

Oakland Bay

Annual Shellfish Growing Area Review



Prepared By: Trevor Swanson

Area: Oakland Bay

Year Ending: December 31, 2021

Classification: Approved, Conditionally Approved, Prohibited

Activities in the Growing Area in 2021

The growing area was sampled 12 times in accordance with National Shellfish Sanitation Program (NSSP) Systematic Random Sampling (SRS) criteria. The Conditionally Approved area was closed 9 times for 45 days due to rainfall (≥ 1 inch in 24 hours). All of Oakland Bay was closed for five days in January due to excessive rainfall. The Conditionally Approved area around Station 614 was Restricted from June through September. All northern Oakland Bay to Station 121 was closed on 10/4/2021 due to elevated fecal coliform in agricultural runoff. Corrective actions resulted in the opening of the area on 11/23/2021. Samples collected during this time from the stations in the closure area were not included in the regulatory dataset. Eight samples were collected at stations in the Conditionally Approved area during the Open status. Station 614 was sampled five times when it was not Restricted and in Open status.

An annual evaluation of the Shelton WWTP occurred in March. Shelton has made many recent upgrades to the disinfection system to improve reliability. No changes to the classification were needed.

Mason County received EPA National Estuary Program funding for pollution identification and correction in the watershed. Mason Conservation District received EPA National Estuary Program (NEP) funds through the Washington State Conservation Commission to provide technical assistance and education and outreach to landowners to promote the implementation of livestock best management practices. The Oakland Bay Clean Water District (CWD) met quarterly.

Analytical Results of Water Samples

Table 1 summarizes the most recent 30 samples collected from each of the sampling stations. It includes samples collected when the Conditionally Approved area was closed to harvest. Table 2 summarizes the most recent 30 samples sorted for one inch of rainfall in the Conditionally Approved area. Four marine water sampling events occurred within the same date range as Table 1, when the Conditionally Approved portion of the growing area was in Closed status. Table 3 summarizes data sorted for one inch of rainfall at Station 614 during the non-Restricted period. Table 4 shows data from Station 614 during the Restricted period.

Station 129 fails the NSSP standard during the open period with an estimated 90th percentile of 48.9 FC/100mL. Stations 118, 119, 125, and 758, are categorized as Threatened with estimated 90th percentiles of 29.7, 29.6, 30.9, and 34.5 FC/100mL, respectively. Stations 121, 126, 128, 614, and 615 have a Concerned status. Table 5 shows the most recent 30 samples for Station 129 and Threatened stations 118, 119, 125, and 758.

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 standard

Remarks and Recommendations

Evaluate data at Station 129 and change the closure conditions or classification in the area accordingly. The Department should continue to meet with Mason County and others during quarterly Clean Water District meetings.

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 Oakland 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
116	Approved	6/20/2019 - 12/7/2021	1.7 - 70.0	3.7	13.1	Y
117	Approved	6/20/2019 - 12/7/2021	1.7 - 33.0	5.3	19.8	Y
118	Approved	6/20/2019 - 12/7/2021	1.7 - 110.0	6.0	29.7	Y
119	Approved	6/20/2019 - 12/7/2021	1.7 - 130.0	4.7	29.6	Y
120	Approved	6/20/2019 - 12/7/2021	1.7 - 33.0	3.9	12.2	Y
121	Approved	6/20/2019 - 12/7/2021	1.7 - 79.0	4.9	20.4	Y
123	Approved	6/20/2019 - 12/7/2021	1.7 - 70.0	4.2	17.0	Y
125	Approved	4/24/2019 - 12/7/2021	1.7 - 130.0	6.3	30.9	Y
126	Approved	4/24/2019 - 12/7/2021	1.7 - 130.0	5.1	27.8	Y
127	Approved	4/24/2019 - 12/7/2021	1.7 - 70.0	4.1	17.5	Y
128	Approved	6/20/2019 - 12/7/2021	1.7 - 130.0	4.6	22.2	Y
615	Approved	6/20/2019 - 12/7/2021	1.7 - 240.0	5.1	26.9	Y
639	Approved	6/20/2019 - 12/7/2021	1.7 - 130.0	4.0	17.8	Y
758	Approved	4/24/2019 - 12/7/2021	1.7 - 110.0	6.7	34.5	Y
858	Approved	6/20/2019 - 12/7/2021	1.7 - 79.0	3.5	12.7	Y
129	Conditionally Approved	5/23/2019 - 12/7/2021	1.7 - 350.0	9.5	74.6	N
614	Conditionally Approved	5/23/2019 - 12/7/2021	1.7 - 240.0	15.7	117.1	N
114	Prohibited	6/20/2019 - 12/7/2021	1.7 - 49.0	4.1	14.4	Y
115	Prohibited	6/20/2019 - 12/7/2021	1.7 - 49.0	3.4	12.1	Y
122	Prohibited	6/20/2019 - 12/7/2021	1.7 - 49.0	3.3	10.1	Y
124	Prohibited	6/20/2019 - 12/7/2021	1.7 - 33.0	3.5	11.7	Y

