

Samish Bay

Annual Shellfish Growing Area Review



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Area: Samish Bay

Year Ending: December 31, 2023

Classification: Approved, Conditionally Approved, Prohibited

Activities in the Growing Area in 2023

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

A routine three-year shoreline evaluation was completed. Skagit County Public Works sampled seven drainages near the shoreline, three of which had elevated bacteria levels. All three drainages discharge to the Prohibited area and no new or changes in pollution sources were identified. Marine water samples continue to be collected at strategic locations in Samish Bay after closure events, when possible.

Skagit County received EPA National Estuary Program funding for pollution identification and correction activities in the Samish Bay watershed. The Skagit Conservation District and WSU Extension continued educational and best management practices assistance and 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. WSDA focused on dairies and Ecology addressed nonpoint pollution stemming from nondairy agriculture. The Clean Samish Initiative group continues to 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 for Approved classification.

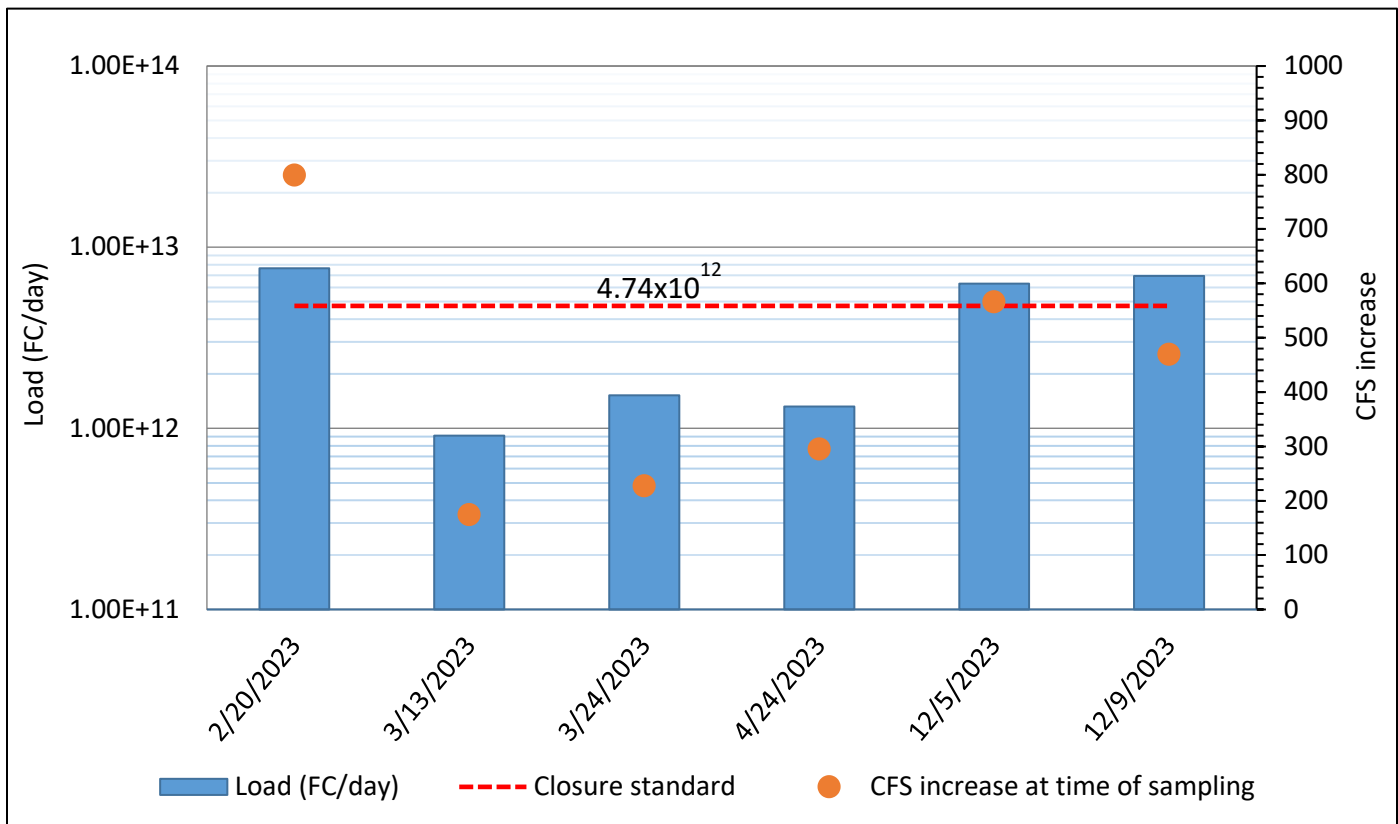
Figure 1 shows a summary of fecal coliform (FC) loading and flow (cubic feet per second) data collected from the Samish River at Thomas Road during flow closure events. Figure 1 only includes data from the single closest sampling event to the maximum (peak) flow associated with the initial growing area 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 or specific time periods.

