

# Annas Bay

## Annual Shellfish Growing Area Review



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Area: Annas Bay

Year Ending: December 31, 2022

Classification: Approved, Conditionally Approved, Restricted

### Activities in the Growing Area in 2022

The growing area was sampled 12 times in accordance with National Shellfish Sanitation Program (NSSP) Systematic Random Sampling (SRS) criteria. Nine sampling events occurred during Open status. The Conditionally Approved portion of the growing area was closed 11 times for 130 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 Restricted portion to the Hood Canal 5 and 9 growing areas from November 1 through April 30 for varnish clams.

The Mason Clean Water District continued to implement the 2018 closure response plan. 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. It includes eight sample events when the Conditionally Approved area was closed to harvest. Table 2 shows the Conditionally Approved stations during Open status (based on the Skokomish River condition). After removing Closed status data, Station 195 fails NSSP standards with an estimated 90<sup>th</sup> percentile of 45.2 FC/100 mL. Stations 197 and 300 are categorized as Threatened with estimated 90<sup>th</sup> percentiles of 36.3 FC/100 mL and 34.5 FC/100mL, respectively. 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 some concerns
- Meets standards, but threatened with downgrade in classification
- Fails to meet current classification standards

### Remarks and Recommendations

Station 195 fails the NSSP standards for a Conditionally Approved classification. The Department should evaluate the classification of this station. 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 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 .....No
4. Has a field inspection of critical pollution sources been conducted ..... Yes

**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

Station Number	Classification	Date Range	Range (FC/100mL)	Geomean (FC/100mL)	Est. 90 <sup>th</sup> Percentile (FC/100mL)	Meets Standard
201	Approved	6/25/2020 - 12/21/2022	1.7 - 23.0	2.3	5.7	Y
202	Approved	6/25/2020 - 12/21/2022	1.7 - 49.0	2.9	9.4	Y
203	Approved	6/25/2020 - 12/21/2022	1.7 - 70.0	2.6	8.9	Y
204	Approved	6/25/2020 - 12/21/2022	1.7 - 13.0	2.1	4.0	Y
195	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 130.0	8.3	45.8	N
196	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 130.0	3.3	12.9	Y
197	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 79.0	7.2	31.1	Y
199	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 49.0	2.7	9.4	Y
200	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 17.0	2.3	4.8	Y
206	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 70.0	4.1	18.3	Y
299	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 49.0	4.1	16.0	Y
300	Conditionally Approved	6/25/2020 - 12/21/2022	1.7 - 79.0	4.5	22.8	Y
323	Conditionally Approved	7/29/2021 - 12/21/2022	1.7 - 13.0	2.5	6.1	*N/A
198	Restricted	6/25/2020 - 12/21/2022	1.7 - 94.0	15.1	68.6	N
314	Restricted	6/25/2020 - 12/21/2022	1.7 - 110.0	12.0	52.5	N

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 <sup>th</sup> Percentile (FC/100mL)	Meets Standard
195	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 170.0	8.3	45.2	N
196	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 170.0	3.0	13.7	Y
197	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 350.0	7.4	36.3	Y
199	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 110.0	2.7	10.1	Y
200	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 170.0	2.3	7.1	Y
206	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 130.0	3.8	16.3	Y
299	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 350.0	3.4	16.1	Y
300	Conditionally Approved	5/9/2019 – 12/21/2022	1.7 - 240.0	5.5	34.5	Y
323	Conditionally Approved	7/29/2021 – 12/21/2022	1.7 – 13.0	2.3	5.0	*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.

**TABLE 3. Marine Water Data Summary for Threatened and Failing Stations in Annas Bay**

Station: 195

Classification: Conditionally Approved

Method: SRS

Data collected during Skokomish River flooding closures is not included.

<b>Total Samples: 30</b> <b>Range (FC/100 mL): 1.7 - 170</b> <b>GeoMean (FC/100 mL): 8.3</b>				<b>Date Range: 5/9/2019 – 12/21/2022</b> <b>E90th (FC/100 mL): 45.2</b> <b>Meets Standard: N</b>		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
5/9/2019	Regulatory	6:58	Flood	15	9	23
6/12/2019	Regulatory	12:57	Flood	20	22	1.7
7/11/2019	Regulatory	12:56	Flood	19	26	4.5
8/20/2019	Regulatory	8:44	Flood	17	25	4
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

**TABLE 3 Continued**

Station: 197

Classification: Conditionally Approved

Method: SRS

Data collected during Skokomish River flooding closures is not included.

<b>Total Samples: 30</b> <b>Range (FC/100 mL): 1.7 - 350</b> <b>GeoMean (FC/100 mL): 7.4</b>				<b>Date Range: 5/9/2019 – 12/21/2022</b> <b>E90th (FC/100 mL): 31.1</b> <b>Meets Standard: Y</b>		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
5/9/2019	Regulatory	7:01	Flood	15	11	17
6/12/2019	Regulatory	12:59	Flood	21	17	1.7
7/11/2019	Regulatory	12:59	Flood	19	26	4
8/20/2019	Regulatory	8:46	Flood	17	25	7.8
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

**TABLE 3 Continued**

Station: 300

Classification: Conditionally Approved

Method: SRS

Data collected during Skokomish River flooding closures is not included.

<b>Total Samples: 30</b> <b>Range (FC/100 mL): 1.7 - 240</b> <b>GeoMean (FC/100 mL): 5.5</b>				<b>Date Range: 5/9/2019 – 12/21/2022</b> <b>E90th (FC/100 mL): 34.5</b> <b>Meets Standard: Y</b>		
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
5/9/2019	Regulatory	6:56	Flood	16	23	4.5
6/12/2019	Regulatory	12:54	Flood	20	22	1.7
7/11/2019	Regulatory	12:54	Flood	19	26	7.8
8/20/2019	Regulatory	8:42	Flood	17	26	4
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



MAP 1. Annas Bay Growing Area

