

**Washington State Department of Health
Office of Environmental Health and Safety**

Annual Growing Area Review

PREPARED BY: Trevor Swanson
AREA: Annas Bay
YEAR ENDING: December 31, 2015
CLASSIFICATION: Approved, Conditionally Approved

Activities in the Growing Area in 2015

The growing area was sampled 12 times in accordance with National Shellfish Sanitation Program (NSSP) Systematic Random Sampling criteria. A portion of Annas Bay was closed 9 times for a total of 97 days due to flooding on the Skokomish River. The classification of Station 314 and the area around it was changed from Unclassified to Approved. The Conditionally Approved area around the Union Marina was closed from May 1st through November 30th based on boat moorage. The Conditionally Approved area was sampled five times in open status.

The Department and Mason County investigated a potential septic tank failure at the Minerva Beach community in Annas Bay, next to Potlatch State Park. Corrective action was taken and subsequent sampling showed the issue to be resolved in December 2015.

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. All stations meet NSSP criteria for their respective classifications. Stations 197, 206, and 314 are categorized as Threatened, while stations 195, 198, 204, and 299 have a Concerned status. Tables 2 through 4 show individual results for the Threatened stations.

Change in Actual Pollution Sources that Impact the Growing Area

Other than the possible pollution source mentioned above that was investigated and corrected in 2015, there is no information indicating the area has any new sources of pollution.

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Annual Growing Area Review

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 should be evaluated for a Conditionally Approved classification based on the impact of flooding on the Skokomish River.

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)
Growing Area: Annas Bay**

Sampling Event Type: Regulatory
Maximum Number of Samples: 30

Tides Included: ALL

Station Number	Classification	Date Range	Range (FC/100 mL)	GeoMean (FC/100 mL)	E90th (FC/100 mL)	Meets Standard
195	Approved	7/29/2013 - 12/30/2015	1.7 - 49.0	5.2	22.0	Y
196	Approved	6/20/2013 - 12/30/2015	1.7 - 23.0	3.2	9.4	Y
197	Approved	7/29/2013 - 12/30/2015	1.7 - 79.0	8.0	35.1	Y
198	Approved	7/29/2013 - 12/30/2015	1.7 - 49.0	6.9	21.4	Y
199	Approved	7/29/2013 - 12/30/2015	1.7 - 33.0	2.9	8.5	Y
200	Approved	7/29/2013 - 12/30/2015	1.7 - 27.0	2.8	7.4	Y
201	Approved	7/29/2013 - 12/30/2015	1.7 - 79.0	2.4	6.6	Y
202	Approved	7/29/2013 - 12/30/2015	1.7 - 33.0	3.2	10.8	Y
203	Approved	7/29/2013 - 12/30/2015	1.7 - 350.0	2.9	11.6	Y
204	Approved	7/29/2013 - 12/30/2015	1.7 - 170.0	4.3	22.7	Y
205	Approved	7/29/2013 - 12/30/2015	1.7 - 23.0	2.6	6.2	Y
206	Approved	7/29/2013 - 12/30/2015	1.7 - 130.0	7.1	32.5	Y
299	Approved	7/29/2013 - 12/30/2015	1.7 - 95.0	5.1	21.8	Y
314	Approved	9/18/2013 - 12/30/2015	1.7 - 540.0	8.6	37.0	Y
300	Conditionally Approved	7/29/2013 - 12/30/2015	1.7 - 49.0	3.6	12.5	Y

The above table shows bacteriological results in relation to NSSP criteria. NSSP standards 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/100mL.

TABLE 2**Marine Water Quality Summary
Growing Area: Annas Bay
Station 197**

Classification: Approved
Meets Standard: Y
Total Samples: 30

Sample Date	Event Type	Time	Tide	Surface Water Temperature	Salinity (ppt)	Fecal Coliform (FC/100 mL)
07/29/2013	Regulatory	10:41	Flood	15	11	17.0
08/28/2013	Regulatory	11:01	Flood	17	13	26.0
09/18/2013	Regulatory	13:56	Flood	16	24	4.5
10/22/2013	Regulatory	10:09	Ebb	11	10	1.7
11/18/2013	Regulatory	10:54	Ebb	10	10	79.0
12/17/2013	Regulatory	10:05	Ebb	7	11	2.0
01/02/2014	Regulatory	10:02	Ebb	8	16	7.8
02/04/2014	Regulatory	09:50	Ebb	3	14	21.0
03/27/2014	Regulatory	12:26	Flood	9	3	4.5
04/02/2014	Regulatory	09:49	Ebb	9	8	2.0
05/19/2014	Regulatory	09:13	Ebb	13	21	17.0
06/10/2014	Regulatory	14:20	Flood	17	22	2.0
07/09/2014	Regulatory	14:19	Flood	19	26	1.7
08/04/2014	Regulatory	12:48	Flood	21	19	2.0
09/22/2014	Regulatory	14:44	Flood	14	22	2.0
10/02/2014	Regulatory	12:31	Flood	15	15	4.5
11/06/2014	Regulatory	13:07	Flood	11	9	23.0
12/22/2014	Regulatory	10:59	Ebb	8	3	17.0
01/22/2015	Regulatory	09:22	Ebb	8	8	13.0
02/10/2015	Regulatory	09:40	Ebb	10	12	7.8
03/11/2015	Regulatory	09:41	Ebb	11	16	1.7
04/23/2015	Regulatory	08:40	Flood	13	20	1.7
05/20/2015	Regulatory	07:12	Ebb	15	24	17.0
06/09/2015	Regulatory	10:40	Flood	20	22	49.0
07/09/2015	Regulatory	12:11	Flood	21	22	17.0
08/19/2015	Regulatory	09:25	Ebb	18	22	17.0
09/21/2015	Regulatory	11:40	Flood	14	21	23.0
10/22/2015	Regulatory	12:10	Flood	14	9	17.0
11/04/2015	Regulatory	12:22	Flood	10	3	22.0
12/30/2015	Regulatory	09:50	Ebb	5	10	6.8