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

TABLE 2. Summary of Conditionally Approved Marine Water Data (SRS) in Open Status for the Oakland Bay Growing Area

Sampling Event Type: Regulatory

Number of Samples: 30

Tides Included: All

Includes data for rainfall amounts: 0 - 0.99" on days 0 – 4 previous to the sampling event.

Station Number	Classification	Date Range	Range (FC/100mL)	Geomean (FC/100mL)	Est. 90 th Percentile (FC/100mL)	Meets Standard
129	Conditionally Approved	1/9/2019 - 12/7/2021	1.7 - 350.0	7.6	48.9	N
614	Conditionally Approved	1/9/2019 - 12/7/2021	1.7 - 170.0	12.1	91.9	N

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

TABLE 3. Summary of Marine Water Data (SRS) at Station 614 in Open, non-Restricted Status in the Oakland Bay Growing Area

Sampling Event Type: Regulatory

Number of Samples: 30

Tides Included: All

Includes data for rainfall amounts: 0 - 0.99" on days 0 – 4 previous to the sampling event.

Includes data for the open period (October through May)

Station Number	Classification	Date Range	Range (FC/100mL)	Geomean (FC/100mL)	Est. 90 th Percentile (FC/100mL)	Meets Standard
614	Conditionally Approved	11/1/2016 - 12/7/2021	1.7 - 130.0	5.3	27.5	Y

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

TABLE 4. Summary of Marine Water Data (SRS) at Station 614 during the Restricted Period in the Oakland Bay Growing Area

Sampling Event Type: Regulatory

Number of Samples: 18

Tides Included: All

Includes data for the Restricted period (June through September) from the same date range as Table 2.

Station Number	Classification	Date Range	Range (FC/100mL)	Geomean (FC/100mL)	Est. 90 th Percentile (FC/100mL)
614	Conditionally Approved	1/9/2019 - 12/7/2021	12.0 - 170.0	47.6	122.0

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

TABLE 5. Marine Water Quality Summary for Threatened Stations in the Oakland Bay Growing Area

