



**GROWING AREA EI**

**Great Head, Bar Harbor to Schoodic Point, Winter Harbor**

**Annual Report for 2009**

**Final Report Date: June 15, 2010**

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**APPROVAL**

Division Director:

\_\_\_\_\_ Date: \_\_\_\_\_  
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**TABLE OF CONTENTS**

Executive Summary .....9  
 Growing Area Description .....9  
 Current Classification(s) .....10  
 Activity during Review Period .....11  
 Current Management Plans for Conditional Areas .....11  
 Current Annual Review of Management Plans .....12  
 Water Quality Review and Discussion .....13  
 Recommendations for Upward Classification .....23  
 Shoreline Survey Activity .....26  
 Aquaculture/Wet Storage Activity .....26  
 Classification Changes .....27  
 Summary .....27  
 Recommendation for Future Work.....27  
 References .....27  
 Appendix A. Annual Review of Conditional Area Management Plan Area 47 (Part C).....28  
 Appendix B. Annual Review of Conditional Area Management Plan Area 47 (Part B).....31  
 Appendix C. Annual Review of Conditional Area Management Plan Area 50 (Part A).....34  
 Appendix D. Key to Water Quality Table Headers.....37  
 Appendix E. Growing Area EI 2009 Data .....38

**LIST OF TABLES**

Table 1. Geomean and P90 Scores, Growing Area EI .....13  
 Table 2. Thomas Island, Sorrento Bar and Bar Island Conditional Areas During Open Status.....15  
 Table 3. EI Samples Collected in 2009.....16  
 Table 4. Tabulated Data for EI 47, Eagle Point (Lamoine) .....24  
 Table 5. Geometric Mean and P90 Scores Under a Variety of Rainfall Conditions.....25

**LIST OF FIGURES**

Figure 1. Growing Area EI .....3  
 Figure 2. Growing Area EI, with Active Water Stations, North Section (A) .....4  
 Figure 3. Growing Area EI, with Active Water Stations, Middle Section (B) .....5  
 Figure 4. Growing Area EI, with Active Water Stations, West Section (C) .....6  
 Figure 5. Growing Area EI, with Active Water Stations, East Section (D) .....7  
 Figure 6. Growing Area EI, with Active Water Stations, South Section (E) .....8  
 Figure 7. Area EI P90 Score Trends for Approved and Prohibited Stations (expressed as the percent of the approved standard).....21  
 Figure 8. Area EI P90 Score Trends for Restricted Stations (expressed as the percent of the approved standard).....23  
 Figure 9. Area EI P90 Score Trends for Conditionally Approved Stations (expressed as the percent of the approved standard), During the Open Period .....23  
 Figure 10. Station EI 47 Score Trends (expressed as the percent of the approved standard).....24

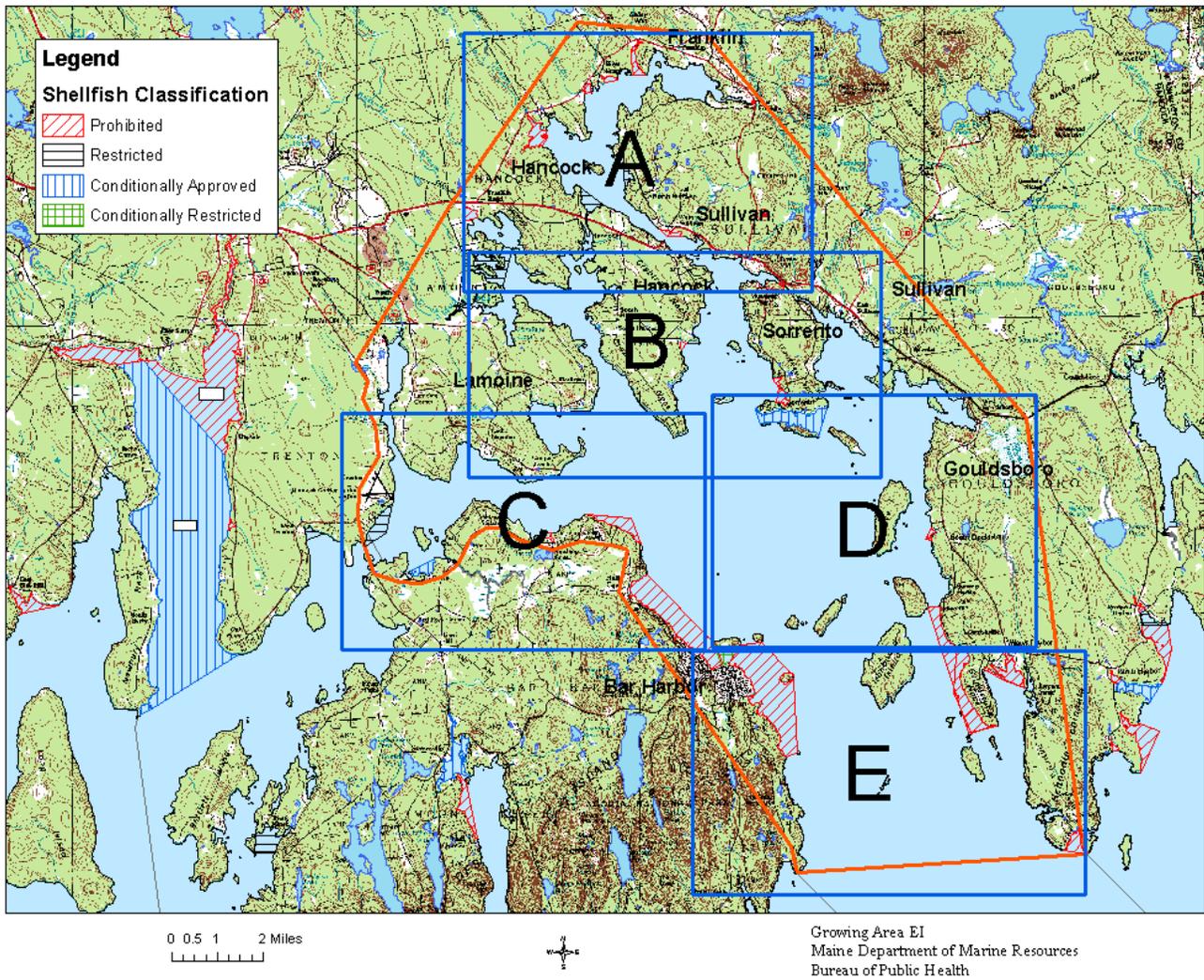


Figure 1. Growing Area EI

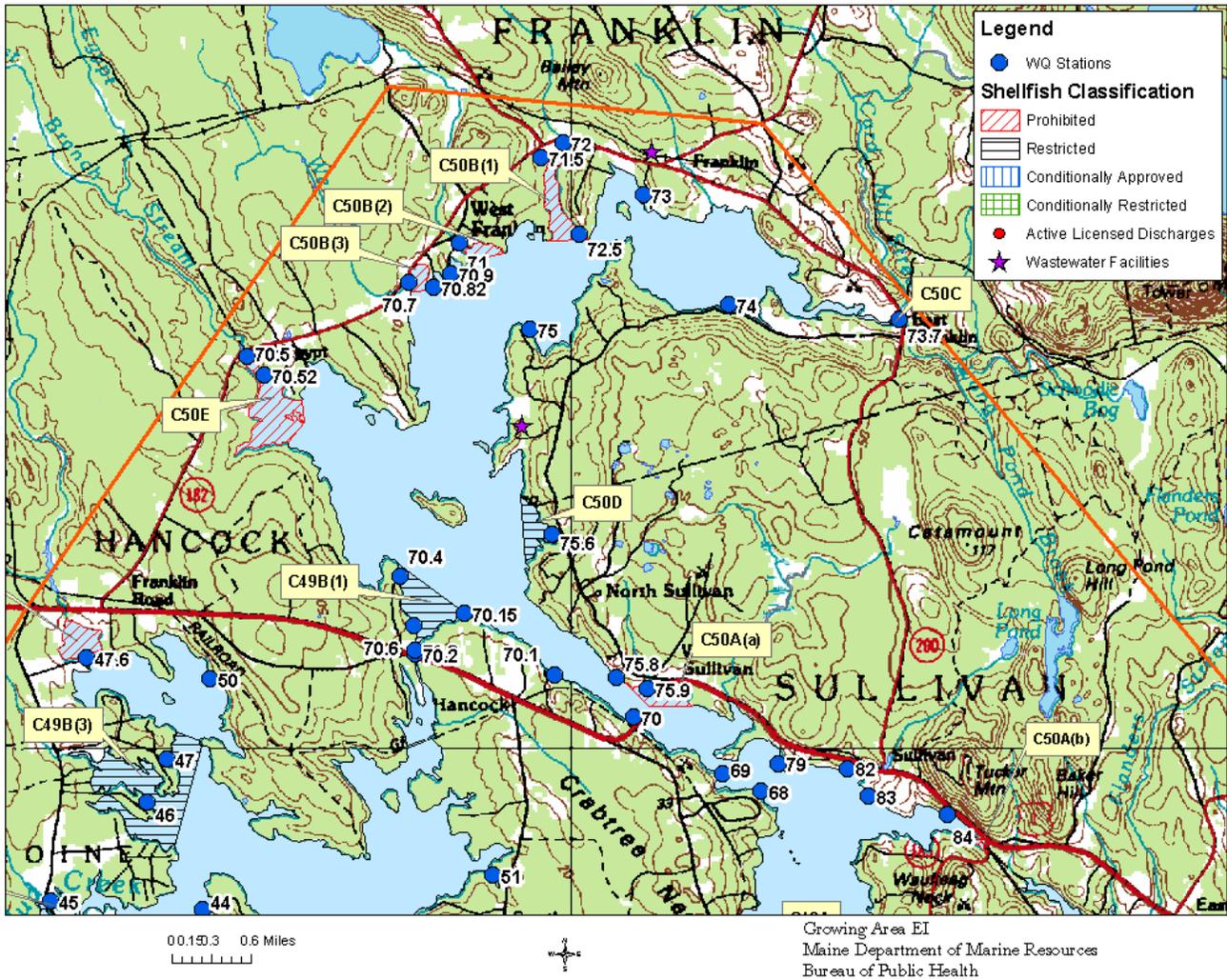


Figure 2. Growing Area EI, with Active Water Stations, North Section (A)



