* at all freshwater inputs along the shoreline, visiting over 500 sampling sites, from December 2017 through August 2019. Staff sampled marine stations for *Enterococcus* monthly during the 2018 dry season. Staff monitored stream stations for fecal coliform and nutrients monthly from November 2017 through October 2018, then monitored for only fecal coliform monthly from May through December 2019. Two stations were monitored for fecal coliform and five stations were monitored for fecal coliform and *E. coli* monthly from January through June 2020.

When monitoring results yielded high bacteria concentrations, the area surrounding each hot spot was prioritized for sanitary surveys. Staff completed 197 sanitary surveys during the project period, and contacted over 276 people regarding completing sanitary surveys. Staff facilitated the correction of 67 septic violations, and identified 44 other septic violations that are in progress for correction. Staff held two public meetings to discuss the project: one in August 2017 to announce the project, and one in February 2020 to disseminate findings and results from the project.

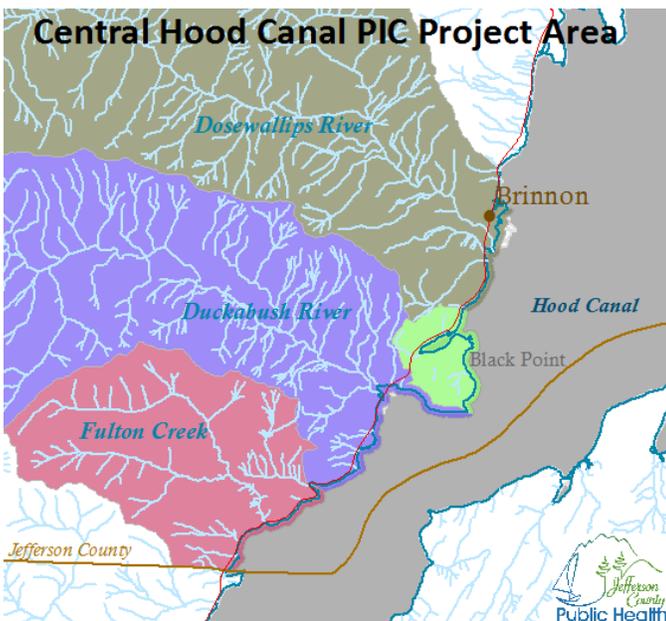


Figure 2. Central Hood Canal PIC Project Area Map

Water Quality Improvements

During this project, no stream stations failed part 1 of the State water quality standard for fecal coliform. However, the upper Dosewallips River (DOS/9.5) and Rocky Brook (ROC/0.2) sample stations each failed part 2 of the standard once, and lower Pierce Creek (PIE/0.3) failed Part 2 of the standard twice. Wet season results were generally lower than in the dry season, and results were relatively similar between both wet seasons. However, when comparing the 2018 to 2019 dry seasons, water quality decreased at 11 stream stations. There are not enough data for long-term trend analysis for these stream stations. Stream nutrient levels were well below levels of concern. Marine monitoring resulted in geomeans well below the water quality standard for *Enterococcus* at all sample stations.

Shoreline monitoring resulted in high bacteria at 34 sample stations: 12 on the Duckabush shoreline, 8 on the Dosewallips shoreline, 7 on the Fulton Creek shoreline, and 7 on the Black Point shoreline. Of those sample stations, resampling confirmed nine sites as hot spots for bacteria: three Duckabush, three Black Point, two Dosewallips, and one Fulton Creek. Staff are actively investigating hot spots and have discovered potential sources of bacteria, some of which are in the process of correction, but no hot spots have been officially resolved as of June 2020. However, staff will continue to pursue resolution through additional sampling and investigation in the upcoming Foundational Monitoring project.

The Next Step for Continued Success

There are several steps necessary for water quality improvements in the project area that will be pursued in the Foundational Monitoring project funded through Ecology and the Jefferson County Clean Water District:

- 1) Continue education and outreach regarding potential pollution sources, including the Jefferson County Public Health homeowner septic system classes;
- 2) Continue outreach to landowners in the Duckabush floodplain to decommission outhouses that staff identified as potential sources of pollution;
- 3) Continue to identify properties intended for temporary use that are now being used as full-time residences without proper sanitation;
- 4) Continue to identify all of the unknown and pre-permit septic systems in the project area – particularly in the Duckabush River basin and downtown Brinnon;
- 5) Continue to educate homeowners on the importance of having current operations and maintenance (O&M) inspections on septic systems, and how that would reduce nonpoint source pollution.

Lessons Learned

The project area contains a large number of vacation homes owned by out-of-county residents that are only occupied sporadically during the summer months, usually on the weekends. Completing door-to-door unscheduled sanitary surveys was challenging and time consuming. Instead, staff had to rely heavily on homeowners responding to mailers, which often have a low response rate. At the end of the project, staff sent out an updated version of this mailer with more in-depth information about the project and why a response is requested, hoping to see an increase in response rates. Staff circulated many reminders concerning O&M requirements, but the area still has a very low current O&M inspection rate. Providing homeowner certification classes increased the rate slightly, but more direct outreach is needed to improve efficiency and increase this rate.

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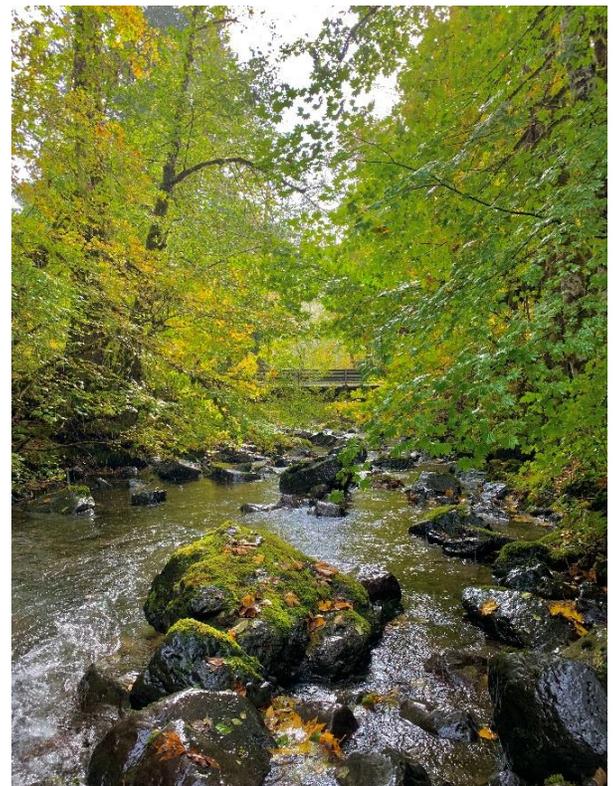


Figure 3. Rocky Brook (ROC/0.2)