

4b Analysis for Kitsap County Pollution Identification and Correction Program

The Washington Department of Ecology (Ecology) Integrated Report (IR) proposes to exclude 42 listings for fecal coliform from the 303(d) list and place these water bodies in category 4b of the IR. These water bodies were listed in various categories of the 2012 IR. Ecology's basis for excluding these waterbodies from the 303(d) list is outlined in this evaluation.

Water body	Listing ID	2012 IR category
Martha John Creek	7651	4b
Martha John Creek	7652	4b
Burley Creek	10370	4b
Burley Creek	10371	4b
Bear Creek	10375	4b
Bear Creek	10376	4b
Big Anderson Creek	38432	5
Boyce Creek	38460	5
Dogfish Creek	23695	4b
Tributary to Dogfish Creek	74746	3
East Fork Dogfish Creek	7633	4b
South Fork Dogfish Creek	74656	3
Daniels Creek	53094	4b
Indianola Creek	53113	4b
Kitsap Creek	53110	4b
Jump Off Joe Creek	53117	4b
Kinman Creek	38667	4b
Enetai Creek	43034	4b
Enetai Creek	53101	4b
Lofall Creek	53091	4b
Carpenter Creek	36197	5
Cowling Creek	53106	5
Curley Creek	38524	5
Curley Creek	53108	5
Curley Creek	74678	3
Dewatto River	38528	3
Duncan Creek	53109	5
Grovers Creek	7645	5
Grovers Creek	7646	5
Grovers Creek	7647	5
Murden Creek	74665	3

Water body	Listing ID	2012 IR category
Port Madison	52902	5
Puget Sound Central	60190	5
Puget Sound South Central	38833	5
Royal Valley Creek	53096	2
Salmonberry Creek	38863	5
Steele (Crouch) Creek	53100	5
Steele (Crouch) Creek	74639	3
Steele Creek	38816	5
Steele Creek	53097	5
Tributary to Kitsap Lake	74792	3
Wilson Creek	53116	5

Seven Kitsap County segments that were in category 4b of the 2012 list are now meeting criteria, and will be placed in category 1. These segments show that the Kitsap PIC program is working.

Water body moving to Category 1	Listing ID
Purdy Creek	10389
Gamble Creek	7641
West Fork Dogfish Creek	7636
Dogfish Creek	7637
East Fork Dogfish Creek	7640
Gorst Creek	7643
Daniels Creek	53095

Identification of Segment and Statement of Problem Causing Impairment

These creeks are located in various parts of Kitsap County. The fecal coliform pollution in these streams was identified by Kitsap County through its on-going monitoring program. The primary sources of bacteria pollution in Kitsap County are:

- Failing septic and sewer systems
- Faulty stormwater systems
- Pet and livestock waste
- Runoff from farms

Description of Pollution Controls and How They Will Achieve Water Quality Standards

In the early 1990s, Kitsap County agencies faced several difficult issues:

- The Public Health District sought more permanent funding to deal with shellfish closures, failing septic systems, and other water quality problems.
- The Department of Public Works needed to develop a stormwater management program in response to the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System Permit Program.
- The conservation district needed to respond to 1989 legislative approval to seek a fee to fund programs for landowner assistance.
- The Department of Community Development sought more permanent funding for state mandated watershed planning efforts.

A group of County Managers and Commissioners with a long range vision for water quality began working together to design a coordinated interagency partnership to meet multiple needs in the county.

In October 1993, after two years of planning and public process, the Kitsap County Board of Commissioners adopted Ordinance 156-1993, establishing the Kitsap County Surface and Stormwater Management Program (KCSSWM). The goals of the program are to:

- Protect public health and natural resources.
- Minimize institutional costs.
- Meet state and federal regulatory requirements.
- Provide a permanent funding source to address nonpoint source pollution.

Kitsap Public Health is the primary agency responsible for monitoring, identifying, and prioritizing nonpoint fecal pollution correction programs in Kitsap County. In response to the fecal pollution problem, Kitsap Public Health developed a Pollution Identification and Correction (PIC) program, an Onsite Sewage System (OSS) Monitoring and Maintenance program, and a Water Protection Complaint Response program. The PIC program receives a significant portion of its funding from Kitsap County's Surface and Stormwater Management (SSWM) Program. SSWM fees are assessed on properties in the unincorporated area of Kitsap County. Fees appear on annual property tax billings.

Kitsap Public Health's PIC program, OSS Monitoring and Maintenance program and Complaint response program utilize existing local regulations and authority to address FC pollution sources and enforce correction when necessary. These programs incorporate a strong educational element to prevent future fecal pollution.

