

Pickering Passage

Annual Shellfish Growing Area Review



Prepared By: Michael Friese

Area: Pickering Passage

Year Ending: December 31, 2019

Classification: Approved, Prohibited

Activities in the Growing Area in 2019

All stations in the Approved portion of the growing area were sampled a minimum of six times in accordance with the National Shellfish Sanitation Program (NSSP) Systematic Random Sampling (SRS) method. A routine shoreline survey of the growing area was completed and no Direct or Indirect Impacts were identified. In September, 31 acres in McLane Cove were reclassified from Conditionally Approved to Approved due to improved marine water quality and pollution, identification, and correction work conducted by Mason County and others. Also, 36 acres were initially classified as Approved around Station 868. Prior to being reclassified the Conditionally Approved area in McLane Cove was closed twice for 17 days due to rainfall (≥ 0.75 inch in 24 hours).

Analytical Results of Water Samples

Table 1 summarizes results of the 30 most recent samples collected from each of the sampling stations. All stations meet NSSP criteria for their respective classifications. Station 58 is in Concerned status with 90th percentile 22.3 FC/100 mL, respectively. There are three stations in Threatened status within Prohibited portions of the growing area. Two of these stations, stations 56 and 57, are placed to hold the sanitary line between Approved and Prohibited portions of the growing area. Stations 56 and 67 have 90th percentiles of 31.1 FC/100 mL and 34.6 FC/100 mL, respectively. The third station, station 52, has a 90th percentile of 27.3 FC/100mL.

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

Table 1 shows that all stations meet the NSSP water quality standards for an Approved classification and the area is correctly classified.

TABLE 1. Summary of Marine Water Data (SRS) Pickering Passage 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
52	Approved	2/10/2015 - 12/16/2019	1.7 - 1600.0	3.8	27.3	Y
53	Approved	2/10/2015 - 12/16/2019	1.7 - 23.0	2.4	5.1	Y
54	Approved	2/10/2015 - 12/16/2019	1.7 - 33.0	2.6	7.0	Y
57	Approved	5/17/2017 - 12/16/2019	1.7 - 79.0	3.8	16.2	Y
58	Approved	5/17/2017 - 12/16/2019	1.7 - 170.0	3.6	22.3	Y
59	Approved	2/10/2015 - 12/16/2019	1.7 - 49.0	2.6	7.6	Y
60	Approved	2/10/2015 - 12/16/2019	1.7 - 49.0	2.1	4.8	Y
61	Approved	2/10/2015 - 12/16/2019	1.7 - 6.8	2.0	3.2	Y
62	Approved	2/10/2015 - 12/16/2019	1.7 - 33.0	2.5	6.4	Y
63	Approved	11/4/2014 - 12/16/2019	1.7 - 7.8	2.3	4.0	Y
64	Approved	2/10/2015 - 12/16/2019	1.7 - 4.5	1.9	2.8	Y
65	Approved	2/10/2015 - 12/16/2019	1.7 - 7.8	2.1	3.5	Y
66	Approved	2/10/2015 - 12/16/2019	1.7 - 350.0	3.4	16.1	Y
68	Approved	4/9/2015 - 12/16/2019	1.7 - 4.5	1.8	2.5	Y
69	Approved	2/10/2015 - 12/16/2019	1.7 - 49.0	2.9	9.5	Y
70	Approved	2/10/2015 - 12/16/2019	1.7 - 23.0	2.7	6.7	Y
71	Approved	4/9/2015 - 12/16/2019	1.7 - 13.0	2.7	6.9	Y
72	Approved	4/9/2015 - 12/16/2019	1.7 - 7.8	2.2	4.0	Y
74	Approved	2/10/2015 - 12/16/2019	1.7 - 4.5	1.8	2.3	Y
75	Approved	2/10/2015 - 12/16/2019	1.7 - 49.0	2.4	6.4	Y
76	Approved	2/10/2015 - 12/16/2019	1.7 - 6.8	2.0	3.0	Y
586	Approved	2/10/2015 - 12/16/2019	1.7 - 33.0	2.3	5.7	Y
643	Approved	2/10/2015 - 12/16/2019	1.7 - 170.0	2.5	8.1	Y
654	Approved	2/10/2015 - 12/16/2019	1.7 - 11.0	2.1	4.1	Y
679	Approved	2/10/2015 - 12/16/2019	1.7 - 9.3	2.1	3.6	Y
768	Approved	4/9/2015 - 12/16/2019	1.7 - 23.0	2.3	5.5	Y
769	Approved	4/9/2015 - 12/16/2019	1.7 - 13.0	2.1	4.5	Y
770	Approved	4/9/2015 - 12/16/2019	1.7 - 4.5	1.9	2.8	Y
848	Approved	2/10/2015 - 12/16/2019	1.7 - 33.0	3.2	9.1	*N/A
868	Approved	4/5/2017 - 12/16/2019	1.7 - 6.8	2.1	3.4	Y
55	Prohibited	2/10/2015 - 12/16/2019	1.7 - 23.0	3.1	8.7	Y
56	Prohibited	2/10/2015 - 12/16/2019	1.7 - 920.0	4.2	31.1	Y
67	Prohibited	2/10/2015 - 12/16/2019	1.7 - 130.0	6.5	34.6	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.