There were six river rises above the flow closure criteria during 2023; three resulting in bacteria levels exceeding the confirmed closure loading standard (4.74×10^{12} FC/day). There was one bacterial confirmed closure in February and two in December.

Most of the closure samples were collected at or near the peak of the hydrograph. Samples collected on 2/20 and 3/13 were collected during a falling hydrograph. No samples were collected during rising river conditions. The three confirmed ($>4.74 \times 10^{12}$ FC/day) closures were 1.3 to 1.6 times higher than the standard.

The 24-hour river rise closure criteria set by the 2017 Sanitary Survey addendum were appropriate for 2023.

FIGURE 1. Samish River closure event FC loading and flow (CFS) increases at time of sampling.



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 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. 90 th Percentile (FC/100mL)	Meets Standard
76	Approved	4/11/2019 - 12/13/2023	1.7 - 27.0	2.4	5.5	Y
77	Approved	4/11/2019 - 12/13/2023	1.7 - 13.0	2.4	5.4	Y
84	Approved	4/11/2019 - 12/13/2023	1.7 - 14.0	2.5	5.6	Y
273	Approved	4/11/2019 - 12/13/2023	1.7 - 9.3	2.2	4.0	Y
358	Approved	4/11/2019 - 12/13/2023	1.7 - 2.0	1.8	2.0	Y
363	Approved	4/11/2019 - 12/13/2023	1.7 - 13.0	2.0	3.4	Y
71	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 11.0	2.0	3.3	Y
78	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 49.0	2.7	8.0	Y
79	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 49.0	2.3	6.0	Y
80	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 49.0	3.1	9.3	Y
81	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 110.0	4.8	23.3	Y
82	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 46.0	3.9	13.8	Y
85	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 49.0	2.7	7.9	Y
86	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 6.8	2.0	3.2	Y
87	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 33.0	2.9	8.3	Y
90	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 49.0	3.7	16.8	Y
91	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 23.0	3.1	9.5	Y
92	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 13.0	2.1	3.7	Y
94	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 49.0	4.3	18.6	Y
322	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 79.0	4.8	25.6	Y
361	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 23.0	2.3	5.3	Y
362	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 9.3	2.1	3.8	Y
364	Conditionally Approved	4/11/2019 - 12/13/2023	1.7 - 13.0	2.1	3.9	Y
83	Prohibited	4/11/2019 - 12/13/2023	1.7 - 79.0	6.1	28.0	Y
88	Prohibited	4/11/2019 - 12/13/2023	1.7 - 79.0	4.6	18.5	Y
89	Prohibited	4/11/2019 - 12/13/2023	1.7 - 920.0	5.8	33.3	Y
311	Unclassified	4/11/2019 - 12/13/2023	1.7 - 6.8	1.8	2.6	Y

The criteria for Approved shellfish growing waters are 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.