Figure 3. Growing Area EI, with Active Water Stations, Middle Section (B)



Figure 4. Growing Area EI, with Active Water Stations, West Section (C)

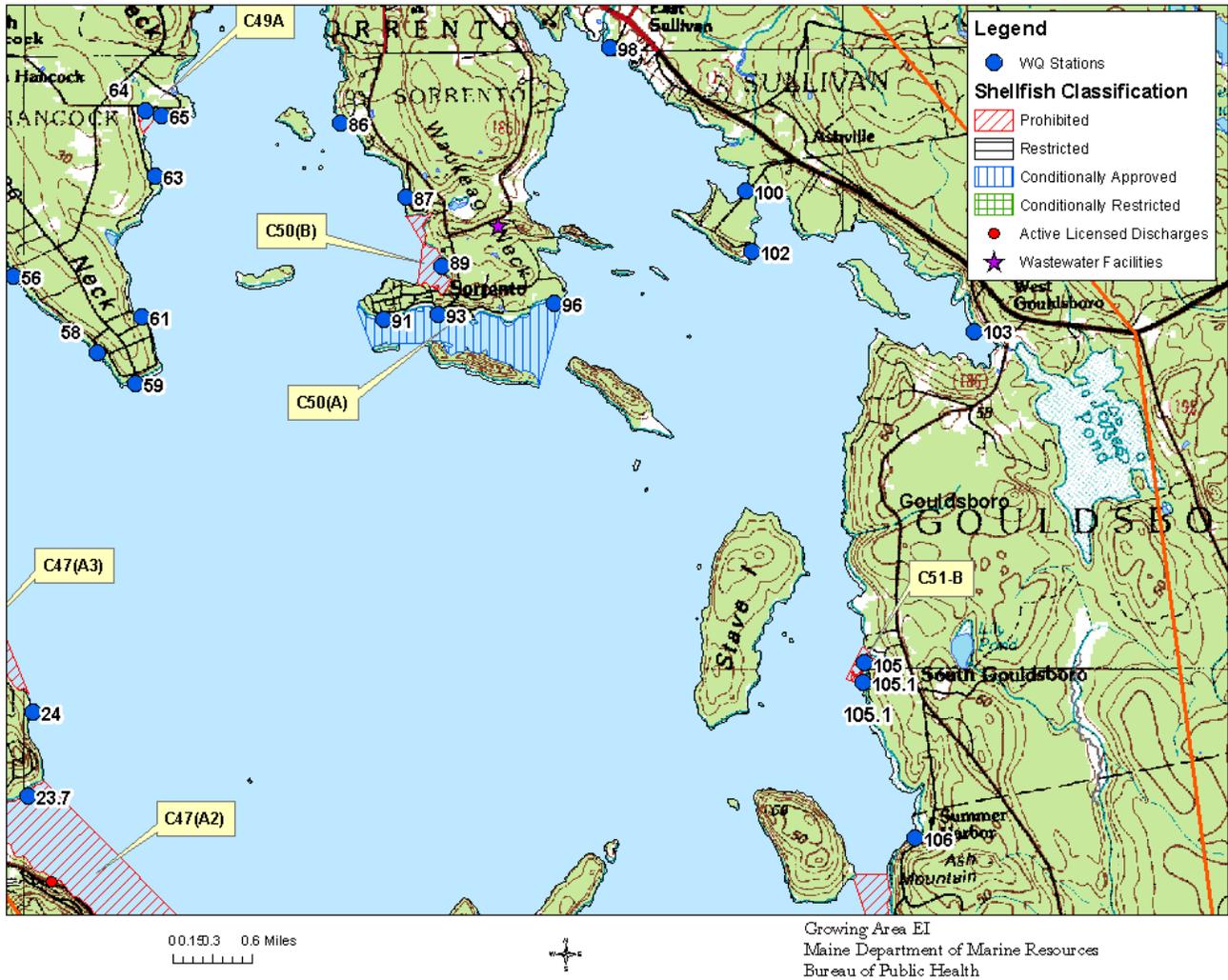


Figure 5. Growing Area EI, with Active Water Stations, East Section (D)

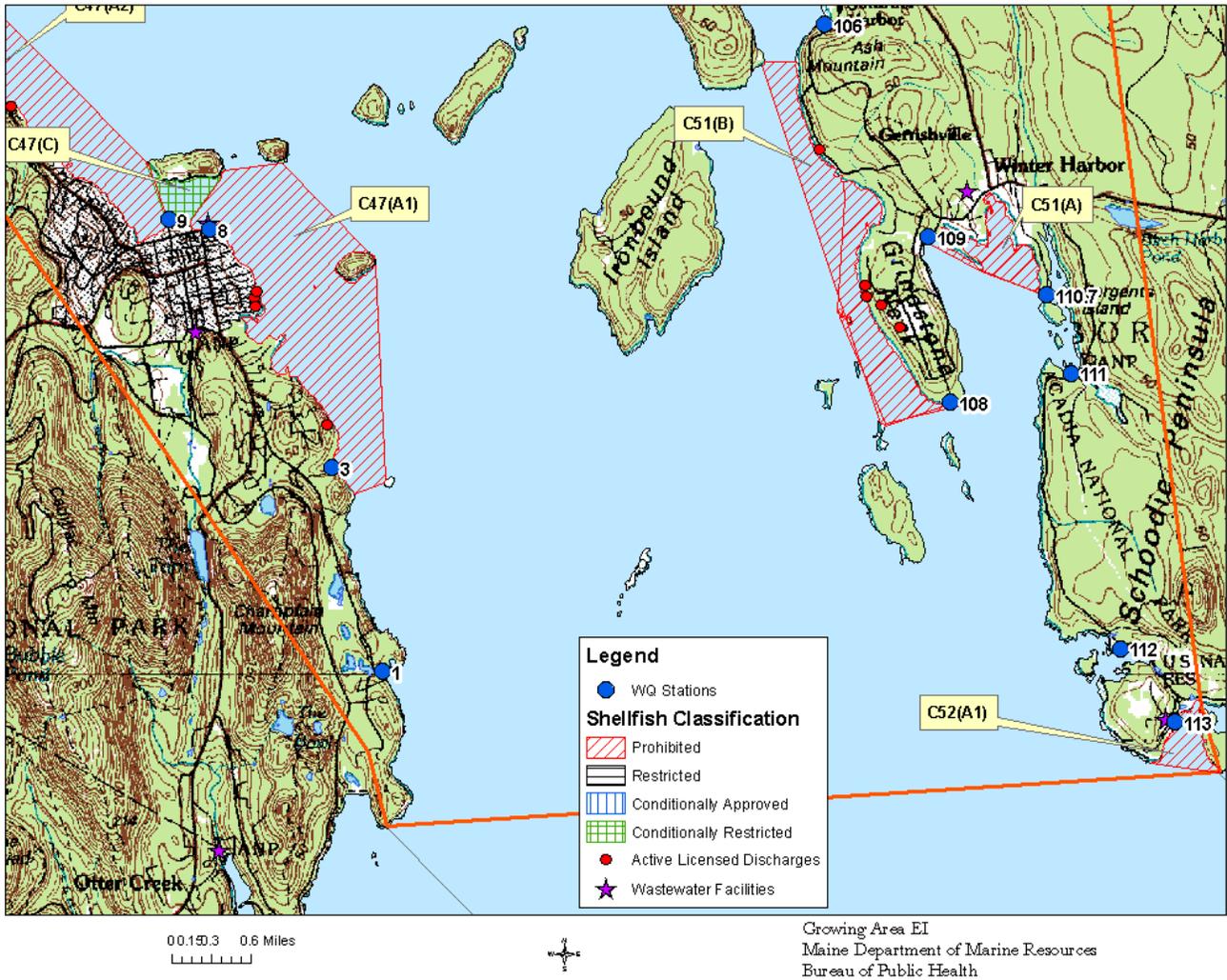


Figure 6. Growing Area EI, with Active Water Stations, South Section (E)



## Executive Summary

This is an annual report for growing area EI written in compliance with the requirements of the 2007 Model Ordinance and the National Shellfish Sanitation Program. The next triennial report is due in 2010. The next sanitary survey report is due in 2020.

The growing area is in the mid section of Hancock County and is centered on Frenchman and Taunton Bays. The boundaries of growing area EI are Great Head, Bar Harbor to Schoodic Point, Winter Harbor. Area EI has seventeen prohibited areas, five restricted areas, two conditionally approved areas and one conditionally restricted area. All approved, conditionally approved, conditionally restricted and restricted stations met their NSSP classification standard in 2009. All active stations were sampled 6 times following the systematic random sampling (SRS) schedule and conditional stations were sampled the required number of times while in the open status. There were fourteen (14) prohibited stations deactivated (redundant), two (2) created stations (new area margins), one (1) station was reclassified from prohibited to approved (margin), one (1) station was reclassified from approved to prohibited (classification error), one (1) station was reclassified from prohibited to restricted (embedded in restricted area) and one (1) station was reclassified from approved to restricted (did not meet current classification and was embedded in a new restricted area) during 2009. The enlarged restricted area was created due to poor water quality at a boundary station. One licensed overboard discharge was removed from the Point Lookout, Bar Harbor area. Area 50C, Johnny's Brook-Card Mill Stream (Franklin) prohibited area will be expanded in area to the nearest approved sample station EI 74.