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

TABLE 2. Marine Water Quality Summary – Threatened Stations Pickering Passage Growing Area

Station 52

Classification: Approved

Method: SRS

Total Samples: 30**Range (FC/100 mL): 1.7 – 1600.0****GeoMean (FC/100 mL): 3.8****Date Range: 02/10/2015 – 12/16/2019****E90th (FC/100 mL): 27.3****Meets Standard: Y**

Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
02/10/2015	Regulatory	12:24	Ebb	10	19	49.0
04/09/2015	Regulatory	12:31	Ebb	12	26	1.7
06/23/2015	Regulatory	12:25	Ebb	18	27	1.7
08/05/2015	Regulatory	12:46	Ebb	18	29	4.5
10/19/2015	Regulatory	12:13	Ebb	15	29	1.7
11/23/2015	Regulatory	13:07	Flood	10	26	1.7
01/07/2016	Regulatory	12:50	Flood	8	25	1.7
03/03/2016	Regulatory	12:18	Flood	9	25	2.0
05/10/2016	Regulatory	09:38	Ebb	13	28	2.0
07/26/2016	Regulatory	12:15	Ebb	17	31	1.7
09/08/2016	Regulatory	12:23	Ebb	15	30	2.0
11/08/2016	Regulatory	12:35	Flood	12	25	2.0
02/02/2017	Regulatory	13:54	Ebb	6	28	1.7
04/05/2017	Regulatory	13:15	Flood	9	22	22.0
06/13/2017	Regulatory	11:20	Ebb	13	26	49.0
08/24/2017	Regulatory	10:58	Ebb	16	28	6.1
10/24/2017	Regulatory	11:44	Ebb	12	28	2.0
12/06/2017	Regulatory	11:30	Ebb	7	28	1.7
01/24/2018	Regulatory	11:56	Ebb	7	22	17.0
03/20/2018	Regulatory	11:44	Ebb	7	28	2.0
05/09/2018	Regulatory	12:31	Flood	11	28	1.7
07/31/2018	Regulatory	11:16	Ebb	17	28	6.8
09/12/2018	Regulatory	10:54	Ebb	15	29	6.8
11/27/2018	Regulatory	12:13	Ebb	10	18	1600.0
02/14/2019	Regulatory	11:37	Flood	7	27	1.7
03/26/2019	Regulatory	11:19	Ebb	9	28	1.7
06/10/2019	Regulatory	11:37	Flood	15	28	1.7
08/05/2019	Regulatory	11:18	Ebb	19	29	1.7
10/30/2019	Regulatory	11:36	Ebb	12	29	1.7
12/16/2019	Regulatory	11:33	Ebb	10	29	1.7

TABLE 2. Continued

Station: 56

Classification: Prohibited

Method: SRS

Total Samples: 30**Range (FC/100 mL): 1.7 – 920.0****GeoMean (FC/100 mL): 4.2****Date Range: 02/10/2015 – 12/16/2019****E90th (FC/100 mL): 31.1****Meets Standard: Y**

Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
02/10/2015	Regulatory	11:18	Ebb	9	21	21.0
04/09/2015	Regulatory	11:30	Ebb	11	26	1.7
06/23/2015	Regulatory	11:20	Flood	16	29	1.7
08/05/2015	Regulatory	11:22	Ebb	17	28	2.0
10/19/2015	Regulatory	11:13	Flood	15	30	2.0
11/23/2015	Regulatory	12:10	Flood	11	28	1.7
01/07/2016	Regulatory	11:46	Flood	8	27	2.0
03/03/2016	Regulatory	11:07	Flood	9	18	7.8
05/10/2016	Regulatory	10:41	Ebb	13	28	1.7
07/26/2016	Regulatory	11:09	Flood	16	31	33.0
09/08/2016	Regulatory	11:13	Flood	15	30	6.8
11/08/2016	Regulatory	10:58	Flood	12	28	1.7
02/02/2017	Regulatory	11:37	Ebb	6	28	1.7
04/05/2017	Regulatory	11:28	Flood	9	22	920.0
06/13/2017	Regulatory	09:57	Ebb	12	28	14.0
08/24/2017	Regulatory	09:50	Ebb	16	28	4.5
10/24/2017	Regulatory	10:22	Flood	12	29	2.0
12/06/2017	Regulatory	10:27	Ebb	7	28	2.0
01/24/2018	Regulatory	10:42	Flood	8	18	6.8
03/20/2018	Regulatory	10:33	Ebb	8	28	1.7
05/09/2018	Regulatory	11:02	Flood	11	28	2.0
07/31/2018	Regulatory	10:02	Ebb	16	29	1.7
09/12/2018	Regulatory	09:42	Ebb	15	29	2.0
11/27/2018	Regulatory	10:37	Ebb	10	17	350.0
02/14/2019	Regulatory	10:30	Flood	7	23	2.0
03/26/2019	Regulatory	10:10	Flood	9	28	2.0
06/10/2019	Regulatory	10:30	Flood	15	29	1.7
08/05/2019	Regulatory	10:14	Ebb	17	29	2.0
10/30/2019	Regulatory	10:18	Ebb	13	29	4.0
12/16/2019	Regulatory	10:32	Ebb	10	27	1.7

TABLE 2. Continued

Station: 67

Classification: Prohibited

Method: SRS

Total Samples: 30**Range (FC/100 mL): 1.7 – 130.0****GeoMean (FC/100 mL): 6.5****Date Range: 02/10/2015 – 12/16/2019****E90th (FC/100 mL): 34.6****Meets Standard: Y**