Station: 118

Classification: Approved

Method: SRS

Total Samples: 30 Range (FC/100 mL): 1.7 - 110.0 GeoMean (FC/100 mL): 6.0				Date Range: 06/20/2019 - 12/07/2021 E90th (FC/100 mL): 29.7 Meets Standard: Y		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
06/20/2019	Regulatory	10:24	Ebb	18	27	1.7
07/08/2019	Regulatory	12:05	Ebb	19	25	2.0
08/21/2019	Regulatory	10:36	Flood	19	22	49.0
09/17/2019	Regulatory	10:18	Ebb	18	26	4.5
10/03/2019	Regulatory	10:38	Flood	15	27	1.7
11/04/2019	Regulatory	11:08	Flood	11	24	1.7
12/26/2019	Regulatory	10:06	Ebb	8	16	2.0
01/15/2020	Regulatory	10:17	Flood	6	11	13.0
02/13/2020	Regulatory	10:39	Ebb	9	17	11.0
03/02/2020	Regulatory	10:24	Flood	8	16	4.0
05/26/2020	Regulatory	09:45	Ebb	16	25	2.0
06/24/2020	Regulatory	09:18	Ebb	18	26	1.7
07/08/2020	Regulatory	09:07	Ebb	18	26	1.7
08/24/2020	Regulatory	11:08	Flood	20	26	4.5
09/21/2020	Regulatory	10:14	Flood	17	27	11.0
10/07/2020	Regulatory	10:10	Flood	16	25	2.0
11/18/2020	Regulatory	10:27	Ebb	10	23	110.0
12/07/2020	Regulatory	11:55	Flood	9	17	4.5
01/06/2021	Regulatory	10:36	Flood	8	7	70.0
02/23/2021	Regulatory	13:37	Flood	8	13	4.5
03/31/2021	Regulatory	09:40	Ebb	10	20	2.0
04/15/2021	Regulatory	09:29	Ebb	12	18	1.7
05/27/2021	Regulatory	08:44	Ebb	15	20	33.0
06/14/2021	Regulatory	09:28	Ebb	16	25	33.0
07/14/2021	Regulatory	08:58	Flood	20	26	4.0
08/11/2021	Regulatory	09:56	Ebb	21	26	7.8
09/13/2021	Regulatory	12:16	Flood	19	26	4.5
10/14/2021	Regulatory	13:32	Flood	14	23	17.0
11/22/2021	Regulatory	10:14	Ebb	10	13	23.0
12/07/2021	Regulatory	10:00	Ebb	10	17	4.5

TABLE 5 continued

Station: 119

Classification: Approved

Method: SRS

Total Samples: 30 Range (FC/100 mL): 1.7 - 130.0 GeoMean (FC/100 mL): 4.7				Date Range: 06/20/2019 - 12/07/2021 E90th (FC/100 mL): 29.6 Meets Standard: Y		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
06/20/2019	Regulatory	11:24	Ebb	18	27	2.0
07/08/2019	Regulatory	11:26	Flood	18	27	2.0
08/21/2019	Regulatory	11:24	Ebb	20	27	1.7
09/17/2019	Regulatory	10:45	Ebb	18	27	4.5
10/03/2019	Regulatory	11:16	Flood	15	28	1.7
11/04/2019	Regulatory	11:56	Flood	11	25	1.7
12/26/2019	Regulatory	10:34	Ebb	7	22	13.0
01/15/2020	Regulatory	10:45	Ebb	6	20	46.0
02/13/2020	Regulatory	11:11	Ebb	8	21	7.8
03/02/2020	Regulatory	10:58	Flood	8	22	1.7
05/26/2020	Regulatory	10:13	Ebb	16	26	1.7
06/24/2020	Regulatory	09:44	Ebb	19	26	2.0
07/08/2020	Regulatory	09:31	Ebb	18	26	1.7
08/24/2020	Regulatory	11:35	Flood	20	27	2.0
09/21/2020	Regulatory	10:43	Ebb	17	28	2.0
10/07/2020	Regulatory	10:39	Flood	16	27	23.0
11/18/2020	Regulatory	11:01	Ebb	10	25	22.0
12/07/2020	Regulatory	12:20	Flood	9	25	17.0
01/06/2021	Regulatory	10:04	Flood	8	8	79.0
02/23/2021	Regulatory	14:07	Flood	8	17	4.0
03/31/2021	Regulatory	10:05	Ebb	10	21	1.7
04/15/2021	Regulatory	09:54	Ebb	11	23	1.7
05/27/2021	Regulatory	09:09	Ebb	15	26	130.0
06/14/2021	Regulatory	09:54	Ebb	16	24	130.0
07/14/2021	Regulatory	09:30	Flood	20	27	1.7
08/11/2021	Regulatory	10:27	Ebb	21	27	1.7
09/13/2021	Regulatory	12:49	Flood	19	28	4.0
10/14/2021	Regulatory	14:02	Flood	13	27	2.0
11/22/2021	Regulatory	10:42	Ebb	9	22	2.0
12/07/2021	Regulatory	10:26	Ebb	10	23	2.0