There is one proposed upward classification changes as a result of this annual review. The Eagle Point proposal is for an upgrade in classification, with the size of the restricted area being reduced due to water quality meeting approved standards at station EI 47, located off Eagle Point, in the Skillings River.

## Growing Area Description

Growing area EI is located in the mid section of Hancock County and is centered on Frenchman and Taunton Bays (Figures 1-5). The shoreline included in this report stretches from Great Head, Bar Harbor to Schoodic Point, Winter Harbor. The growing area encompasses 176 square miles, and includes the near sub-tidal waters, inter-tidal flats and a zone of shore property that extends inland to a defined upland boundary that follows the major roadways surrounding the bays. Surrounding towns include Bar Harbor, Trenton, Lamoine, Hancock, Franklin, Sullivan, Sorrento, Gouldsboro and Winter Harbor. Closures are based on wastewater treatment facility outfalls in Bar Harbor and Winter Harbor; clusters of residential licensed overboard discharges in Bar Harbor, Sorrento and Winter Harbor and sample stations affected by non-point pollution without identifiable sources. There are municipal wastewater treatment facilities in Bar Harbor, Winter Harbor and at the National Park Facility, Schoodic Point. Four licensed outfalls that include process water, wet lab outfalls or snow dump sites are in the Bar Harbor area or Taunton Bay. There are twelve active licensed overboard discharges are located along the Frenchman Bay shores of Bar Harbor (6), Sorrento village (cluster system) and on Grindstone Neck, Winter Harbor (5). Conditionally classified areas are managed on seasonal boat moorings in Bar Harbor and Sorrento and the seasonal habitation of a campground near Thomas Island. There are boat pump-out facilities at the Frenchman Bay Boat Company, West Street, Bar Harbor and at Winter Harbor Marine, Sargent Street, Winter Harbor. Seasonal boat mooring areas are occupied in summer months only. There are ten aquaculture sites and one wet storage permit in this growing area. There are sixteen (16) agricultural operations in growing area EI that mostly consist of small "home farms" with <10 animals (dogs, horses); however, one of the farms is a small commercial farm with approximately 100 goats. Portions of the growing area continue to



exhibit poor water quality or remain potential pollution threats due to the presence of older, in-ground septic systems.

The upland land cover is predominately deciduous, some evergreens, and wetland forest with minimal development. Fresh water influence along these shores is predominately from numerous brooks and small streams throughout the growing area. These have been evaluated microbiologically. There are no large rivers or lakes impacting the area. The villages of Bar Harbor (population, 5045) and Winter Harbor (population, 979) have the largest population concentrations (2007-2008 Maine Municipal Directory). Many homes are seasonal (June-September). Development along these shores is spotty with clusters of homes separated by undeveloped land. Areas most likely to contain significant populations of soft and hard shell clams and mussels are: Bar Island bar, Jordan River, Skillings River, Taunton Bay, Flanders Bay and South Gouldsboro. Descriptions of all surveyed properties are included in the shoreline survey MARVIN central database file.

### **Current Classification(s)**

Shellfish growing area EI currently has areas classified as:

#### **Approved**

53 stations (EI 1, 24, 33, 34, 34.2, 36, 39, 40, 41, 42, 42.8, 43, 44, 47.6, 50, 51, 52, 54, 56, 58, 59, 61, 63, 68, 69, 70, 70.1, 70.15, 70.2, 70.4, 70.82, 70.9, 72.5, 73, 74, 75, 79, 82, 83, 84, 86, 87, 98, 100, 102, 103, 105.1, 106, 108, 109, 110, 111, 112)

#### **Conditionally Approved**

Area 47, Bar Harbor to Hulls Cove, Salsbury Cove and Thomas Bay (Bar Harbor, Gouldsboro)  
B, Thomas Bay, Bar Harbor; seasonal campground; open status from October 1 to April 30 and restricted from May 1 to September 30; 2 stations (EI 34.3, 34.7)

Area 50, Sorrento (Sorrento)

1A, Sorrento (Sorrento Harbor-marina); open status from October 1 to April 30; seasonal marina; 3 stations (EI 91, 93, 96)

#### **Restricted**

Area 47, Bar Harbor to Hulls Cove, Salsbury Cove and Thomas Bay (Bar Harbor, Gouldsboro)

A5, Trenton Airport; poor water quality; 1 site (EI 37)

Area 49B, Skillings River, (Lamoine, Hancock)

1. Carrying Place; poor water quality; 1 site (EI 70.3)

3. Eagle Point; poor water quality; 2 sites (EI 46, 47)

4. Mud Creek; poor water quality; 1 site (EI 45)

Area 50D, Evergreen Point (Sullivan); poor water quality; 1 site (EI 75.6)

#### **Conditionally Restricted**

Area 47, Bar Harbor to Hulls Cove, Salsbury Cove and Thomas Bay (Bar Harbor, Gouldsboro)

C, Bar Harbor (Bar Island Bar); open to depuration harvesting from March 1 to May 31 with no CSO activity at the Rodick Street or West Street locations within 14 days of harvest, or > 10 live aboard boats



at Bar Harbor mooring field; 2 stations (EI 8, 9)

### Prohibited

Area 47, Bar Harbor to Hulls Cove, Salsbury Cove and Thomas Bay (Bar Harbor, Gouldsboro)

A1, Bar Harbor to Thrumcap; OBDs, failing water quality; 2 stations (EI 3, 8)

A2, Bar Harbor to Hulls Cove; OBDs, WWTP; 2 stations (EI 23.7)

A3, Sand Point to Levi Point; OBDs, WWTP; 2 stations (EI 24, 29)

A4, Salsbury Cove; OBD; 2 sites (EI 31, 33)

Area 49A, Jellison Cove (Hancock); failing water quality; 2 stations (EI 64, 65)

Area 49B, Skillings River, (Lamoine, Hancock)

2. Kilkenny Cove; failing water quality; 1 station (EI 47.6)

Area 50, Sorrento (Sorrento)

1B, Back Cove; OBDs; 2 stations (EI 87, 89)

Area 50A, US 1 Bridge and Long Cove (Sullivan); failing water quality;

A, US Route 1 Bridge; failing water quality; 2 stations (EI 75.8, 75.9)

B, Long Cove; failing water quality; 1 station (EI 84)

Area 50B, Springer, Mill and West Brooks (West Franklin); failing water quality; 4 sites (EI 70.7, 71, 71.5, 72)

Area 50C, Johnny's Brook and Card Mill Stream (Franklin); failing water quality; 1 site (EI 73.7)

Area 50E, Egypt Bay (Hancock, Franklin); failing water quality; 2 sites (EI 70.5, 70.52)

Area 51, Winter Harbor and Grindstone Neck (Winter Harbor)

A. Winter Harbor; WWTP; no sample sites within closure

B. Grindstone Neck; OBDs; no sample sites within closure

Area 51C, Bunker Cove (Gouldsboro); failing water quality; 1 site (EI 105)

Area 52, Schoodic Point to Corea (Winter Harbor-Gouldsboro,

A1, Arey Cove (Winter Harbor); WWTP; 1 stations (EI 113)

Please visit the DMR website to view legal notices:

[http://www.maine.gov/dmr/rm/public\\_health/closures/closedarea.htm#EI](http://www.maine.gov/dmr/rm/public_health/closures/closedarea.htm#EI)

### Activity during Review Period

On February 19, 2009, Area No. 49-B, Skillings River, Lamoine-Hancock was amended to reclassify the area at Carrying Place, Hancock from "prohibited" to "restricted" and increases the size of the "restricted" area, due to water quality exceeding approved criteria at the "approved"/"prohibited" boundary line.

One licensed overboard discharge was removed from the Point Lookout, Bar Harbor area during this review period.

### Current Management Plans for Conditional Areas

Conditionally Approved area- Area No. 47 (part B), Thomas Island; based on no occupancy at a seasonal campground; 2 stations (EI 34.3, 34.7); open October 1 – April 30 (restricted during the closed period); the management plan was last updated in 2008



Conditionally Restricted area- Area No. 47 (part C), Bar Island bar; based the presence of a marina and more than 10 boats with heads and WWTP performance; 1 station (EI 9); open March 1 – May 31; the management plan was last updated in 2004

Conditionally Approved area- Area No. 50 (part A), Sorrento Harbor; based the presence of a marina and more than 10 boats with heads; 3 stations (EI 91, 93, 96); open October 1 – April 3-; the management plan was last updated in 2002

Management plans for EI conditional areas can be found in DMR's central files.

### **Current Annual Review of Management Plans**

Area No. 47(part B), Thomas Island, is a seasonal conditionally approved area based on occupancy of an RV campground and requires six (6) samples during the open status. The business season is June through September. Samples were collected 6 times from each of the water quality monitoring sites during the open status (3/16, 4/6, 4/21, 10/6, 11/3, 12/2). The double sampling in April was necessary due to sea ice cover over the area in January and February preventing sampling. The campground was inspected on April 6 and May 5, 2009, near the harvest area closure date of April 30 and confirmed that the campground had not opened for business in the spring. Inspections were completed on September 28, 2009, previous to the harvest area opening date of October 1, to confirm that the campground was closed for the winter. Water quality meets the standard for approved classification during the open period.