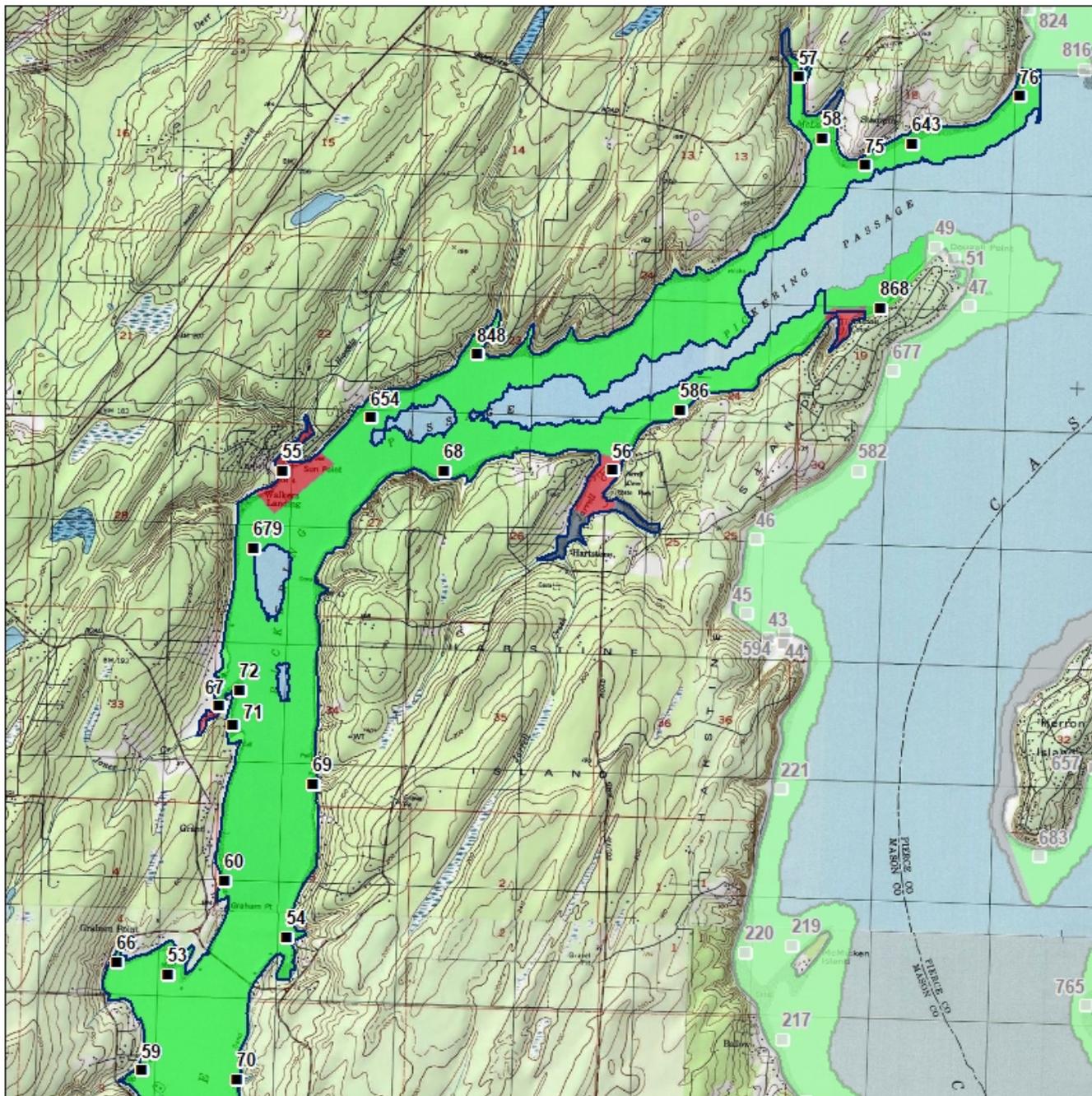
Sample Date	Event Type	Time	Tide	SWT	Salinity	Fecal Coliform
02/10/2015	Regulatory	12:02	Ebb	9	19	23.0
04/09/2015	Regulatory	12:08	Ebb	11	17	4.5
06/23/2015	Regulatory	12:01	Ebb	16	28	3.7
08/05/2015	Regulatory	12:19	Ebb	18	28	23.0
10/19/2015	Regulatory	11:53	Ebb	15	28	11.0
11/23/2015	Regulatory	12:48	Flood	11	26	1.7
01/07/2016	Regulatory	12:27	Flood	8	19	4.5
03/03/2016	Regulatory	11:55	Flood	9	17	13.0
05/10/2016	Regulatory	09:59	Ebb	13	27	4.5
07/26/2016	Regulatory	11:51	Flood	16	30	2.0
09/08/2016	Regulatory	12:01	Flood	15	26	1.7
11/08/2016	Regulatory	12:16	Flood	12	9	4.0
02/02/2017	Regulatory	13:13	Ebb	3	11	1.7
04/05/2017	Regulatory	12:52	Flood	9	9	33.0
06/13/2017	Regulatory	10:47	Ebb	12	27	17.0
08/24/2017	Regulatory	10:35	Ebb	16	27	79.0
10/24/2017	Regulatory	11:12	Ebb	11	25	1.7
12/06/2017	Regulatory	11:08	Ebb	7	28	2.0
01/24/2018	Regulatory	11:31	Ebb	7	22	11.0
03/20/2018	Regulatory	11:20	Ebb	7	24	2.0
05/09/2018	Regulatory	12:02	Flood	10	28	1.7
07/31/2018	Regulatory	10:53	Ebb	16	26	4.5
09/12/2018	Regulatory	10:29	Ebb	15	28	130.0
11/27/2018	Regulatory	11:46	Ebb	9	13	79.0
02/14/2019	Regulatory	11:19	Flood	5	15	17.0
03/26/2019	Regulatory	10:54	Ebb	9	25	1.8
06/10/2019	Regulatory	11:16	Flood	16	28	1.8
08/05/2019	Regulatory	10:57	Ebb	18	28	7.8
10/30/2019	Regulatory	09:25	Ebb	12	29	11.0
12/16/2019	Regulatory	09:50	Ebb	9	23	1.7

MAP 1. Pickering Passage Growing Area 1 of 2

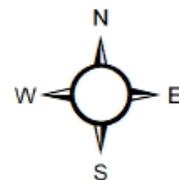
Pickering Passage (1 of 2)



Date Updated: 8/14/2019



Classification	Sampling Stations
■ Approved	■
■ Conditional	
■ Prohibited	
■ Restricted	
■ Unclassified	



