Samish Bay

Annual Shellfish Growing Area Review

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Area: Samish Bay

Year Ending: December 31, 2022

Classification: Approved, Conditionally Approved, Prohibited

Activities in the Growing Area in 2022

The growing area was sampled seven times in accordance with National Shellfish Sanitation Program (NSSP) Systematic Random Sampling (SRS) criteria. Six sampling events occurred during Open status. The Conditionally Approved portion of the growing area was closed 14 times for 40 days due to Samish River flow exceeding closure criteria.

Skagit County received EPA National Estuary Program funding for pollution identification and correction work in the Samish Bay watershed. The Skagit Conservation District and WSU Extension continued educational and BMP assistance outreach activities with agricultural landowners. Washington State Department of Agriculture (WSDA) and Washington State Department of Ecology (Ecology) received NEP funding for enhanced water compliance monitoring and referral and technical assistance, with WSDA focusing on dairies and Ecology addressing nonpoint pollution stemming from nondairy agriculture. The Clean Samish Initiative group continues work to find and fix pollution sources in the area.

Analytical Results of Water Samples

Table 1 summarizes the most recent 30 regulatory samples collected from each of the sampling stations. All stations meet NSSP criteria. Stations 81 and 322 are categorized as Concerned.

Figure 1 shows a summary of fecal coliform (FC) loading and flow (cubic feet per second) data collected from the Samish River at Thomas Road during flow closure events. Figure 1 only includes data from the single closest sampling event to the maximum (peak) flow associated with the initial growing area closure. Flows were recorded from the USGS website for the Samish River flow gauge (USGS 12201500). Flow increases at the time of sampling were calculated by subtracting flow before the river started rising from the flow at the time of sampling, regardless of rising or falling river conditions.

There were 14 river rises above the flow closure criteria in 2022; six resulting in bacteria levels exceeding the confirmed closure loading standard ($4.74x10^{12}$ FC/day). There was a bacterial confirmed closure in every month with a river rise except February and March.

Most of the closure samples were collected at or near the peak of the hydrograph. Samples collected on 3/1, 3/18, and 5/6 were taken 10-12 hours after the peak. Samples collected on 11/4 were taken approximately 12 hours before the peak. The six confirmed (>$4.74x10^{12}$ FC/day) closures were 1 to 12 times higher than the standard.

The 24-hour river rise closure criteria set by the 2017 Sanitary Survey addendum were appropriate for 2022.

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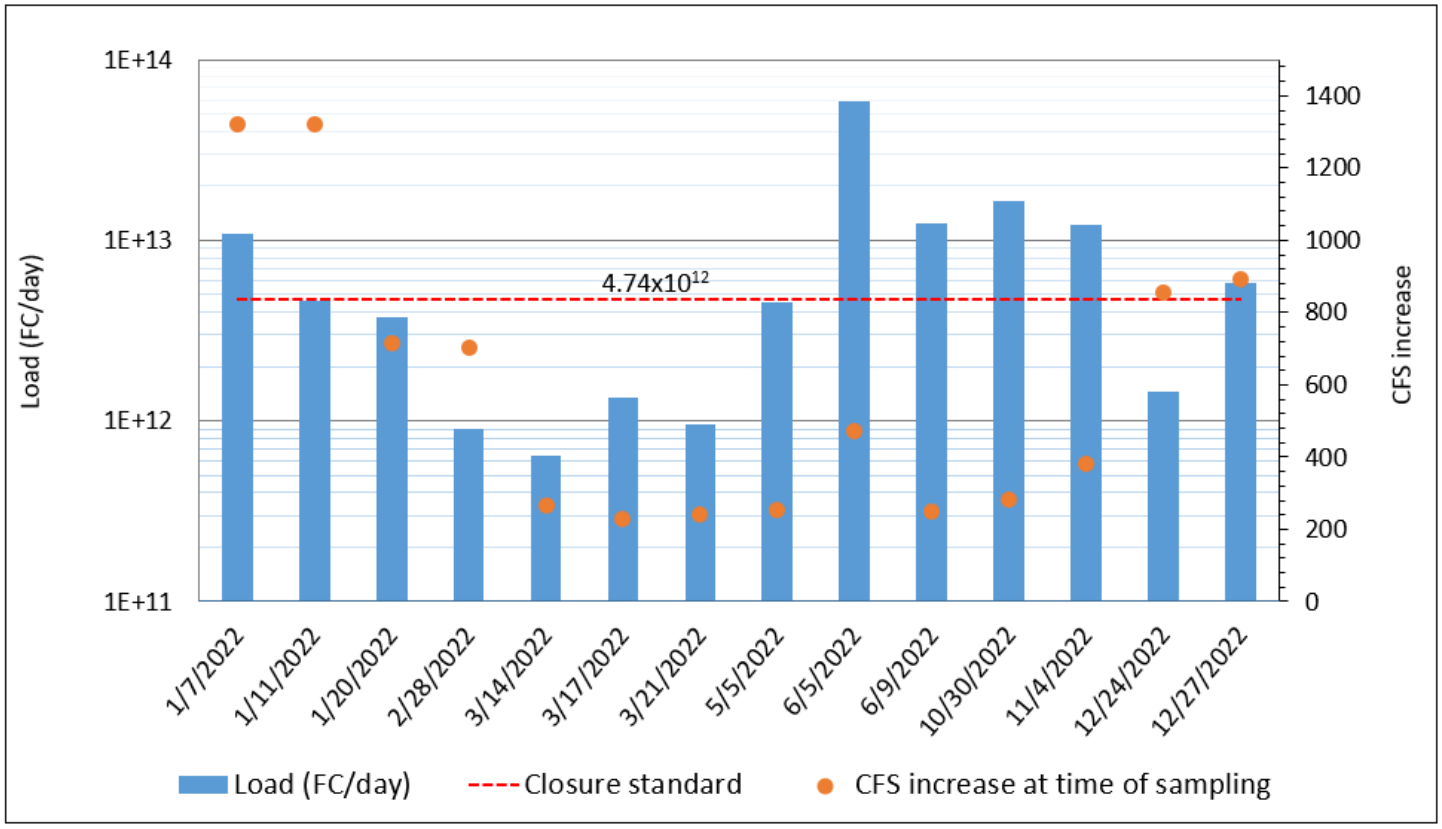
FIGURE 1. Samish River closure event FC loading and 24-hr flow increases