Area No. 47(part C), Bar Island bar, is a seasonal conditionally restricted area based on the lack of combined sewer overflow activity at the Rodick Street and West Street outfalls in the Bar Harbor Wastewater Plant collection system for 14 days prior to deputation harvesting, and less than ten live aboard boats off the Bar Harbor pier during the period from March 1 thru May 31 annually. If a request for deputation is made, the combined sewer overflow records for Rodick Street and West Street are reviewed to see if there has been any activity. The area is required to be sampled monthly during the open status. Samples were collected 3 times from each of the water quality monitoring sites during the open status (3/3, 4/6, 5/5). Lack of boating activity in the mooring field during the open status was confirmed on March 3rd and May 5th. Water quality meets the standard for restricted classification during the open status. There was no deputation harvesting activity from the area in 2009.

No. 50 (part A), Sorrento, is a marina conditionally approved area requiring three samples during the open status. Samples were collected 7 times from each of the water quality monitoring sites during the open status (1/6, 2/3, 3/3, 4/7, 10/6, 11/3, 12/2). The mooring areas peak occupancy period is from Memorial Day thru Labor Day. The harbor master confirmed the lack of live-aboards most of the time with random transient boaters using moorings in the peak cruising months. Few boats are occupied after September or before May. The marina area was inspected on April 7, 2009, previous to the harvest area closure date of April 30 and confirmed that there were fewer than 10 boats. An inspection was completed on September 28, 2009, previous to the harvest area opening date of October 1, to confirm that there were fewer than 10 boats with live-aboard crews. Water quality meets the standard for approved classification during the open status.

Compliance inspections are done during scheduled sampling of the conditional areas during both open and closed status. More detailed annual reviews are discussed in Appendices A, B and C.



## Water Quality Review and Discussion

Table 1 lists all active approved, restricted and prohibited stations in Growing Area EI, with their respective Geomean and P90 calculations for 2009. Please refer to Appendix D for a key to interpreting the headers on the columns of Table 1. The approved and restricted standards for each station are also displayed in Table 1. These standards will fluctuate yearly as a result of the DMR transition from a most probable number (MPN) fecal coliform test method to a membrane filtration (MF) method and are dependent on the number of samples analyzed by MPN versus MF. The total number of data points used in the calculations is displayed in the Count column and includes both MPN and MF values. The number of data points analyzed by MF is displayed in the MFCNT column. This fluctuating standard will cease when all 30 data points have been analyzed by the MF method. A more detailed explanation of this transition can be found in DMR central files.

All approved, conditionally approved, conditionally restricted and restricted stations met their NSSP classification standard in 2009. Eight stations do not have 30 data points and do not have a classification associated with them.

There are five prohibited sample stations (EI 3, 23.7, 29, 89 and 113) that have P90 values that meet the approved standards but must remain closed due to point source pollution (wastewater treatment plant outfalls or licensed overboard discharges). Prohibited stations that now meet approved classification standards are EI 75.8, 75.9 and 105. There is a classification upgrade proposal for EI 75.8 and 75.9 in this report; however EI 105 shows high variability and will remain prohibited at this time.

There are three restricted stations, EI 46, 47 and 75.6 that now meet approved criteria. There is a classification upgrade proposal for EI 47 in this report; however EI 46 shows high variability and will remain restricted at this time.

Restricted station EI 37 meets the approved standard during an open season of January 1 to July 31; however there is a potential pollution source in the area that precludes any classification change at this time.

**Table 1. Geomean and P90 Scores, Growing Area EI**

Station	Class	Count	MFCnt	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EI001.00	A	30	20	4	0.41	54	13.5	36	199
EI003.00	P	30	20	5	0.62	480	31.8	36	199
EI008.00	P	30	21	7.8	0.72	1700	67	35	195
EI023.70	new	19	19	2.8	0.44	160	10.8	30	163
EI024.00	new	19	19	2.2	0.19	10	3.8	30	163
EI029.00	P	30	20	2.8	0.28	28	6.6	36	199
EI031.00	P	30	20	5.7	0.79	1700	60.4	36	199
EI033.00	A	30	20	3.6	0.48	100	15.1	36	199
EI034.00	A	30	22	5.4	0.62	480	34.7	35	191
EI034.20	new	7	7	10.9	0.58	82	63.3	31	163
EI036.00	A	30	20	3.3	0.43	93	11.9	36	199
EI037.00	R	30	30	4.2	0.74	1260	38.8	31	163
EI039.00	A	30	20	4.2	0.56	760	22.4	36	199
EI040.00	A	30	20	3.7	0.55	340	19.1	36	199



Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EI041.00	A	30	20	3.4	0.48	240	14.1	36	199
EI042.00	A	30	20	<3	0.34	93	8.1	36	199
EI042.80	new	23	23	2.1	0.19	10	3.8	31	163
EI043.00	A	30	27	2.7	0.49	460	11.5	32	173
EI044.00	A	30	20	3.2	0.51	1100	14.8	36	199
EI045.00	R	30	20	7.7	0.59	150	44.8	36	199
EI046.00	R	30	20	5.3	0.6	450	31.8	36	199
EI047.00	R	30	20	3.6	0.44	75	13.7	36	199
EI047.60	A	30	20	4.1	0.52	240	19.7	36	199
EI050.00	A	30	20	4.1	0.58	260	22.8	36	199
EI051.00	A	30	20	4.4	0.49	66	18.7	36	199
EI052.00	A	30	20	2.5	0.17	10	4.1	36	199
EI054.00	A	30	20	2.8	0.31	48	7.3	36	199
EI056.00	A	30	20	2.5	0.17	10	4.3	36	199
EI058.00	A	30	20	2.4	0.14	6	3.7	36	199
EI059.00	A	30	20	2.8	0.27	23	6.2	36	199
EI061.00	A	30	20	3.1	0.39	93	10.3	36	199
EI063.00	A	30	20	2.8	0.23	14	5.7	36	199
EI064.00	P	30	20	10.8	0.62	260	67.9	36	199
EI065.00	new	18	18	4.9	0.58	74	27.7	31	163
EI068.00	A	30	20	3.2	0.54	1700	16.3	36	199
EI069.00	A	30	20	2.3	0.15	9.1	3.7	36	199
EI070.00	A	30	20	3.4	0.41	93	12	36	199
EI070.10	A	30	20	4.5	0.58	840	25.5	36	199
EI070.15	new	11	11	4	0.37	22	12.2	31	163
EI070.20	A	30	21	3.8	0.63	1700	24.9	35	195
EI070.30	R	30	20	10.3	0.69	1700	79.9	36	199
EI070.40	new	10	10	5.1	0.42	33	18.8	31	163
EI070.50	P	30	20	11.1	0.75	460	103.4	36	199
EI070.52	P	30	20	10.5	0.73	1200	93.5	36	199
EI070.60	R	30	21	4.4	0.72	1700	37.9	35	195
EI070.70	P	30	20	6.2	0.65	1700	43.4	36	199
EI070.82	A	30	20	5.5	0.62	1100	35.1	36	199
EI070.90	A	30	20	4.4	0.55	360	23.1	36	199
EI071.00	P	30	20	8	0.68	1700	61.5	36	199
EI071.50	new	15	15	11.5	0.55	52	60.3	31	163
EI072.00	P	30	21	10.7	0.72	1700	92	35	195
EI072.50	A	30	20	3.9	0.4	94	13.1	36	199
EI073.00	A	30	20	5.2	0.55	200	26.8	36	199
EI073.70	P	30	20	14.3	0.76	1700	135.9	36	199
EI074.00	A	30	20	4.4	0.47	240	17.8	36	199
EI075.00	A	30	20	3.3	0.41	84	11.4	36	199
EI075.60	R	30	20	5.4	0.52	200	26.1	36	199
EI075.80	P	30	20	3.8	0.53	320	18.4	36	199
EI075.90	P	30	20	3.4	0.49	580	15.1	36	199



Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EI079.00	A	30	20	2.3	0.16	11	3.8	36	199
EI082.00	A	30	20	4.6	0.63	1700	30.2	36	199
EI083.00	A	30	20	3	0.32	27	7.8	36	199
EI084.00	A	30	20	4.2	0.49	44	18.3	36	199
EI086.00	A	30	20	2.2	0.09	4	3	36	199
EI087.00	A	30	20	2.8	0.33	64	7.7	36	199
EI089.00	P	30	20	2.8	0.34	62	7.9	36	199
EI098.00	A	30	21	3.7	0.4	43	12.1	35	195
EI100.00	A	30	20	4.5	0.65	1220	31.1	36	199
EI102.00	A	30	20	3	0.26	20	6.6	36	199
EI103.00	A	30	21	5.4	0.52	98	25.6	35	195
EI105.00	P	30	20	4.6	0.59	400	26.7	36	199
EI105.10	A	30	21	2.2	0.13	9.1	3.4	35	195
EI106.00	A	30	20	2.8	0.37	220	8.7	36	199
EI108.00	A	30	20	2.2	0.09	3.6	<3	36	199
EI109.00	A	30	20	2.7	0.28	23	6.4	36	199
EI110.70	A	30	20	3.1	0.33	40	8.4	36	199
EI111.00	A	30	20	2.6	0.34	150	7.2	36	199
EI112.00	A	30	20	2.7	0.43	460	9.8	36	199
EI113.00	P	30	20	2.1	0.09	3.2	2.8	36	199

Table 2 lists all conditionally approved and conditionally restricted stations in the Bar Island, Thomas Island and Sorrento conditional areas with their respective Geomean and P90 calculations for 2009. Data for conditional stations reflects only the open status. All stations met the approved classification standard during the open status. There are less than 30 samples for EI 34.7. It was an active prohibited station only in 1995, then deactivated from the end of 1995 to December of 2006 and then reactivated as a conditionally approved station from 2006 to the present. Station EI 9 has an open status of three months. Sample dates during the open status (March 1-May 31) from 1988 to the present totals only 23 samples. These samples include when the area was classified prohibited.