The Kitsap Public Health District has monitored major streams and marine waters for FC on a routine basis since 1996. This extensive monitoring program has resulted in the listing of many Kitsap County marine and freshwater bodies for fecal coliform pollution on Washington State's 303(d) List of impaired or threatened waters. During the 2013 water year, both stream and marine stations were typically sampled once each month.

Fewer samples may be collected at a monitoring station due to lack of flow during the dry season, hazardous weather conditions, equipment failures, or other circumstances.

The PIC Program uses water quality monitoring data to identify priority water bodies for clean up. The primary focus of the monitoring program is to assess long-term pollution trends associated with human sewage and animal waste from nonpoint sources. Health District staff sample water quality monthly at approximately 95 stations on 54 streams and 67 marine stations. Field equipment measures turbidity, dissolved oxygen, pH, and temperature. Fecal coliform samples are analyzed by an Ecology accredited laboratory. Data are used to identify areas in need of pollution control and to evaluate the effectiveness of the correction program.

Clean up projects are designed to address the causes and sources of bacterial water pollution in specific geographic areas that the trend monitoring program has identified. SSWM provides funding for PIC projects. The goal of each PIC project is to:

- Protect public health.
- Protect shellfish resources.
- Preserve, protect, and restore surface water quality.

The best management practices (BMPs) being used to improve water quality include a requirement to properly operate and maintain on-site systems in the watershed. Kitsap Public Health District is actively engaged in on-site system education, dye testing of suspect systems, and enforcement of the Kitsap County Board of Health Ordinance 2008-11, *On-Site Sewage System and General Sewage Sanitation Regulations*, which requires proper design, installation, repair, operation and maintenance of on-site septic systems. In addition, the Kitsap Conservation District assists small farm owners and owners of livestock to implement BMPs for animal waste management and farm pollution control. The conservation district's role is as a non-regulatory agency. When a regulatory approach is needed, the Health District enforces the *Solid Waste Regulations* (KCBOH 2004-2).

Several enforceable pollution controls will assure that compliance with water quality standards is achieved.

- Kitsap County Ordinance 156-1993, establishing the Surface and Stormwater Management Program, which created an on-going, stable source of funding.
- Kitsap County Board of Health Ordinance 2008-11, *On-Site Sewage System and General Sewage Sanitation Regulations*, which requires proper design, installation, repair, operation and maintenance of on-site septic systems.
- Kitsap County Board of Health Ordinance 2004-2, *Solid Waste Regulations*, which regulate handling and disposal of animal manure and pet waste; animal waste violations are enforced by the Health District under this ordinance.
- RCW 90.72, *Shellfish Protection Districts*.

Estimate or Projection of Time When Water Quality Standards Will be Met

All waters in Kitsap County are subject to one of the following standards for fecal coliform bacteria. The county-wide monitoring program compares monitoring data with the appropriate standard to determine whether the water body is on an improving trend and whether it has achieved compliance with standards.

	Freshwater Standard		Marine Standard	
	Extraordinary Primary Contact Geometric Mean (GMV)	Primary Contact Geometric Mean (GMV)	Extraordinary Aquatic, Primary Contact	Excellent Aquatic, Primary Contact
Fecal coliform bacteria	Part 1: ≤50 FC/100 ml Part 2: Not more than 10% of all samples >100 FC/100 ml	Part 1: ≤100 FC/100 ml Part 2: Not more than 10% of all samples >200 FC/100 ml	Part 1: ≤14 FC/100 ml Part 2: Not more than 10% of all samples >43 FC/100 ml	Same as Extraordinary Aquatic - Primary Contact waters

Ecology expects that most of the water bodies covered by Kitsap County’s PIC program will achieve compliance with bacteria standards by 2020. However, it should be noted that bacteria problems are likely to re-occur as septic systems age and properties change hands, so it should not be considered a failing of the PIC program if some waters move into category 1, and then occasionally move back into category 4b. In fact, an issue to remember with nonpoint pollution is that it is not the kind of thing that can be fixed just once. Instead, it requires continual vigilance, which is just what the PIC program provides.

Schedule for Implementing Pollution Controls

As described earlier in this report, Kitsap County has already implemented the PIC program and is continuing periodic monitoring, identifying problems, and fixing them. This is an on-going program, exactly what’s needed to solve nonpoint pollution problems and to keep them from happening again.

Monitoring Plan to Track Effectiveness of Pollution Controls

Kitsap County has a countywide monitoring program. Samples are taken monthly and compared to the two parts of the fecal coliform standard. Assessment results are reported to the public and EPA through Kitsap County’s website and through Ecology’s IR report development process.

Commitment to Revise Pollution Controls as Necessary

Ecology will continue to work with Kitsap County to ensure that the PIC program continues. We fully expect the program to achieve compliance with bacteria water quality standards throughout the county. However, if it does not, Ecology will work with Kitsap County to determine other controls that could be used to achieve compliance.