

Annas Bay

Annual Shellfish Growing Area Review



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Area: Annas Bay

Year Ending: December 31, 2023

Classification: Approved, Conditionally Approved, Restricted

Activities in the Growing Area in 2023

The growing area was sampled 12 times in accordance with National Shellfish Sanitation Program (NSSP) Systematic Random Sampling (SRS) criteria. Five sampling events occurred during Open status. The Conditionally Approved portion of the growing area was closed 9 times for 119 days due to Skokomish River flooding. The Hood Canal Marina area was closed May 1 through November 30 based on boat moorage. There are approved relays from the Conditionally Approved portion to the Hood Canal 5 and 9 growing areas from November 1 through April 30 for varnish clams.

A routine shoreline survey was conducted. Two Indirect Impacts from on-site sewage system failures were identified and parcels 321061300010, 321061360020, 321061300030, 321061300040, and 321061300060 in the unclassified area and parcels 321061200020, 321061200010, and 321068888888 in the Restricted area were placed in Closed status. No additional Direct or Indirect Impacts were identified.

The Mason Clean Water District continued to implement the 2018 closure response plan. Mason County and the Skokomish Tribe continue to sample and find and fix pollution sources in the watershed. The Hood Canal Regional PIC workgroup continued to meet.

Analytical Results of Water Samples

Table 1 summarizes the most recent 30 samples collected from each of the sampling stations. All Approved and Conditionally Approved stations meet NSSP standards for Approved classification with unsorted data. It also includes 12 sampling events when the Conditionally Approved area was closed to harvest. Station 323 only has 29 samples. Table 2 shows the Conditionally Approved stations during Open status (based on the Skokomish River condition). After removing Closed status data, stations 195 and 197 fail NSSP standard with estimated 90th percentiles of 47.9 and 44.6 FC/100 mL, respectively. Station 300 is categorized as Threatened with an estimated 90th percentile of 40.8 FC/100 mL. Table 3 shows individual, open period results for stations 195, 197, and 300.

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

Stations 195 and 197 fail NSSP standard for a Conditionally Approved classification. The Department should evaluate the classification of these stations. Sorting closed period data out of the 30-sample dataset does not improve water quality statistics at most Conditionally Approved stations. The Department should evaluate whether the Skokomish River condition is still appropriate.

The Department should continue to work with Mason County, the Skokomish Tribe, and others to identify and correct sources of pollution in the Annas Bay watershed.

Management Plan Evaluation

1. Have all parties involved complied with the conditions of the management planYes
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 harvestNo
4. Has a field inspection of critical pollution sources been conductedYes

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

Sampling Event Type: Regulatory

Maximum Number of Samples: 30

Tides Included: All

Table includes data collected during all conditions, including Skokomish River flooding events.

| Station Number | Classification | Date Range | Range (FC/100mL) | Geomean (FC/100mL) | Est. 90 th Percentile (FC/100mL) | Meets Standard |
|----------------|------------------------|------------------------|------------------|--------------------|---|----------------|
| 201 | Approved | 6/15/2021 - 12/12/2023 | 1.7 - 17.0 | 2.3 | 4.8 | Y |
| 202 | Approved | 6/15/2021 - 12/12/2023 | 1.7 - 49.0 | 2.9 | 9.7 | Y |
| 203 | Approved | 6/15/2021 - 12/12/2023 | 1.7 - 33.0 | 2.8 | 8.7 | Y |
| 204 | Approved | 6/15/2021 - 12/12/2023 | 1.7 - 13.0 | 2.1 | 4.3 | Y |
| 195 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 130.0 | 6.6 | 33.5 | Y |
| 196 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 130.0 | 3.9 | 19.1 | Y |
| 197 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 79.0 | 9.3 | 42.8 | Y |
| 199 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 49.0 | 3.4 | 13.5 | Y |
| 200 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 23.0 | 2.8 | 8.0 | Y |
| 206 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 70.0 | 5.5 | 25.2 | Y |
| 299 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 49.0 | 4.5 | 18.9 | Y |
| 300 | Conditionally Approved | 6/15/2021 - 12/12/2023 | 1.7 - 79.0 | 5.3 | 26.8 | Y |
| 323 | Conditionally Approved | 7/29/2021 - 12/12/2023 | 1.7 - 49.0 | 2.6 | 7.8 | *N/A |
| 198 | Restricted | 6/15/2021 - 12/12/2023 | 1.7 - 94.0 | 14.8 | 77.9 | N |
| 314 | Restricted | 6/15/2021 - 12/12/2023 | 1.7 - 79.0 | 11.2 | 42.1 | Y |

The standard for Approved shellfish growing waters is a 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.