TABLE 5 continued

Station: 125

Classification: Approved

Method: SRS

Total Samples: 30 Range (FC/100 mL): 1.7 - 130.0 GeoMean (FC/100 mL): 6.3				Date Range: 04/24/2019 - 12/07/2021 E90th (FC/100 mL): 30.9 Meets Standard: Y		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
04/24/2019	Regulatory	10:40	Ebb	13	23	1.7
05/23/2019	Regulatory	10:00	Ebb	16	26	1.7
06/20/2019	Regulatory	10:28	Ebb	18	26	1.7
07/08/2019	Regulatory	11:50	Ebb	18	25	7.8
08/21/2019	Regulatory	10:44	Flood	20	25	23.0
09/17/2019	Regulatory	10:22	Ebb	18	27	4.5
10/03/2019	Regulatory	10:42	Flood	15	28	4.5
11/04/2019	Regulatory	11:17	Flood	11	26	6.8
12/26/2019	Regulatory	10:10	Ebb	8	21	17.0
01/15/2020	Regulatory	10:22	Flood	6	17	7.8
02/13/2020	Regulatory	10:44	Ebb	9	19	4.5
03/02/2020	Regulatory	10:29	Flood	8	20	2.0
05/26/2020	Regulatory	09:49	Ebb	16	25	2.0
06/24/2020	Regulatory	09:22	Ebb	19	26	2.0
07/08/2020	Regulatory	09:11	Ebb	18	26	2.0
08/24/2020	Regulatory	11:12	Flood	20	27	4.5
09/21/2020	Regulatory	10:18	Flood	17	28	4.5
10/07/2020	Regulatory	10:16	Flood	17	27	1.7
11/18/2020	Regulatory	10:32	Ebb	10	15	130.0
12/07/2020	Regulatory	11:59	Flood	9	24	33.0
01/06/2021	Regulatory	10:21	Flood	8	4	79.0
02/23/2021	Regulatory	13:40	Flood	8	14	14.0
03/31/2021	Regulatory	09:44	Ebb	10	16	2.0
04/15/2021	Regulatory	09:32	Ebb	12	23	1.7
05/27/2021	Regulatory	08:48	Ebb	15	22	7.8
06/14/2021	Regulatory	09:32	Ebb	16	25	17.0
07/14/2021	Regulatory	09:01	Flood	20	26	1.7
08/11/2021	Regulatory	10:00	Ebb	21	27	49.0
09/13/2021	Regulatory	12:21	Flood	19	27	7.8
12/07/2021	Regulatory	10:05	Ebb	10	22	14.0

TABLE 5 continued

Station: 758

Classification: Approved

Method: SRS

Total Samples: 30 Range (FC/100 mL): 1.7 - 110.0 GeoMean (FC/100 mL): 6.7				Date Range: 04/24/2019 - 12/07/2021 E90th (FC/100 mL): 34.5 Meets Standard: Y		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
04/24/2019	Regulatory	10:46	Ebb	13	18	1.7
05/23/2019	Regulatory	10:05	Ebb	17	18	7.8
06/20/2019	Regulatory	10:34	Ebb	18	23	33.0
07/08/2019	Regulatory	11:56	Ebb	19	23	23.0
08/21/2019	Regulatory	10:51	Flood	20	21	110.0
09/17/2019	Regulatory	10:27	Ebb	18	26	11.0
10/03/2019	Regulatory	10:46	Flood	15	28	1.7
11/04/2019	Regulatory	11:30	Flood	11	26	13.0
12/26/2019	Regulatory	10:15	Ebb	7	15	13.0
01/15/2020	Regulatory	10:26	Flood	5	13	4.5
02/13/2020	Regulatory	10:49	Ebb	8	17	4.5
03/02/2020	Regulatory	10:35	Flood	8	14	1.8
05/26/2020	Regulatory	09:54	Ebb	14	16	7.8
06/24/2020	Regulatory	09:26	Ebb	19	25	1.7
07/08/2020	Regulatory	09:15	Ebb	18	22	7.8
08/24/2020	Regulatory	11:16	Flood	20	27	2.0
09/21/2020	Regulatory	10:22	Flood	18	21	7.8
10/07/2020	Regulatory	10:20	Flood	17	27	1.7
11/18/2020	Regulatory	10:37	Ebb	10	8	23.0
12/07/2020	Regulatory	12:03	Flood	9	20	7.8
01/06/2021	Regulatory	10:23	Flood	8	0	49.0
02/23/2021	Regulatory	13:45	Flood	8	12	2.0
03/31/2021	Regulatory	09:47	Ebb	10	19	1.7
04/15/2021	Regulatory	09:37	Ebb	11	20	1.7
05/27/2021	Regulatory	08:52	Ebb	15	20	7.8
06/14/2021	Regulatory	09:36	Ebb	17	21	110.0
07/14/2021	Regulatory	09:09	Flood	20	26	2.0
08/11/2021	Regulatory	10:04	Ebb	22	26	23.0
09/13/2021	Regulatory	12:27	Flood	19	28	1.7
12/07/2021	Regulatory	10:10	Ebb	10	18	4.5

