

MEMO

To: Michelle Perdue, Water Quality Monitoring and Outreach Manager, Kitsap County Public Works

From: Grant Holdcroft, PIC Manager, Kitsap Public Health District

Date: January 14, 2020

Re: PIC PROGRAM 2020 PRIORITIZATION KITSAP PUBLIC HEALTH DISTRICT'S WORK IN KITSAP COUNTY TOTAL MAXIMUM DAILY LOAD WATERSHEDS

Introduction

Regular monitoring of fecal bacteria in surface waters can help show whether land use, development, and human activities are managed in a way that protects public health and the environment. Since fecal bacteria comes from warm-blooded animals, it may contain pathogens like viruses and bacteria that can make people sick. Fecal pollution may come from point sources like wastewater treatment plants or from nonpoint sources like dog poop and leaking septic systems.

Surface water is sampled and analyzed for fecal bacteria such as fecal coliform (FC), E. coli (EC), and Enterococcus (ENT) to determine whether surface waters and shellfish tissue are safe for contact and human consumption. Results are measured against *Water Quality Standards for Surface Waters of the State of Washington* (Chapter 173-201A WAC), *Recreational Shellfish Beaches* (Chapter 246-280 WAC) and *Sanitary Control of Shellfish* (Chapter 246-282 WAC) (both use FC levels).

Background

In Washington State, most local jurisdictions are responsible for monitoring and limiting the fecal bacterial load coming from nonpoint pollution under their National Pollution Elimination and Detection (NPDES) permit. In unincorporated Kitsap County, the Kitsap County Public Works Stormwater Division fulfills those mandates through the Clean Water Kitsap (CWK) partnership which includes Kitsap County Public Works, Kitsap Public Health District (Health District), Kitsap Conservation District, Washington State University Extension, and Kitsap Public Utility District.

Under the CWK umbrella, the Health District is the primary agency responsible for monitoring, identifying impaired waters, and prioritizing nonpoint fecal pollution identification and correction. To address this need, the Health District developed the Pollution Identification and Correction (PIC) program, which focuses on education, prevention, and enforcement of local health regulations.

Inspectors prioritize, assess, and investigate streams with elevated fecal pollution using all available data and door-to-door inspections focused on preventative and corrective actions like septic maintenance and animal waste management. Pollution sources are corrected through education and enforcement when necessary.

The Health District has routinely monitored major streams and marine waters for fecal bacteria since 1996. This monitoring reveals polluted areas that need cleanup, provides feedback on the status of PIC projects, and can provide the evidence needed to remove health advisory warning signs and upgrade shellfish harvest areas. Results have also led to state 303d listings, health advisories, and shellfish closures and restrictions. Affected receiving waters include Appletree Cove, Burley Lagoon, Colvos Passage, Dyes Inlet, Hood Canal, Liberty Bay, Miller Bay, Port Orchard Passage, Port Gamble Bay, Sinclair Inlet, and Yukon Harbor.

The PIC program assesses fecal pollution of Kitsap County surface waters; protects the public from waterborne illness related to fecal pollution of surface waters, storm water, and shellfish; and addresses or assists with federal, state, and county water quality mandates as required. It has demonstrated success through improved water quality in target areas. The result is cleaner streams, lakes, and marine waters as well as upgrades of shellfish harvest areas around Burley Lagoon, Dogfish Creek, Cedar Cove, Dyes Inlet, Liberty Bay, Miller Bay, and Yukon Harbor.

Purpose

The purpose of this Priority Work Plan is to prioritize polluted water bodies for investigation based on the methods in the *Pollution Source Identification and Correction Protocol Manual* and data from the *Water Quality Trend Monitoring Program Annual Report*. A list of the 2020 priority waterbodies can be found in Table 1 below.

Priority Work Plan Selection Criteria

During water year 2018-2019, 91 sample stations in 69 streams were sampled monthly on a random basis. Popular recreational lakes were sampled bi-weekly during heavy use periods (Horseshoe, Island, Kitsap, Long, Tiger, and Wildcat). Sample results from the 2018-2019 water year and long-term trends aid prioritization.

Streams and lakes will be prioritized when they meet the following criteria:

- The waterbody fails Washington State Primary Contact Standard for bacteria according to samples from the prior water year.
- There is an ongoing or intermittent health advisory for the stream based on a 3-year dry weather geometric mean exceedance of 270 (FC) (October – April).
- The receiving waters are impaired for shellfish harvest or recreation, as determined by Washington State Department of Health (WSDOH) or the Health District.
- The stream flows to shellfish beds downgraded by WSDOH or identified as threatened by bacterial pollution.
- Lakes will be prioritized and investigated on an as-needed basis based on factors like bacterial exceedances or closures in prior years.

2020 Priority Work Plan Elements

- Monitor fecal bacteria pollution levels in streams, marine waters, and swimming beaches.
- Educate the public about water quality related health hazards, posting advisories as needed.
- Educate residents, industry, realtors, builders, and others about OSS care and maintenance.
- Identify and correct fecal pollution sources using education, voluntary compliance, and enforcement of local onsite sewage systems (OSS) and solid waste regulations.
- Find failing OSS through surveying properties near polluted surface waters, responding to deficient pumping and inspection reports, and by investigating public complaints and reports of failing OSS; follow up on OSS failures in the repair process.
- Provide septic loan information to promote voluntary correction of failing OSS.
- Assist Kitsap County in finding and correcting storm water illicit discharges or connections.
- Investigate confirmed shoreline hotspots.
- Investigate the County’s most polluted streams, including Ostrich Bay Creek and Lofall Creek. Kitsap Health initiated a project in Ostrich Bay Creek in 2019 and will continue that work in 2020. Other streams will be prioritized as staff time permits.
- Utilize new analytical tools (microbial source tracking, bacteriodes, chemicals of emerging concern) as applicable.

Project Area	Watershed	2018-2019 Water Quality			Health Status	Shellfish Status
		GMV	% > Limit	FC Standard		
Lofall Creek	Upper Hood	563	100	Fails both parts	Advisory	Closed due to Pollution
Ostrich Bay Creek	Dyes Inlet	298	50	Fails both parts	Advisory	Closed due to Pollution
Daniels Creek	Liberty Bay	249	64	Fails both parts		Unclassified
Poulsbo Creek*	Liberty Bay	141	42	Fails both parts		Closed due to Pollution
Phinney Bay Creek	Dyes Inlet	106	50	Fails both parts		Closed due to Pollution
Gamble Creek	Upper Hood	37	0	Meets FC Standard		Unclassified/WSDOH 2019 Referral
Vinland Creek	Upper Hood	35	8	Meets FC Standard		Closed due to Pollution
Chico Creek	Dyes Inlet	32	8	Meets FC Standard		Closure Response Plan
Port Gamble Bay	Upper Hood					West Side of Bay Conditionally Approved/WSDOH 2019 Referral

*CWK funds cover work in unincorporated Kitsap Co. Work conducted in the cities is funded through other sources.

Please contact me at (360) 728-2228, or grant.holdcroft@kitsappublichealth.org with any questions or comments.