* N/A – SRS criteria require a minimum of 30 samples from each station.

TABLE 2. Summary of Sorted Marine Water Data for the Conditionally Approved Stations in the Annas Bay Growing Area

Sampling Event Type: Regulatory

Maximum Number of Samples: 30

Tides Included: All

Data collected during Skokomish River flooding closures is not included.

| Station Number | Classification | Date Range | Range (FC/100mL) | Geomean (FC/100mL) | Est. 90 th Percentile (FC/100mL) | Meets Standard |
|----------------|------------------------|-----------------------|------------------|--------------------|---|----------------|
| 195 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 170.0 | 8.6 | 47.9 | N |
| 196 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 170.0 | 3.8 | 19.6 | Y |
| 197 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 350.0 | 8.7 | 44.6 | N |
| 199 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 110.0 | 3.2 | 14.6 | Y |
| 200 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 170.0 | 2.6 | 9.3 | Y |
| 206 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 130.0 | 4.5 | 19.9 | Y |
| 299 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 350.0 | 3.9 | 20.1 | Y |
| 300 | Conditionally Approved | 9/18/2019 – 9/25/2023 | 1.7 - 240.0 | 6.3 | 40.8 | Y |
| 323 | Conditionally Approved | 7/29/2021 – 9/25/2023 | 1.7 – 13.0 | 2.5 | 6.2 | *N/A |

The standard for Approved shellfish growing waters is a 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.

* N/A – SRS criteria require a minimum of 30 samples from each station. Station 323 has 16 samples.

TABLE 3. Marine Water Data Summary during Open Status for Failing and Threatened Stations in Annas Bay

Station: 195

Classification: Conditionally Approved

Method: SRS

Data collected during Skokomish River flooding closures is not included.

| Total Samples: 30 Range (FC/100 mL): 1.7 - 170 GeoMean (FC/100 mL): 8.6 | | | | Date Range: 9/18/2019– 9/25/2023 E90th (FC/100 mL): 47.9 Meets Standard: N | | |
|--|------------|-------|-------|---|----------|----------------|
| Sample Date | Event Type | Time | Tide | SWT | Salinity | Fecal Coliform |
| 9/18/2019 | Regulatory | 10:01 | Ebb | 13 | 7 | 170 |
| 11/6/2019 | Regulatory | 10:44 | Flood | 8 | 3 | 23 |
| 3/17/2020 | Regulatory | 10:13 | Flood | 7 | 17 | 1.7 |
| 5/28/2020 | Regulatory | 9:27 | Ebb | 15 | 9 | 33 |
| 6/25/2020 | Regulatory | 8:32 | Ebb | 18 | 20 | 79 |
| 7/28/2020 | Regulatory | 11:44 | Flood | 21 | 23 | 2 |
| 8/25/2020 | Regulatory | 9:49 | Flood | 18 | 26 | 6.1 |
| 9/23/2020 | Regulatory | 9:35 | Flood | 16 | 23 | 4.5 |
| 10/8/2020 | Regulatory | 9:38 | Flood | 15 | 14 | 23 |
| 12/8/2020 | Regulatory | 11:03 | Flood | 10 | 20 | 6.8 |
| 2/18/2021 | Regulatory | 9:44 | Ebb | 5 | 6 | 1.7 |
| 4/19/2021 | Regulatory | 9:20 | Flood | 12 | 14 | 23 |
| 5/3/2021 | Regulatory | 9:42 | Ebb | 13 | 21 | 11 |
| 6/15/2021 | Regulatory | 8:15 | Flood | 14 | 22 | 64 |
| 7/29/2021 | Regulatory | 9:13 | Flood | 22 | 22 | 11 |
| 8/16/2021 | Regulatory | 12:10 | Flood | 19 | 24 | 6.1 |
| 9/15/2021 | Regulatory | 12:15 | Flood | 16 | 26 | 23 |
| 2/8/2022 | Regulatory | 9:13 | Flood | 8 | 15 | 2 |
| 3/14/2022 | Regulatory | 13:46 | Flood | 8 | 3 | 2 |
| 5/25/2022 | Regulatory | 14:23 | Flood | 14 | 16 | 1.7 |
| 6/23/2022 | Regulatory | 13:26 | Flood | 18 | 20 | 1.7 |
| 7/19/2022 | Regulatory | 9:43 | Flood | 18 | 19 | 17 |
| 8/3/2022 | Regulatory | 9:23 | Flood | 19 | 25 | 33 |
| 9/28/2022 | Regulatory | 9:17 | Ebb | 15 | 25 | 4.5 |
| 10/17/2022 | Regulatory | 10:12 | Flood | 14 | 14 | 14 |
| 12/21/2022 | Regulatory | 10:20 | Flood | 3 | 16 | 2 |
| 5/10/2023 | Regulatory | 9:41 | Ebb | 12 | 12 | 2 |
| 6/22/2023 | Regulatory | 8:20 | Ebb | 16 | 22 | 4.5 |
| 8/22/2023 | Regulatory | 11:19 | Ebb | 18 | 23 | 4.5 |
| 9/25/2023 | Regulatory | 14:26 | Flood | 14 | 14 | 49 |