Change in Actual Pollution Sources that Impact the Growing Area

We currently have no information indicating the area has any new sources of pollution.

Classification Status

- ☐ Well within the classification standards
- ☒ Meets standards, but some concerns
- ☐ Meets standards, but threatened with downgrade in classification
- ☐ Fails to meet current classification standards

Remarks and Recommendations

The area is correctly classified. The Department should continue to evaluate Samish River data and the 24-hour river rise needed to trigger a conditional area closure. Samish River samples should be collected just before or at the peak of the USGS hydrograph, when bacterial loading is at its highest.

Management Plan Evaluation

1. Have all parties involved complied with the conditions of the management plan ..... Yes
2. Has reporting been adequate to manage the conditional area ..... Yes
3. Does the area consistently meet approved area criteria when it is open for harvest ..... Yes
4. Has a field inspection of critical pollution sources been conducted ..... Yes

TABLE 1. Summary of Marine Water Data (SRS) for the Samish Bay Growing Area

Sampling Event Type: Regulatory

Maximum Number of Samples: 30

Tides Included: All

Station Number	Classification	Date Range	Range (FC/100mL)	Geomean (FC/100mL)	Est. 90th Percentile (FC/100mL)	Meets Standard
76	Approved	3/22/2018 - 11/17/2022	1.7 - 27.0	2.4	5.5	Y
77	Approved	3/22/2018 - 11/17/2022	1.7 - 13.0	2.4	5.4	Y
84	Approved	3/22/2018 - 11/17/2022	1.7 - 14.0	2.4	5.4	Y
273	Approved	3/22/2018 - 11/17/2022	1.7 - 9.3	2.2	4.0	Y
358	Approved	3/22/2018 - 11/17/2022	1.7 - 2.0	1.8	2.0	Y
363	Approved	3/22/2018 - 11/17/2022	1.7 - 13.0	2.0	3.4	Y
71	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 11.0	2.0	3.4	Y
78	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 49.0	2.6	7.7	Y
79	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 49.0	2.1	5.1	Y
80	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 49.0	3.1	10.2	Y
81	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 110.0	4.4	21.4	Y
82	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 23.0	3.3	10.0	Y
85	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 49.0	2.6	7.7	Y
86	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 6.8	1.9	3.0	Y
87	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 33.0	2.6	6.3	Y
90	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 49.0	3.3	13.6	Y
91	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 23.0	3.2	9.1	Y
92	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 13.0	2.2	3.9	Y
94	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 49.0	4.2	15.8	Y
322	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 79.0	4.5	23.4	Y
361	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 13.0	2.1	3.8	Y
362	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 9.3	2.1	3.9	Y
364	Conditionally Approved	3/22/2018 - 11/17/2022	1.7 - 13.0	2.0	3.4	Y
83	Prohibited	3/22/2018 - 11/17/2022	1.7 - 79.0	5.3	24.0	Y
88	Prohibited	3/22/2018 - 11/17/2022	1.7 - 79.0	4.7	19.1	Y
89	Prohibited	3/22/2018 - 11/17/2022	1.7 - 920.0	6.3	36.4	Y
311	Unclassified	3/22/2018 - 11/17/2022	1.7 - 6.8	1.9	3.0	Y

The criteria for Approved shellfish growing waters is a fecal coliform geometric mean not greater than 14 organisms/ 100 mL and an estimated 90th percentile not greater than 43 organisms/ 100 mL. The above table shows bacteriological results in relation to program standards.

MAP 1. Samish Bay Growing Area