**Table 2. Thomas Island, Sorrento Bar and Bar Island Conditional Areas During Open Status**

Station	Class	Cnt	MFCnt	GM	SDV	MAX	P90	Appd_Std	Restr_Std
<b>Thomas Island</b>									
EI034.30	CA	30	22	4.6	0.54	93	23.1	35	191
EI034.70	reactivated	23	21	3.3	0.4	62	10.8	32	171
<b>Sorrento</b>									
EI091.00	CA	30	26	2.1	0.13	8	3.2	32	176
EI093.00	CA	30	26	2.5	0.32	36	6.4	32	176
EI096.00	CA	30	25	2.4	0.25	23	5.3	33	180
<b>Bar Island</b>									
EI009.00	new	23	8	3.1	0.29	48	7.5	41	242

All approved, restricted and prohibited stations that were active at the beginning of 2009 were sampled at least 6 times following the systematic random sampling (SRS) schedule (Table 3 and Appendix D). Individual sample stations were sampled under adverse conditons or sampled extra to enlarge their dataset. The Bar Island conditionally restricted area was sampled 3 times in the open status and a total of



13 times for the year; the Thomas Island conditionally approved seasonal area was sampled 6 times in the open status and a total of 12 times for the year and the Sorrento marina conditionally approved stations were sampled 7 times in the open status and a total of 12 times for the year. Sample stations EI 34, 34.2, 44, 51, 70, 70.82, 73, 100, 103 and 111 were sampled during flood events for re-opening samples. Stations EI 5, 6, 11, 13, 18, 19, 20, 21, 22, 23, 27, 48, 90 and 107 were de-activated because they are embedded in prohibited areas near pollution point sources with no immediate possibility of reclassification. At Area 49B, Carrying Place (Hancock), stations EI 70.15 and 70.4 were created as new boundary stations, station EI 70.2 was reclassified from prohibited to approved at the area boundary, station EI 70.3 was reclassified from prohibited to restricted because it was embedded in the restricted area and EI 70.6 was reclassified from approved to restricted after it no longer met approved classification criteria at a boundary and is now embedded within the closure. After a classification error was recognized, station EI 72.5, a proposed new margin station in Springer Creek (Franklin), was reclassified from approved to prohibited. Water quality at EI 73.7, Johnny's Brook and Card Mill Stream, has declined to the point that the current prohibited area no longer adequately dilutes the bacterial loading. A dilution calculation based on 1,274,954 gallons/day, 1100 FC/100ml bacterial loading and 6 feet of receiving water requires a closure of 51 acres. The expanded closure will be 62 acres; therefore adequately diluting the bacterial source to 14 FC/100ml at the new closure margin. Details of these station changes, sampling history and sampling strategy are in bold in Table 3.

**Table 3. EI Samples Collected in 2009**

Station	Strategy	Status	Class	Sample Count	Total	Comments
EI001.00	R	O	A	6	6	
EI003.00	R	C	P	6	6	
<b>EI005.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
<b>EI006.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
<b>EI008.00</b>	E	C	P	1	7	Extra samples to enlarge dataset
	R	C	P	6		
<b>EI009.00</b>	E	C	CR	1	13	Extra samples to enlarge dataset
	R	C	CR	9		
	R	O	CR	3		
<b>EI011.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
<b>EI013.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
<b>EI018.00</b>		C	P	No samples		De-activated; embedded in prohibited area; 4-09
<b>EI019.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
<b>EI020.00</b>		C	P	No samples		De-activated; embedded in prohibited area; 4-09
<b>EI021.00</b>		C	P	No samples		De-activated; embedded in prohibited area; 4-09
<b>EI022.00</b>		C	P	No samples		De-activated; embedded in prohibited area; 4-09
<b>EI023.00</b>		C	P	No samples		De-activated; embedded in



Station	Strategy	Status	Class	Sample Count	Total	Comments
						prohibited area; 4-09
EI023.70	R	C	P	6	6	
EI024.00	R	O	A	6	6	
<b>EI027.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
EI029.00	R	C	P	6	6	
EI031.00	R	C	P	6	6	
EI033.00	R	O	A	6	6	
<b>EI034.00</b>	A	C	A	2	10	Flood station
	R	O	A	8		
<b>EI034.20</b>	A	C	A	6	13	Flood station, extra samples to enlarge dataset
	E	O	A	1		
	R	O	A	6		
<b>EI034.30</b>	R	C	CA	6	12	
	R	O	CA	6		
<b>EI034.70</b>	R	C	CA	6	12	
	R	O	CA	6		
<b>EI036.00</b>	E	O	A	1	6	
	R	O	A	5		
<b>EI037.00</b>	A	C	R	2	18	Flood station and extra samples to enlarge dataset
	E	O	R	7		
	R	O	R	9		
EI039.00	R	O	A	6	6	
EI040.00	R	O	A	6	6	
EI041.00	R	O	A	6	6	
EI042.00	R	O	A	6	6	
EI042.80	R	O	A	6	6	
EI043.00	R	O	A	6	6	
<b>EI044.00</b>	A	C	A	3	9	Flood station
	R	O	A	6		
EI045.00	R	O	R	6	6	
EI046.00	R	O	R	6	6	
EI047.00	R	O	R	6	6	
EI047.60	R	O	A	6	6	
<b>EI048.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
EI050.00	R	O	A	6	6	
<b>EI051.00</b>	A	C	A	14	20	Flood station
	R	O	A	6		
EI052.00	R	O	A	6	6	
EI054.00	R	O	A	6	6	
EI056.00	R	O	A	6	6	
EI058.00	R	O	A	6	6	
EI059.00	R	O	A	6	6	
EI061.00	R	O	A	6	6	



Station	Strategy	Status	Class	Sample Count	Total	Comments
EI063.00	R	O	A	6	6	
EI064.00	R	C	P	6	6	
EI065.00	R	C	P	6	6	
EI068.00	R	O	A	6	6	
EI069.00	R	O	A	6	6	
<b>EI070.00</b>	A	C	A	16	22	Flood station
	R	O	A	6		
EI070.10	R	O	A	6	6	
<b>EI070.15</b>	E	O	A	1	11	New station 2-09, extra samples to enlarge dataset
	R	O	A	10		
<b>EI070.20</b>	E	O	A	1	7	Reclass P to A 2-09
	R	C	P	1		
	R	O	A	5		
<b>EI070.30</b>	R	C	P	1	6	Reclass P to R 2-09
	R	C	R	1		
	R	O	R	4		
<b>EI070.40</b>	E	O	A	1	10	New station 2-09, extra samples to enlarge dataset
	R	O	A	9		
EI070.50	R	C	P	6	6	
EI070.52	R	C	P	6	6	
<b>EI070.60</b>	E	O	R	1	7	Reclass A to R 2-09
	R	O	A	1		
	R	O	R	5		
EI070.70	R	C	P	6	6	
<b>EI070.82</b>	A	C	A	3	9	Flood station
	R	O	A	6		
EI070.90	R	O	A	6	6	
EI071.00	R	C	P	6	6	
<b>EI071.50</b>	E	C	P	2	10	Extra samples to enlarge dataset for possible closure margin
	R	C	P	8		
<b>EI072.00</b>	E	C	P	1	7	Extra samples to compare with EI 71.5 data
	R	C	P	6		
<b>EI072.50</b>	R	O	A	1	6	Classification error, corrected A to P 4-09
	R	C	P	5		
<b>EI073.00</b>	A	C	A	14	20	Flood station
	R	O	A	6		
EI073.70	R	C	P	6	6	
EI074.00	R	O	A	6	6	
EI075.00	R	O	A	6	6	
EI075.60	R	O	R	6	6	
EI075.80	R	C	P	6	6	
EI075.90	R	C	P	6	6	
EI079.00	R	O	A	6	6	
EI082.00	R	O	A	6	6	



Station	Strategy	Status	Class	Sample Count	Total	Comments
EI083.00	R	O	A	6	6	
EI084.00	R	O	A	6	6	
EI086.00	R	O	A	6	6	
EI087.00	R	O	A	6	6	
EI089.00	R	C	P	6	6	
<b>EI090.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
<b>EI091.00</b>	R	C	CA	5	12	
	R	O	CA	7		
<b>EI093.00</b>	R	C	CA	5	12	
	R	O	CA	7		
<b>EI096.00</b>	R	C	CA	5	12	
	R	O	CA	7		
EI098.00	R	O	A	6	6	
<b>EI100.00</b>	A	C	A	13	19	Flood station
	R	O	A	6		
EI102.00	R	O	A	6	6	
<b>EI103.00</b>	A	C	A	18	24	Flood station
	R	O	A	6		
EI105.00	R	C	P	6	6	
EI105.10	R	O	A	6	6	
EI106.00	R	O	A	6	6	
<b>EI107.00</b>	R	C	P	1	1	De-activated; embedded in prohibited area; 4-09
EI108.00	R	O	A	6	6	
EI109.00	R	O	A	6	6	
EI110.70	R	O	A	6	6	
<b>EI111.00</b>	A	C	A	1	7	Flood station
	R	O	A	6		
<b>EI112.00</b>	A	C	A	6	12	Flood station
	R	O	A	6		
EI113.00	R	C	P	6	6	

Figures 7, 8 and 9 are trend graphs of the approved and prohibited, restricted, conditionally restricted and conditionally approved sample stations in the growing area. Station P90 scores are expressed as percents of the approved standard. Conditionally approved values are based on the open status data only. Conditionally approved and conditionally restricted areas met their classification standards in the open status. Overall, 2009 water quality has remained constant compared with 2008. Sample stations classified approved that are in danger of being reclassified to a more restrictive classification are EI 34 and 70.82. EI 34 is likely impacted by dog waste on the beach. No pollution source has been identified at EI 70.82.