TABLE 3 Continued

Station: 197

Classification: Conditionally Approved

Method: SRS

Data collected during Skokomish River flooding closures is not included.

| Total Samples: 30 Range (FC/100 mL): 1.7 - 350 GeoMean (FC/100 mL): 8.7 | | | | Date Range: 9/18/2019– 9/25/2023 E90th (FC/100 mL): 44.6 Meets Standard: N | | |
|--|------------|-------|-------|---|----------|----------------|
| Sample Date | Event Type | Time | Tide | SWT | Salinity | Fecal Coliform |
| 9/18/2019 | Regulatory | 10:03 | Ebb | 13 | 7 | 350 |
| 11/6/2019 | Regulatory | 10:46 | Flood | 8 | 3 | 7.8 |
| 3/17/2020 | Regulatory | 10:15 | Flood | 6 | 12 | 1.7 |
| 5/28/2020 | Regulatory | 9:30 | Ebb | 16 | 8 | 17 |
| 6/25/2020 | Regulatory | 8:34 | Ebb | 18 | 18 | 33 |
| 7/28/2020 | Regulatory | 12:14 | Flood | 20 | 19 | 6.8 |
| 8/25/2020 | Regulatory | 9:53 | Flood | 16 | 20 | 22 |
| 9/23/2020 | Regulatory | 9:37 | Flood | 15 | 20 | 2 |
| 10/8/2020 | Regulatory | 9:41 | Flood | 14 | 15 | 13 |
| 12/8/2020 | Regulatory | 11:05 | Flood | 10 | 16 | 4 |
| 2/18/2021 | Regulatory | 9:46 | Ebb | 5 | 2 | 7.8 |
| 4/19/2021 | Regulatory | 9:22 | Flood | 12 | 14 | 4.5 |
| 5/3/2021 | Regulatory | 9:44 | Ebb | 12 | 19 | 2 |
| 6/15/2021 | Regulatory | 8:17 | Flood | 14 | 18 | 79 |
| 7/29/2021 | Regulatory | 9:15 | Flood | 22 | 22 | 7.8 |
| 8/16/2021 | Regulatory | 12:12 | Flood | 18 | 22 | 6.8 |
| 9/15/2021 | Regulatory | 12:17 | Flood | 16 | 25 | 2 |
| 2/8/2022 | Regulatory | 9:15 | Flood | 7 | 8 | 4.5 |
| 3/14/2022 | Regulatory | 13:48 | Flood | 8 | 3 | 6.8 |
| 5/25/2022 | Regulatory | 14:26 | Flood | 14 | 17 | 1.7 |
| 6/23/2022 | Regulatory | 13:29 | Flood | 18 | 17 | 1.7 |
| 7/19/2022 | Regulatory | 9:47 | Flood | 18 | 12 | 21 |
| 8/3/2022 | Regulatory | 9:26 | Flood | 18 | 25 | 7.8 |
| 9/28/2022 | Regulatory | 9:19 | Ebb | 15 | 17 | 13 |
| 10/17/2022 | Regulatory | 10:14 | Flood | 13 | 3 | 17 |
| 12/21/2022 | Regulatory | 10:22 | Flood | 4 | 13 | 2 |
| 5/10/2023 | Regulatory | 9:44 | Ebb | 12 | 15 | 7.8 |
| 6/22/2023 | Regulatory | 8:22 | Ebb | 16 | 14 | 23 |
| 8/22/2023 | Regulatory | 11:17 | Ebb | 18 | 23 | 6.8 |
| 9/25/2023 | Regulatory | 14:28 | Flood | 14 | 12 | 79 |