TABLE 5 continued

Station: 129

Classification: Conditionally Approved

Method: SRS

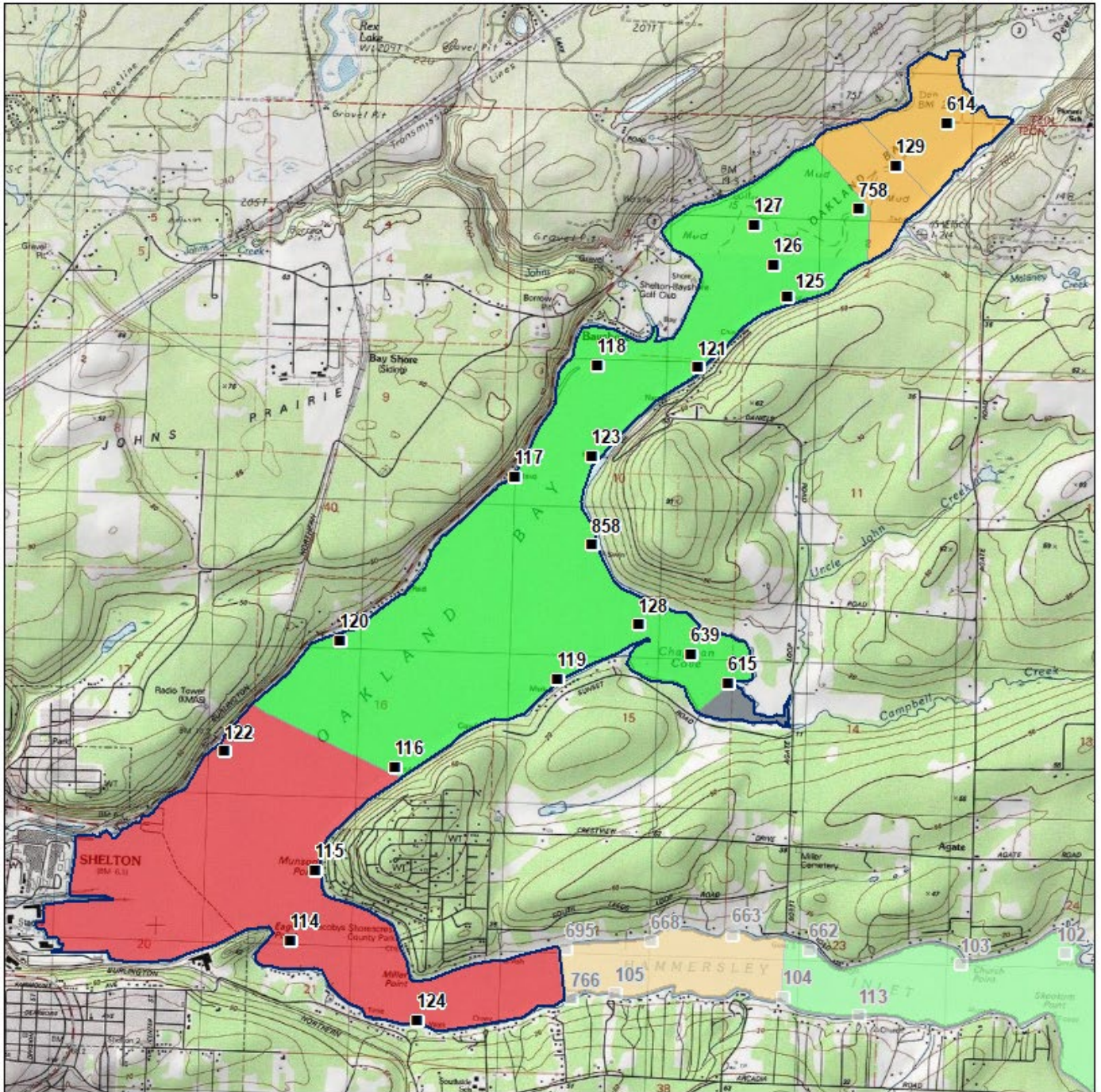
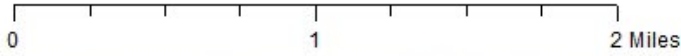
Includes data for rainfall amounts 0-0.99 on days 0-4 previous to the sampling event.