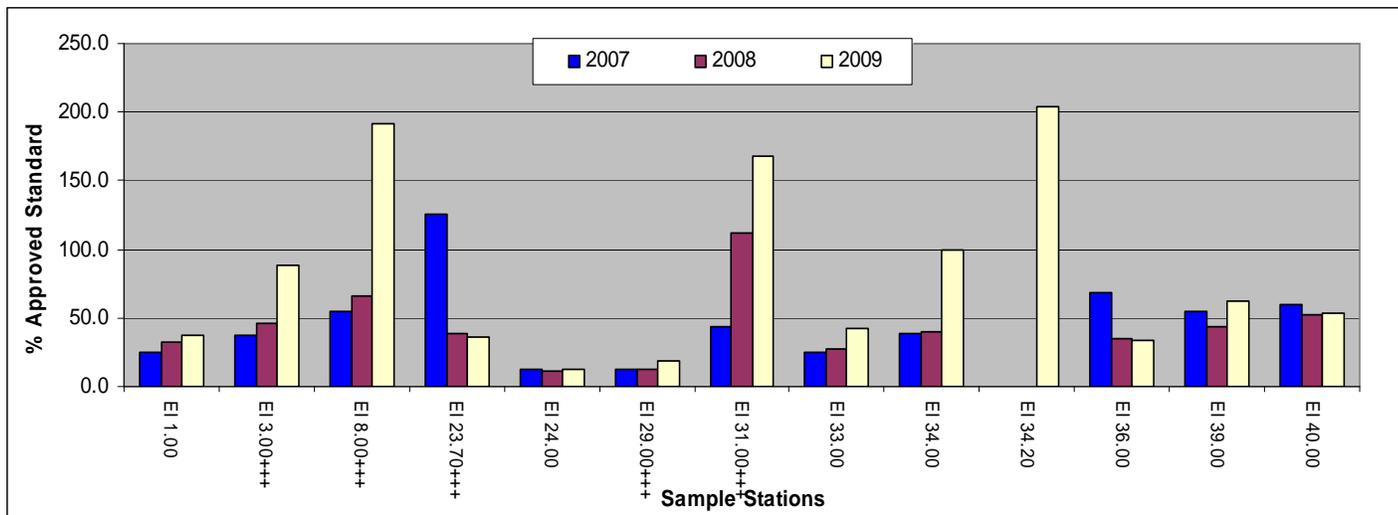
Three restricted stations that now meet approved criteria are EI 46, 47 and 75.6. All three stations have P90 values <100% of the approved classification standard. The remainders of the restricted stations exceed 100% of the approved standard but are less than the restricted class standard. The restricted stations are being compared to the approved standard to graphically demonstrate that they do or do not



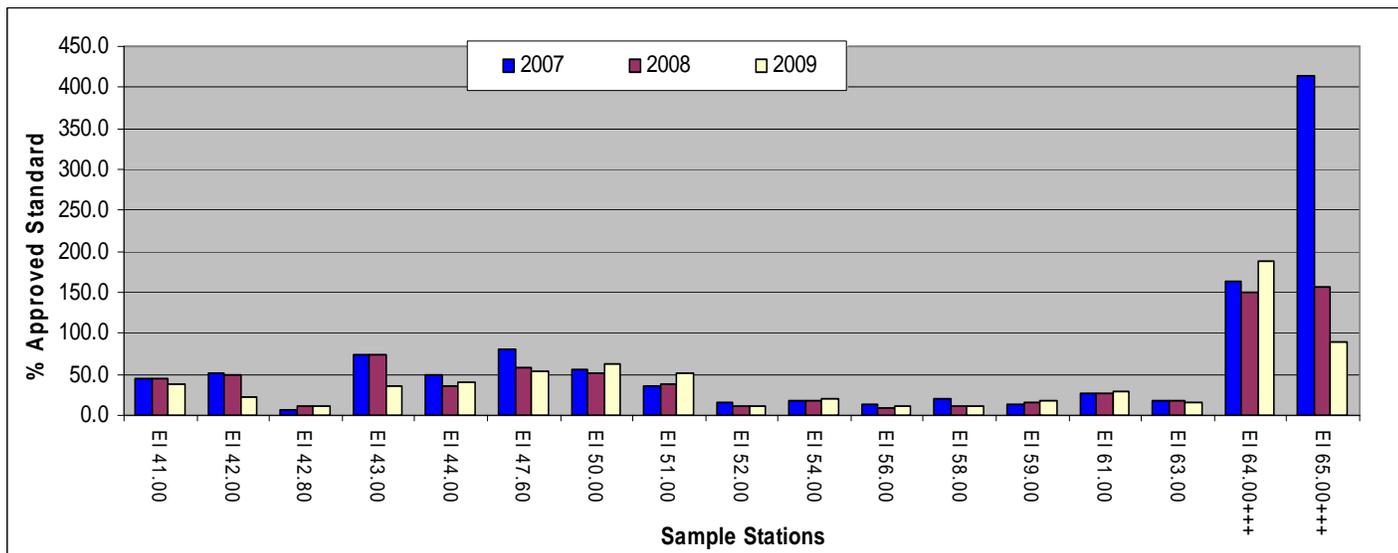
meet the approved standard. During the period from January 1 through July 31 station EI 37 meets seasonal conditionally approved criteria; however a questionable malfunctioning septic system nearby precludes any classification change at this time. Sample stations classified approved that are in danger of being reclassified to a more restrictive classification are EI 34 and 70.82. These stations will be more frequently sampled and surveyed in 2010.



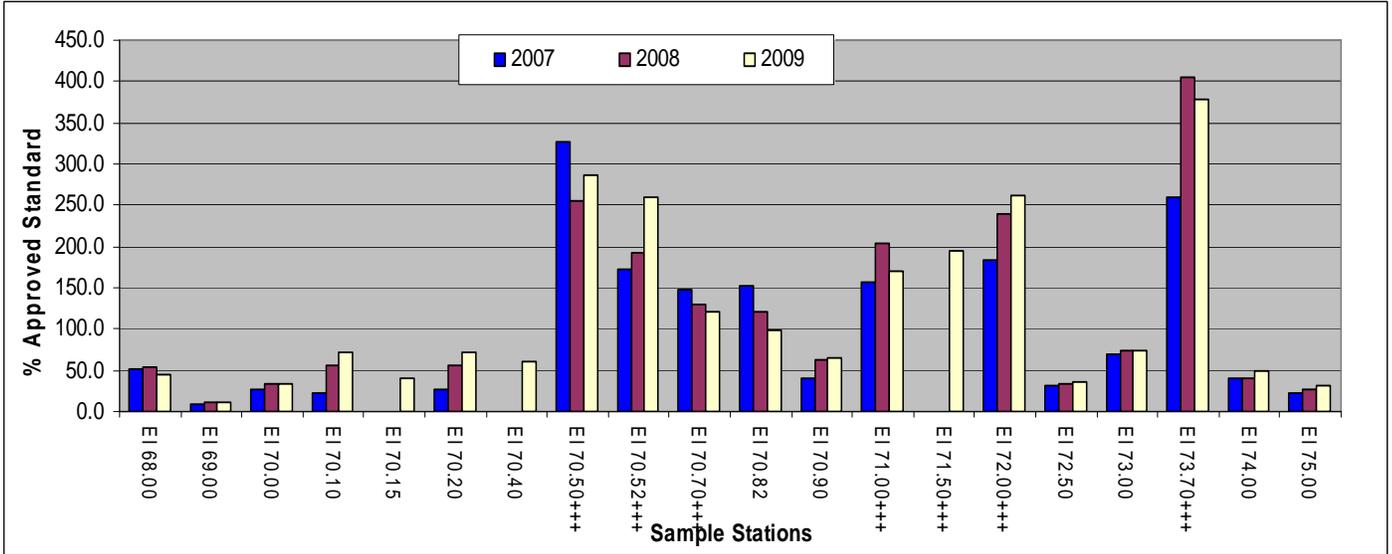
**Figure 7. Area EI P90 Score Trends for Approved and Prohibited Stations (expressed as the percent of the approved standard)**