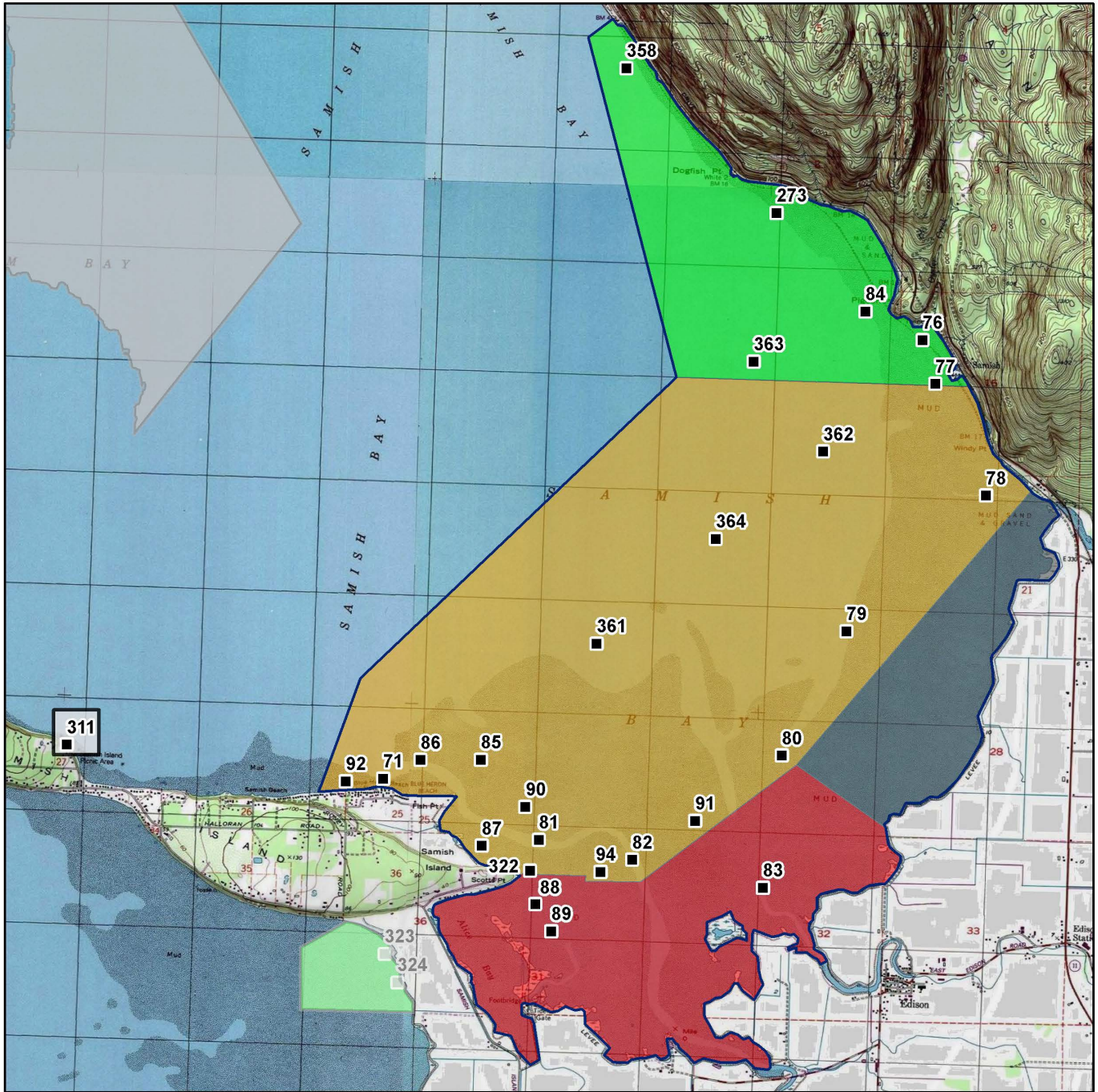
MAP 1. Samish Bay Growing Area

 Samish Bay

0 1 2 Miles

 Washington State Department of Health

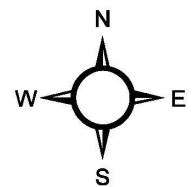
Date Updated: 7/11/2018



Classification

-  Approved
-  Conditional
-  Prohibited
-  Restricted
-  Unclassified

Sampling Stations



* Some sampling stations are highlighted with grey box for ease of reading.