TABLE 3 Continued

Station: 300

Classification: Conditionally Approved

Method: SRS

Data collected during Skokomish River flooding closures is not included.

| Total Samples: 30 Range (FC/100 mL): 1.7 - 240 GeoMean (FC/100 mL): 6.3 | | | | Date Range: 9/18/2019– 9/25/2023 E90th (FC/100 mL): 40.8 Meets Standard: Y | | |
|--|------------|-------|-------|---|----------|----------------|
| Sample Date | Event Type | Time | Tide | SWT | Salinity | Fecal Coliform |
| 9/18/2019 | Regulatory | 9:59 | Ebb | 13 | 12 | 240 |
| 11/6/2019 | Regulatory | 10:42 | Flood | 9 | 4 | 13 |
| 3/17/2020 | Regulatory | 10:10 | Flood | 7 | 12 | 1.7 |
| 5/28/2020 | Regulatory | 9:25 | Ebb | 15 | 20 | 33 |
| 6/25/2020 | Regulatory | 8:30 | Ebb | 18 | 24 | 13 |
| 7/28/2020 | Regulatory | 11:43 | Flood | 21 | 25 | 1.7 |
| 8/25/2020 | Regulatory | 9:46 | Flood | 18 | 26 | 1.7 |
| 9/23/2020 | Regulatory | 9:33 | Flood | 16 | 23 | 7.8 |
| 10/8/2020 | Regulatory | 9:36 | Flood | 15 | 17 | 7.8 |
| 12/8/2020 | Regulatory | 11:01 | Flood | 10 | 28 | 2 |
| 2/18/2021 | Regulatory | 9:40 | Ebb | 5 | 12 | 1.7 |
| 4/19/2021 | Regulatory | 9:14 | Flood | 12 | 17 | 7.8 |
| 5/3/2021 | Regulatory | 9:41 | Ebb | 13 | 23 | 1.8 |
| 6/15/2021 | Regulatory | 8:13 | Flood | 14 | 22 | 79 |
| 7/29/2021 | Regulatory | 9:11 | Flood | 22 | 24 | 2 |
| 8/16/2021 | Regulatory | 12:08 | Flood | 18 | 26 | 1.7 |
| 9/15/2021 | Regulatory | 12:13 | Flood | 16 | 25 | 17 |
| 2/8/2022 | Regulatory | 9:11 | Flood | 8 | 20 | 1.7 |
| 3/14/2022 | Regulatory | 13:54 | Flood | 8 | 5 | 2 |
| 5/25/2022 | Regulatory | 14:20 | Flood | 13 | 20 | 1.7 |
| 6/23/2022 | Regulatory | 13:25 | Flood | 18 | 20 | 1.7 |
| 7/19/2022 | Regulatory | 9:42 | Flood | 18 | 17 | 79 |
| 8/3/2022 | Regulatory | 9:21 | Flood | 19 | 25 | 49 |
| 9/28/2022 | Regulatory | 9:15 | Ebb | 15 | 25 | 2 |
| 10/17/2022 | Regulatory | 10:11 | Flood | 13 | 21 | 7.8 |
| 12/21/2022 | Regulatory | 10:17 | Flood | 3 | 17 | 1.7 |
| 5/10/2023 | Regulatory | 9:37 | Ebb | 12 | 12 | 23 |
| 6/22/2023 | Regulatory | 8:17 | Ebb | 16 | 18 | 13 |
| 8/22/2023 | Regulatory | 11:20 | Ebb | 18 | 24 | 2 |
| 9/25/2023 | Regulatory | 14:25 | Flood | 14 | 20 | 17 |

MAP 1. Annas Bay Growing Area