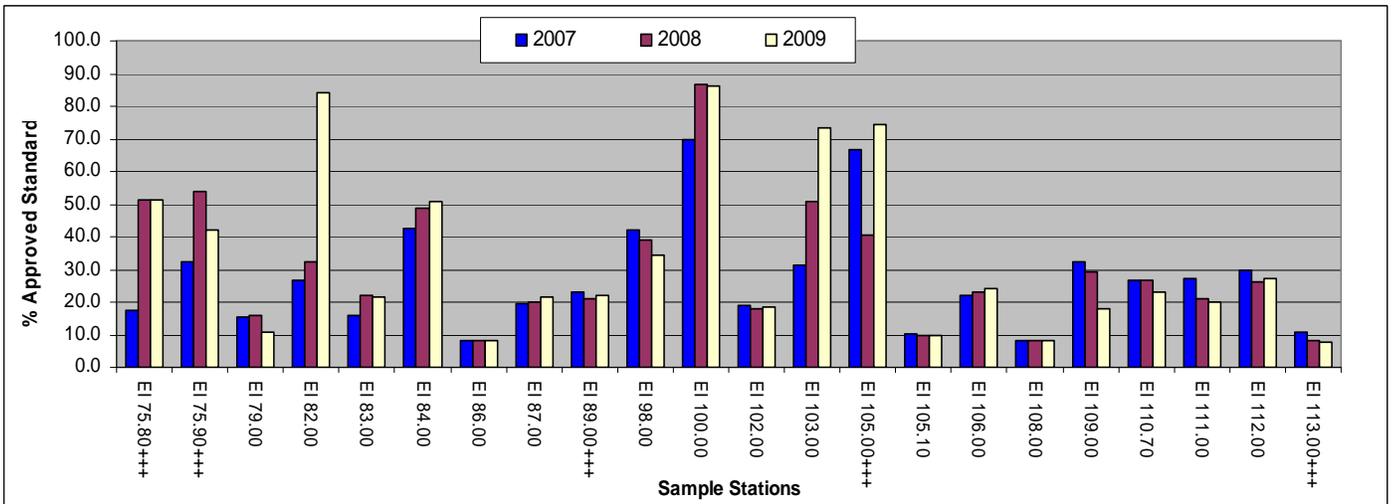
+++ = prohibited stations



+++ = prohibited stations



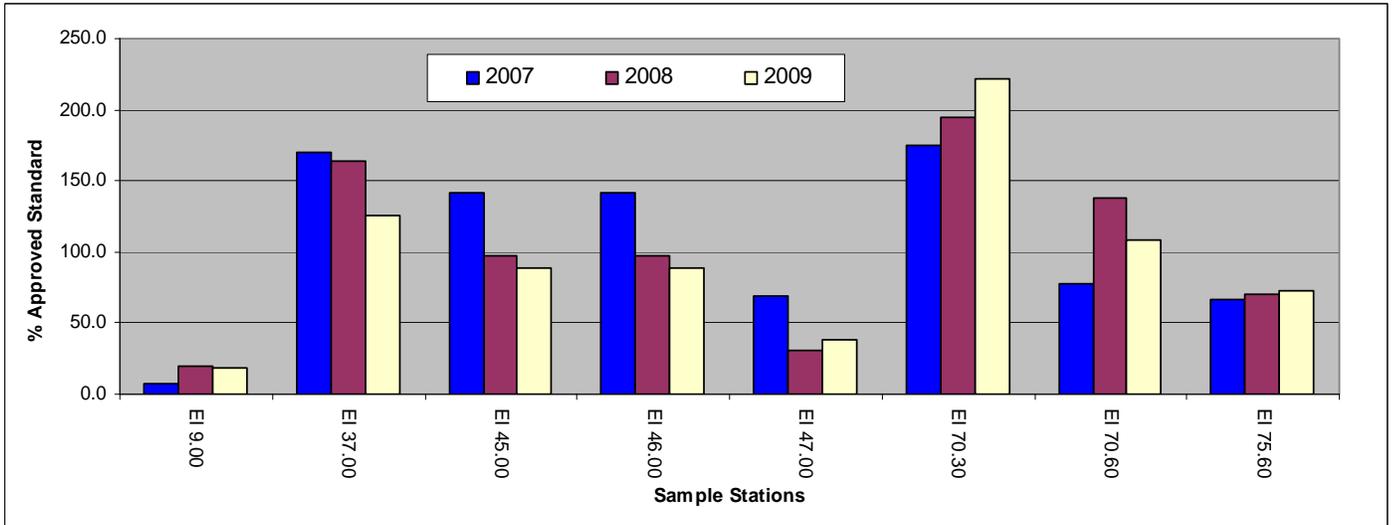
+++ = prohibited stations



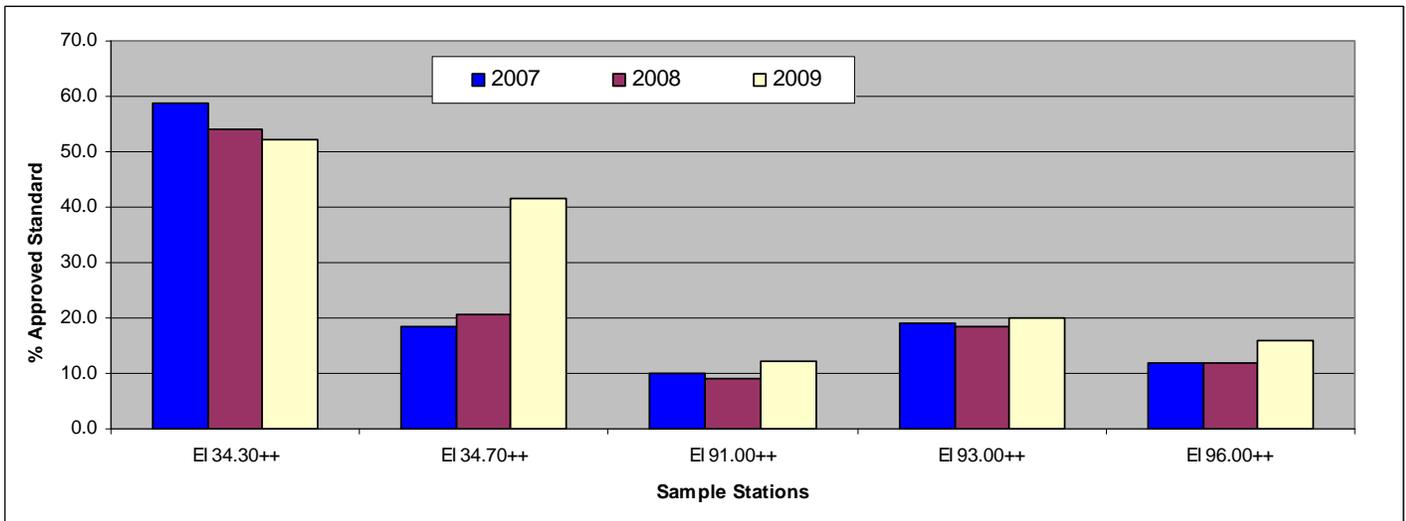
+++ = prohibited stations



**Figure 8. Area EI P90 Score Trends for Restricted Stations (expressed as the percent of the approved standard)**



**Figure 9. Area EI P90 Score Trends for Conditionally Approved Stations (expressed as the percent of the approved standard), During the Open Period**



## Recommendations for Upward Classification

### Eagle Point (Lamoine)

Area No. 49B (part 3), Eagle Point (Lamoine) is being proposed for an upgrade in classification, with the size of the restricted area being reduced due to water quality meeting approved standards at station EI 47, located off Eagle Point, in the Skillings River. Historically, the Eagle Point area on the Skillings River had water quality that did not meet approved standards due to non-point pollution that was likely from



animal pastures. No animals have been present since the 2007 sanitary survey. Water quality has met approved standards from 2007 to the present (Figure 10).

**Figure 10. Station EI 47 Score Trends (expressed as the percent of the approved standard)**

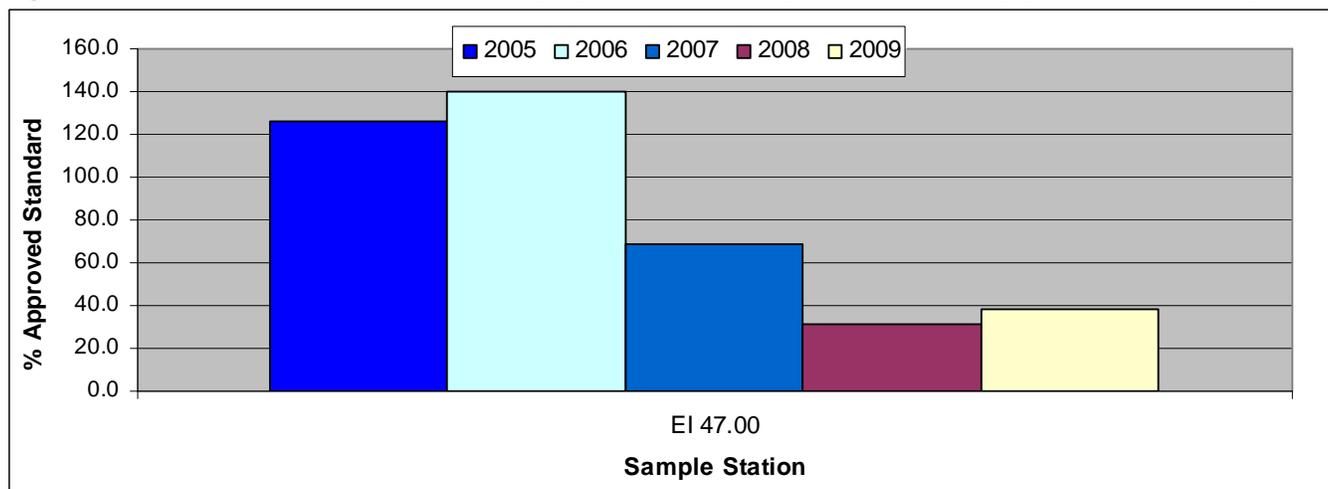


Table 4 lists the tabulated data from 2005 to the present. Precipitation >0.50” occurred within 72 hours of sampling in 30% (9/30) and 13.3% (4/30) within 48 hours of sampling in the most recent 30 samples. Eight sampling events with rainfall amounts between 0.5” and 1.71” within 72 hours had fecal coliform results of < 31 FC/100ml. One sampling on June 5, 2006 has a rainfall total of 3.75” (two day total) and a fecal coliform value of 75 FC/100ml; therefore exceeding the P90 standard (31). Under the current flood closure SOP, where the DMR looks at total storm precipitation, this rainfall event would most likely have been a flood closure enacted on June 5<sup>th</sup> and been in a closed status. Table 5 shows P90 calculations under 3 different scenarios: 1) for all samples; (2) for samples collected in the absence of rain; and 3) for all samples collected between 0.5 and 2 inches of cumulative precipitation within 3 days. The approved standard was met under all three scenarios.

