

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

Annual Growing Area Review

PREPARED BY: Jean Snyder
AREA: Burley Lagoon
YEAR ENDING: December 31, 2015
CLASSIFICATION: Approved, Conditionally Approved, Restricted

Activities in the Growing Area in 2015

The Burley Lagoon Growing Area was sampled 12 times. Nine of the samples were collected during the Open status in accordance with the NSSP Systematic Random Sampling method. The Conditionally Approved area was closed 9 times throughout the year for a total of 55 days due to rainfall (≥ 1 -inch in 24-hours). The entire growing area was closed for 7 days in December due to excessive rainfall conditions (> 3 -inches rainfall in 24-hours). The Tacoma-Pierce County Health Department and Kitsap Public Health District continued pollution identification and correction work in the Burley Lagoon watershed. The Burley Lagoon Shellfish Protection District continues to meet quarterly.

Analytical Results of Water Samples

Table 1 summarizes results of the most recent 30 samples collected from each station in the area. All stations in the Approved area meet NSSP water quality standards. Table 2 summarizes results of the most recent 30 samples collected from each station in the Conditionally Approved and Restricted areas when less than 1-inch of rain fell in 24 hours within 5 days of the sampling event. All stations meet their respective classifications; however, Station 331 is “Threatened” and stations 334, 337, 342, and 772 are “Concerned”. There is a worsening water quality trend from 2014 to 2015, which may be the result of bacteria sample results greater than 100 FC/100 mL at 5 of the 14 stations on June 9, 2015. The elevated bacteria results were not related to a rainfall event. Table 3 shows the individual results for the Threatened Station, 331.

Change in Actual Pollution Sources that Impact the Growing Area

There is 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

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Remarks and Recommendations

Because of limited rainfall-related sampling data collected from 2012 to 2015, the Department should evaluate the “special” samples collected during rainfall events exceeding 1-inch in 24-hours and pollution source corrections completed by the local health jurisdiction prior to upgrading the classification.

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: Burley Lagoon
All Station Unsorted**

Sampling Event Type: Regulatory

Tides Included: ALL

Number of Samples: 30

Station Number	Classification	Date Range	Range (FC/100 mL)	GeoMean (FC/100 mL)	E90 th (FC/100 mL)	Meets Standard
334	Approved	7/15/2013 - 12/3/2015	1.7 - 240.0	5.6	26.6	Y
335	Approved	7/15/2013 - 12/3/2015	1.7 - 33.0	3.6	10.1	Y
343	Approved	7/15/2013 - 12/3/2015	1.7 - 49.0	3.8	16.3	Y
344	Approved	7/15/2013 - 12/3/2015	1.7 - 130.0	4.2	18.3	Y
331	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 170.0	5.8	31.7	Y
333	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 23.0	3.3	10.8	Y
336	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 33.0	3.2	10.7	Y
337	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 110.0	6.3	34.1	Y
338	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 33.0	3.5	12.4	Y
339	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 110.0	5.0	22.1	Y
340	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 79.0	4.7	19.3	Y
342	Conditionally Approved	6/27/2013 - 12/3/2015	1.7 - 170.0	5.5	28.2	Y
772	Conditionally Approved	7/15/2013 - 12/3/2015	1.7 - 79.0	6.9	31.2	Y
694	Restricted	7/15/2013 - 12/3/2015	1.7 - 130.0	8.7	43.7	N

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

Summary of Marine Water Data (SRS) Growing Area: Burley Lagoon Sorted data (<1-inch of rainfall 0-4 days prior to sampling)

Sampling Event Type: Regulatory

Tides Included: ALL

Number of Samples: 30

Station Number	Classification	Date Range	Range (FC/100 mL)	GeoMean (FC/100 mL)	E90 th (FC/100 mL)	Meets Standard
331	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 170.0	5.1	29.3	Y
333	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 23.0	3.0	8.2	Y
336	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 33.0	2.8	8.1	Y
337	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 79.0	5.3	24.2	Y
338	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 23.0	2.9	8.2	Y
339	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 110.0	4.2	16.6	Y
340	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 79.0	4.1	14.8	Y
342	Conditionally Approved	2/21/2013 - 12/3/2015	1.7 - 170.0	4.4	20.7	Y
772	Conditionally Approved	3/19/2013 - 12/3/2015	1.7 - 79.0	6.4	26.8	Y
694	Restricted	3/19/2013 - 12/3/2015	1.7 - 130.0	7.4	37.2	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 3

Data Summary of Threatened Marine Station (SRS)

Station: 331

Classification: Conditionally
Approved

Method: SRS

Total Samples: 30

Range (FC/100 mL): 1.7 - 170.0

GeoMean (FC/100 mL): 5.1

Date Range: 03/19/2013 - 12/03/2015

E90th (FC/100 mL): 29.3

Meets Standard: Y

Includes data for rainfall amounts 0.00-0.99 on days 0-4 previous to the sampling event.

Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
03/19/2013	Regulatory	11:31	Ebb	7	22	1.7
04/03/2013	Regulatory	11:56	Ebb	11	24	2.0
05/16/2013	Regulatory	11:32	Ebb	15	24	1.7
06/27/2013	Regulatory	10:16	Ebb	17	23	23.0
07/15/2013	Regulatory	11:32	Flood	17	26	2.0
08/27/2013	Regulatory	10:56	Flood	17	28	4.5
09/24/2013	Regulatory	10:50	Ebb	14	25	4.5
10/22/2013	Regulatory	11:00	Ebb	12	30	1.8
11/06/2013	Regulatory	10:44	Ebb	11	29	33.0
12/11/2013	Regulatory	11:16	Flood	6	27	1.7
01/28/2014	Regulatory	11:11	Flood	8	29	2.0
02/05/2014	Regulatory	11:49	Ebb	5	28	1.7
03/24/2014	Regulatory	10:59	Flood	8	26	2.0
04/08/2014	Regulatory	11:25	Flood	11	19	1.7
05/20/2014	Regulatory	10:48	Ebb	15	26	4.5
06/04/2014	Regulatory	11:18	Ebb	16	25	2.0
07/30/2014	Regulatory	08:32	Ebb	18	28	79.0
08/18/2014	Regulatory	12:10	Flood	18	26	49.0
09/16/2014	Regulatory	11:07	Flood	15	28	11.0
10/02/2014	Regulatory	11:54	Flood	14	29	33.0
11/13/2014	Regulatory	11:32	Ebb	10	28	1.8
02/26/2015	Regulatory	11:14	Flood	10	17	4.5
03/11/2015	Regulatory	11:44	Ebb	10	26	2.0
04/22/2015	Regulatory	11:05	Ebb	13	27	1.7
05/12/2015	Regulatory	11:42	Flood	14	27	23.0
06/09/2015	Regulatory	11:18	Flood	18	26	170.0
07/07/2015	Regulatory	12:00	Ebb	20	28	4.5
08/06/2015	Regulatory	10:55	Flood	18	29	2.0
10/06/2015	Regulatory	11:59	Flood	14	28	1.7
12/03/2015	Regulatory	11:10	Flood	9	22	11.0

MAP 1

BURLEY LAGOON