Total Samples: 30 Range (FC/100 mL): 1.7 - 350.0 GeoMean (FC/100 mL): 7.6				Date Range: 01/09/2019 - 12/07/2021 E90th (FC/100 mL): 48.9 Meets Standard: N		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
04/24/2019	Regulatory	10:46	Ebb	13	18	1.7
05/23/2019	Regulatory	10:05	Ebb	17	18	7.8
06/20/2019	Regulatory	10:34	Ebb	18	23	33.0
07/08/2019	Regulatory	11:56	Ebb	19	23	23.0
08/21/2019	Regulatory	10:51	Flood	20	21	110.0
09/17/2019	Regulatory	10:27	Ebb	18	26	11.0
10/03/2019	Regulatory	10:46	Flood	15	28	1.7
11/04/2019	Regulatory	11:30	Flood	11	26	13.0
12/26/2019	Regulatory	10:15	Ebb	7	15	13.0
01/15/2020	Regulatory	10:26	Flood	5	13	4.5
02/13/2020	Regulatory	10:49	Ebb	8	17	4.5
03/02/2020	Regulatory	10:35	Flood	8	14	1.8
05/26/2020	Regulatory	09:54	Ebb	14	16	7.8
06/24/2020	Regulatory	09:26	Ebb	19	25	1.7
07/08/2020	Regulatory	09:15	Ebb	18	22	7.8
08/24/2020	Regulatory	11:16	Flood	20	27	2.0
09/21/2020	Regulatory	10:22	Flood	18	21	7.8
10/07/2020	Regulatory	10:20	Flood	17	27	1.7
11/18/2020	Regulatory	10:37	Ebb	10	8	23.0
12/07/2020	Regulatory	12:03	Flood	9	20	7.8
01/06/2021	Regulatory	10:23	Flood	8	0	49.0
02/23/2021	Regulatory	13:45	Flood	8	12	2.0
03/31/2021	Regulatory	09:47	Ebb	10	19	1.7
04/15/2021	Regulatory	09:37	Ebb	11	20	1.7
05/27/2021	Regulatory	08:52	Ebb	15	20	7.8
06/14/2021	Regulatory	09:36	Ebb	17	21	110.0
07/14/2021	Regulatory	09:09	Flood	20	26	2.0
08/11/2021	Regulatory	10:04	Ebb	22	26	23.0
09/13/2021	Regulatory	12:27	Flood	19	28	1.7
12/07/2021	Regulatory	10:10	Ebb	10	18	4.5

MAP 1. Oakland Bay Growing Area

Oakland Bay

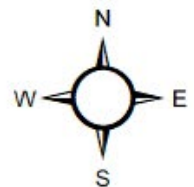
Washington State Department of Health
Date Updated: 12/13/2019



Classification

- Approved
- Conditional
- Prohibited
- Restricted
- Unclassified

Sampling Stations



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