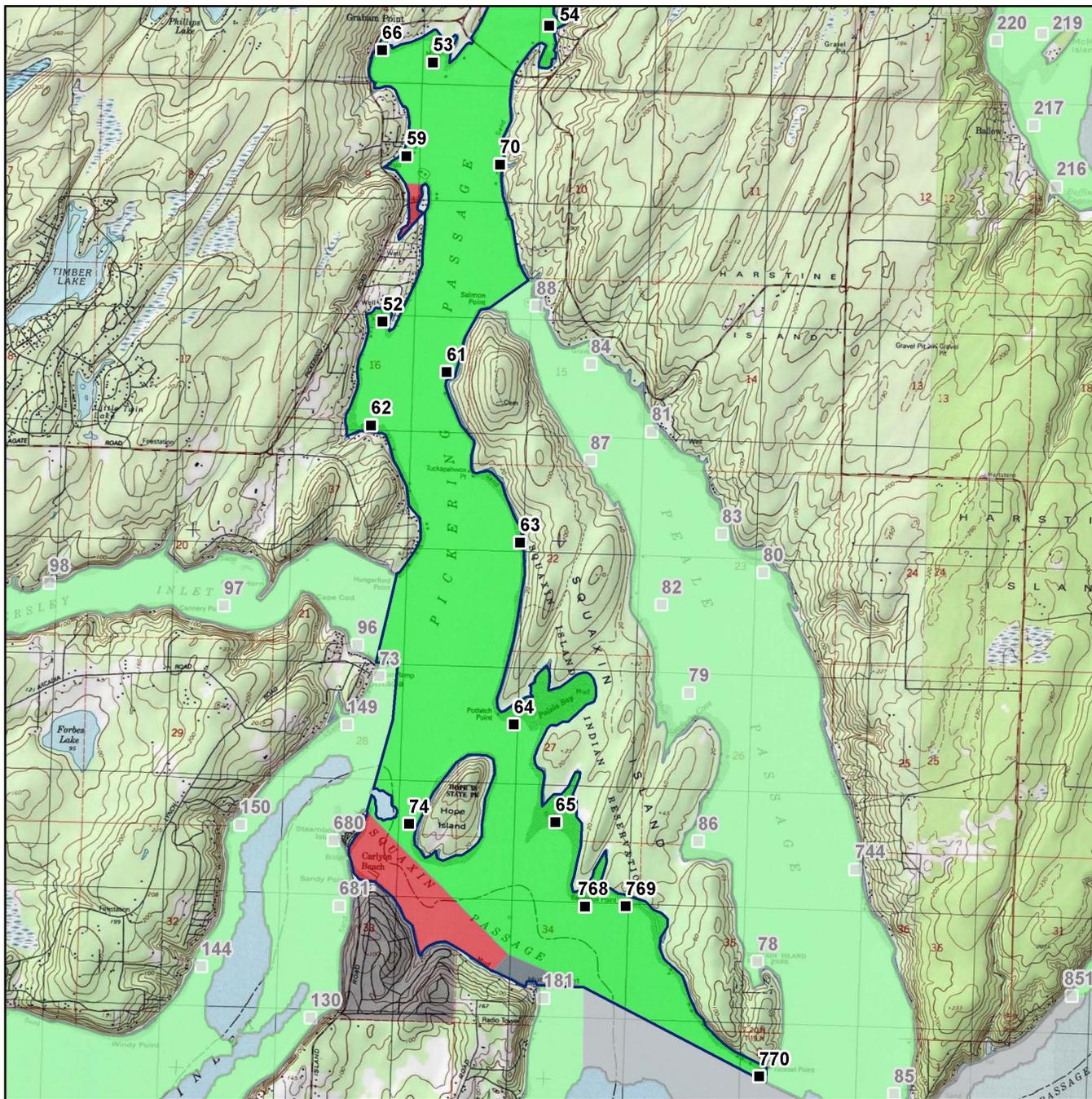
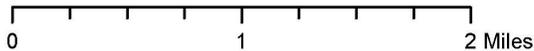
* Some sampling stations are highlighted with grey box for ease of reading.

MAP 2. Pickering Passage Growing Area 2 of 2

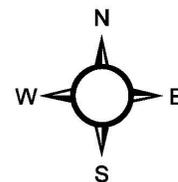
Pickering Passage (2 of 2)



Date Updated: 7/11/2018



Classification	Sampling Stations
 Approved	
 Conditional	
 Prohibited	
 Restricted	
 Unclassified	



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