TABLE 3

**Marine Water Quality Summary
Growing Area: Annas Bay
Station 206**

Classification: Approved
Meets Standard: Y
Total Samples: 30

Sample Date	Event Type	Time	Tide	Surface Water Temperature	Salinity (ppt)	Fecal Coliform (FC/100 mL)
07/29/2013	Regulatory	10:34	Flood	15	20	23.0
08/28/2013	Regulatory	11:16	Flood	18	13	13.0
09/18/2013	Regulatory	14:13	Flood	17	25	2.0
10/22/2013	Regulatory	10:32	Ebb	10	1	7.8
11/18/2013	Regulatory	10:30	Ebb	10	14	11.0
12/17/2013	Regulatory	09:53	Ebb	7	10	49.0
01/02/2014	Regulatory	09:44	Ebb	8	13	49.0
02/04/2014	Regulatory	09:34	Ebb	4	2	13.0
03/27/2014	Regulatory	12:08	Flood	9	2	4.5
04/02/2014	Regulatory	09:32	Ebb	8	7	4.5
05/19/2014	Regulatory	09:26	Ebb	10	5	2.0
06/10/2014	Regulatory	14:04	Flood	17	23	1.7
07/09/2014	Regulatory	14:43	Flood	19	26	1.7
08/04/2014	Regulatory	13:00	Ebb	23	19	1.7
09/22/2014	Regulatory	14:56	Flood	14	27	4.5
10/02/2014	Regulatory	12:13	Flood	15	15	1.7
11/06/2014	Regulatory	13:21	Flood	11	23	6.8
12/22/2014	Regulatory	11:27	Ebb	8	1	6.8
01/22/2015	Regulatory	09:38	Ebb	8	3	13.0
02/10/2015	Regulatory	10:01	Ebb	10	10	7.8
03/11/2015	Regulatory	09:59	Ebb	10	7	1.7
04/23/2015	Regulatory	08:55	Ebb	13	12	4.0
05/20/2015	Regulatory	07:35	Ebb	13	18	12.0
06/09/2015	Regulatory	11:03	Flood	21	21	13.0
07/09/2015	Regulatory	12:40	Flood	21	22	1.7
08/19/2015	Regulatory	09:46	Ebb	19	14	17.0
09/21/2015	Regulatory	12:02	Flood	15	19	33.0
10/22/2015	Regulatory	12:29	Flood	14	22	2.0
11/04/2015	Regulatory	12:51	Ebb	10	3	13.0
12/30/2015	Regulatory	10:08	Ebb	4	2	130.0

TABLE 4

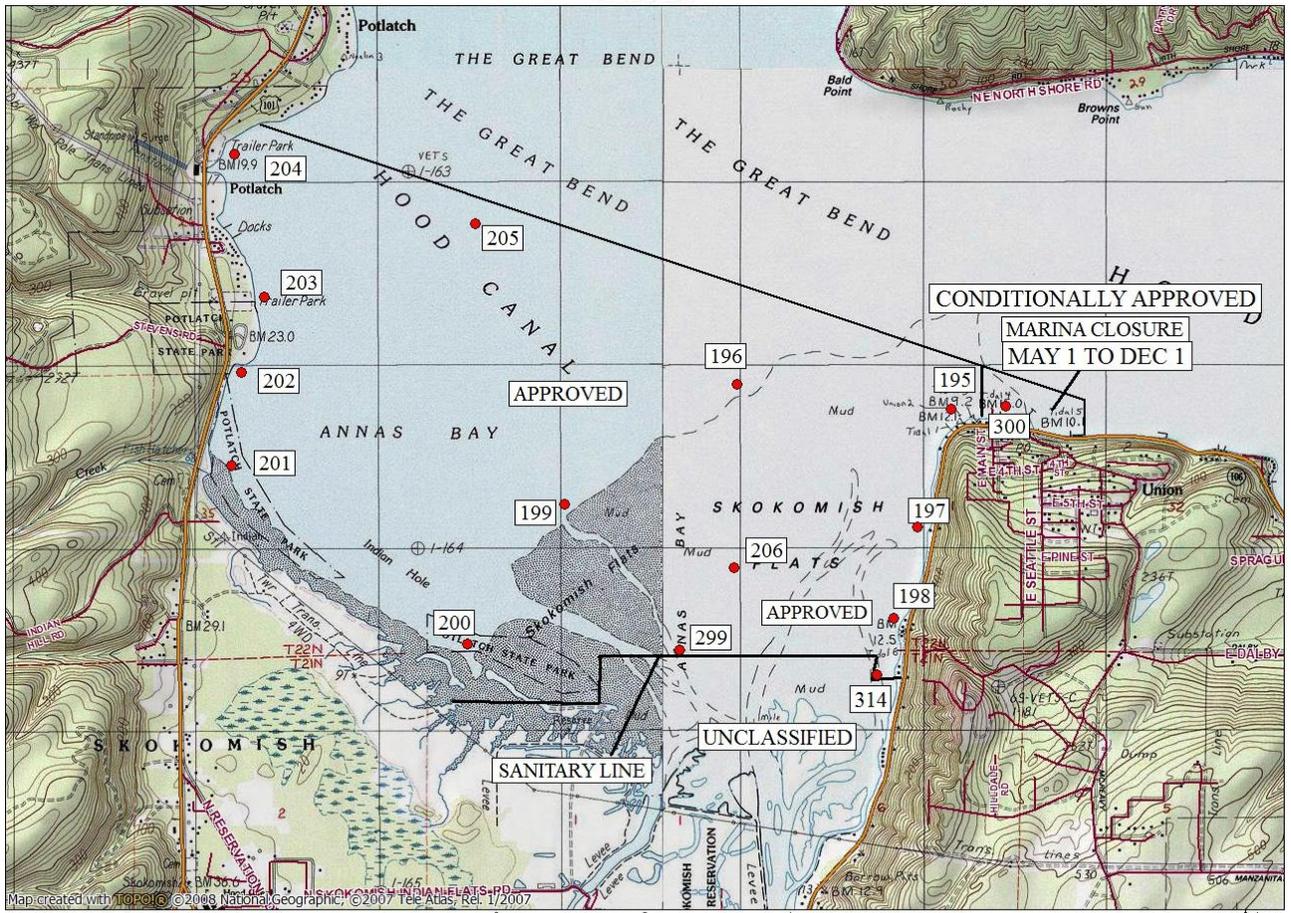
Marine Water Quality Summary
Growing Area: Annas Bay
Station 314

Classification: Approved
 Meets Standard: Y
 Total Samples: 30

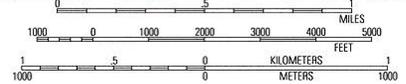
Sample Date	Event Type	Time	Tide	Surface Water Temperature	Salinity (ppt)	Fecal Coliform (FC/100 mL)
09/18/2013	Regulatory	14:03	Flood	16	23	4.5
10/22/2013	Regulatory	10:16	Ebb	10	6	7.8
11/06/2013	Regulatory	16:15	Flood		6	4.5
12/17/2013	Regulatory	10:11	Ebb	8	27	4.0
01/02/2014	Regulatory	10:10	Ebb	8	7	11.0
02/04/2014	Regulatory	09:58	Ebb	5	7	13.0
02/12/2014	Regulatory	13:45	Flood	7	7	17.0
03/27/2014	Regulatory	12:32	Flood	9	0	7.8
04/02/2014	Regulatory	09:45	Ebb	8	16	4.5
05/07/2014	Regulatory	11:00	Flood	4	5	11.0
05/19/2014	Regulatory	09:20	Ebb	10	1	23.0
06/10/2014	Regulatory	14:28	Flood	18	21	1.7
07/09/2014	Regulatory	14:28	Flood	19	15	6.8
08/04/2014	Regulatory	13:14	Ebb	23	20	1.7
09/22/2014	Regulatory	14:51	Flood	14	19	1.8
10/02/2014	Regulatory	12:26	Flood	15	10	1.7
11/06/2014	Regulatory	13:12	Flood	11	9	14.0
12/22/2014	Regulatory	11:07	Ebb	8	2	33.0
01/22/2015	Regulatory	09:26	Ebb	8	5	13.0
02/10/2015	Regulatory	09:46	Ebb	9	8	4.5
03/11/2015	Regulatory	09:46	Ebb	10	17	4.5
04/23/2015	Regulatory	08:45	Flood	11	6	4.5
05/20/2015	Regulatory	07:17	Ebb	14	15	22.0
06/09/2015	Regulatory	10:47	Flood	20	24	540.0
07/09/2015	Regulatory	12:18	Flood	21	21	23.0
08/19/2015	Regulatory	09:31	Ebb	18	19	13.0
09/21/2015	Regulatory	11:46	Flood	14	19	12.0
10/22/2015	Regulatory	12:14	Flood	13	13	4.5
11/04/2015	Regulatory	12:28	Flood	10	3	17.0
12/30/2015	Regulatory	09:55	Ebb	5	3	7.8

MAP 1

ANNAS BAY



Map created with Topo! © 2003 National Geographic, © 2007 Tele Atlas, Rel. 1/2007



TN MN
16°
01/15/15