**Table 4. Tabulated Data for EI 47, Eagle Point (Lamoine)**

Station	Date	Tide	Wind	Temp	Salin	Strat	Adv	Class	Col	Rain1	Rain2	Rain3	Total Rain
EI047.00	3/7/05	E	SE	0	30	R		A	<3	0	0	0	0
EI047.00	4/11/05	HE	NE	6	30	R	R	A	<3	0	0	0	0
EI047.00	6/13/05	F	W	21	28	R		R	<3	0	0	0	0
EI047.00	8/1/05	HE	SW	15	28	R	P	R	3.6	0.15	0	0	0.15
EI047.00	9/19/05	E	SW	13	30	R		R	23	0	0	0.65	0.65
EI047.00	10/24/05	F	NE	9	28	R	P	R	9.1	0.03	1.68	0	1.71
EI047.00	1/4/06	HE	N	-2	28	R		R	<3	0	0	0	0
EI047.00	1/31/06	H	NE	2	30	R	S	R	<3	0	0	0.15	0.15
EI047.00	4/10/06	HE	N	5	25	R		R	<3	0	0	0.3	0.3
EI047.00	6/5/06	LE	W	12	22	R	P	R	75	0.05	1.9	1.8	3.75
EI047.00	9/18/06	E	SW	12	30	R		R	<2	0	0	0	0
EI047.00	10/31/06	LE	SW	8	27	R		R	2	0	0	0	0
EI047.00	2/7/07	F	NW	-4	31	R		R	<2	0	0	0	0
EI047.00	5/22/07	F	NW	14	28	R		R	<2	0	0	0.05	0.05



Station	Date	Tide	Wind	Temp	Salin	Strat	Adv	Class	Col	Rain1	Rain2	Rain3	Total Rain
EI047.00	6/5/07	F	NE	11	30	R	P	R	24	0.2	1.35	0.1	1.65
EI047.00	8/6/07	LE	SW	14	32	R		R	2	0.65	0	0.03	0.68
EI047.00	10/9/07	E	NW	12	32	R	P	R	2	0	0.08	0.05	0.13
EI047.00	12/3/07	LF	E	3	30	R	S	R	6	0.65	0	0	0.65
EI047.00	2/25/08	E	SW	-2	30	R		R	2	0	0	0	0
EI047.00	4/22/08	HE	SW	8	30	R		R	<2	0	0	0	0
EI047.00	6/11/08	E	NW	12	30	R		R	24	0	0	0	0
EI047.00	7/30/08	E	SW	19	31	R		R	2	0	0.13	0.03	0.16
EI047.00	9/22/08	E	NW	9	31	R		R	2	0	0	0	0
EI047.00	11/12/08	H	NW	7	30	R		R	<2	0	0	0	0
EI047.00	3/18/09	E	SW	-1	28	R	W	R	<2	0.03	0	0	0.03
EI047.00	5/6/09	HF	E	7	28	R	P	R	<2	0.11	0.39	0	0.5
EI047.00	6/30/09	F	E	16	28	R	P	R	<2	0	0.56	0.4	0.96
EI047.00	7/29/09	F	SE	20	30	R	P	R	<2	0	0	0.06	0.06
EI047.00	9/21/09	HE	N	12	30	R		R	1.9	0	0	0	0
EI047.00	11/16/09	E	NW	7	26	R	P	R	22	0	1.24	0.25	1.49

**Table 5. Geometric Mean and P90 Scores Under a Variety of Rainfall Conditions**

Station	Class	All Samples			No Rain			Rain 0.5-2.0" (72 hrs)		
		Count	P90	Appd Std	Count	P90	Appd Std	Count	P90	Appd Std
EI047.00	R	30	13.7	36	29	30.8	42	24	14.8	43

The tides are generally evenly divided between ebbing (10), flooding (7), high (9) or low (4) tide. Four of the five elevated fecal coliform scores were on ebbing tides; however not all ebbing tide samples were consistently impacted by pollution. Salinities were all >22 ppt, suggesting little freshwater impact on the station. Three of the five elevated scores occurred in June of 2006, 2007 and 2008. The June sampling in 2009 was not impacted (<2 FC/100ml). The remaining two elevated scores were in September 2005 and November 2009. Westerly winds were associated with four of the five higher scores; however the remaining fourteen samples taken with westerly winds had low or negative fecal coliform scores. There is one sampling associated with wildlife with a <2 fecal coliform value. There were no other adversities associated with the samplings. No specific rainfall amounts, wind direction, salinity, tide stage, seasonality or water temperature appear to have a bacterial impact on this water quality station.



## Shoreline Survey Activity

The Kings Creek (Northeast Creek) area of Bar Harbor was surveyed and sampled after a complaint of animals pastured too close to the watershed. Stream samples showed intermittent elevated fecal scores. A new sample site (EI 34.2) was established at the mouth of N.E. Creek and extra sampling has taken place to determine if there is any impact on the estuary and if the area meets its present approved classification.

A land drain from a trailer at Carrying Place, Hancock was sampled for fecal coliform with negative results.

Hadley Point, Bar Harbor (EI 34) has shown a rapid climb in its percent of approved standard indicating decreasing water quality. The percentage is presently at 99.1%. Stations over 100% of the standard will be reclassified to a lower classification. The previous years it remained below 40%. Reviewing 2009 tabulated data shows three elevated scores on July 1 (60 FC/100 ml), July 27 (480 FC/100 ml) and August 4 (11 FC/100 ml). A survey of the area showed several dogs and evidence of dog feces on the sand. The plan for the area is to work with the local shellfish warden and post the area with informational signs about the risk to water quality from dog feces and see if the water quality improves. In the event that the dog feces cannot be controlled and the water quality exceeds the approved standard the area will be reclassified to prohibited.

The seaplane ramp at the Trenton Airport has historically had elevated fecal scores at station EI 37 and was re-classified restricted in 2008 (Area 47 (part A5)). A review of the tabulated data showed the months of September and October having the most frequent high scores with low scores the remainder of the year. Smith Brook and a land drain from the airport near to EI 37 were sampled for fecal coliform. Smith Brook was sampled 7 times between 1999 and 2009 with fecal coliform scores <68 FC/100ml and each land drain was sampled once in April 2008 and 2009 and both were negative for fecal coliform. After extra sampling in 2009, the most recent 30 samples were meeting the approved standards until the sample results of October 7 that yielded a score of 1260 FC/100 ml. A questionable malfunctioning septic system nearby precludes any classification change at this time however.

## Aquaculture/Wet Storage Activity

There are ten aquaculture sites and one wet storage permit in this growing area. The shellfish aquaculture sites and the wet storage permit within the growing area are listed below. All of the sites are located within approved areas. More detail can be found at the web site:

<http://www.maine.gov/dmr/aquaculture/index.htm>

Shellfish; Eastern Maine Mussel Corp; land-based mussel processing facility, Taunton River, Hancock  
EAST OP-Shellfish; R Smith, Jordan River, Old Pt, Lamoine; bottom culture; blue mussels  
EAST OP2- Shellfish; Acadia Aqua Farms, Old Pt, Lamoine; bottom-suspended culture; mussels  
FLAN WN- Shellfish, Acadia Aqua Farms, Flanders Bay, Sorrento; bottom culture; mussels  
FREN BI- Shellfish, Acadia Aqua Farms, north of Bean Island; bottom culture mussels  
FREN SB- Shellfish; Shaba Shellfish, south of Bean Island; suspended mussels, scallops  
EAST HP- Shellfish; Great Eastern Mussel, Hadley Point; bottom culture, mussels  
FREN PI4- Shellfish; Great Bay Aquaculture; Calf Island, Sorrento; suspended culture; mussels, scallops  
EAST GL- Shellfish; T Levesque, Googins Ledge, Lamoine; suspended culture; mussels



PET1 09; Shellfish, Pettegrow, soft bags, oysters

TAUN HB2- Shellfish; Taunton Bay Oyster Co, Buckskin-Burying Islands, Hog Bay, Franklin; trays, oysters

## Classification Changes

Area No. 49B (part 3), Eagle Point (Lamoine); reduces the size of the restricted area due to water quality meeting approved standards at EI 47, off Eagle Point, in the Skillings River. The area east of Eagle Point will be reclassified from restricted to approved.

Area 50-B, Johnny's Brook-Card Mill Stream (Franklin); will enlarge the size of the current prohibited area to the next approved station EI 74 based on a Johnny's Brook and Card Mill Stream dilution calculation that would require 51 acres to dilute the bacterial loading to 14 FC/100ml.

## Summary

Water quality in the growing area supports the current classification under the NSSP criteria. Overall, 2009 water quality has remained constant. Sample stations classified approved that are in danger of being reclassified to a more restrictive classification are EI 34 and 70.82. All conditionally approved and conditionally restricted sampling stations have p90 values less than their classification standards during their open status. All random stations were sampled 6 times and conditional stations met the required number of samples for their classification while in the open status. Hadley Point, Kings Creek and the Trenton airport ramp will be more closely watched for changes in water quality. There is one (1) upward reclassifications proposed in this report (Eagle Point). The Johnny's Brook-Card Mill Stream prohibited area will be expanded in size to adequately dilute the pollution loading at sample station EI 73.7 to 14 FC/100ml at the new closure margin. The sampling schedule will remain the same for the remainder of the area in 2010. Streams in the area will be sampled and known pollution sources will be evaluated for the 2010 triennial report.

## Recommendation for Future Work

1. Increase sampling at Hadley Point, Bar Harbor (EI 34) during summer months to determine if there is a bacterial impact from dog walking and beach use of the area.
2. Increase sampling at EI 34.2 to determine if there is any bacterial impact from NE Creek.
3. Increase sampling after rainfall at EI 34.2, 37, 45, 46, 71.5, 75.6, 75.9 and 105 to increase the number of samples collected under rainfall conditions.
4. Re-survey Egypt Bay, Franklin area to determine what pollution source(s) is impacting the area.
5. Investigate and remediate the questionable malfunctioning septic system adjacent to Trenton seaplant ramp.

## References

Maine Department of Environmental Protection Licensed Overboard Discharge database.



**Appendix A. Annual Review of Conditional Area Management Plan Area 47 (Part C)**

Growing Area EI; Area 47 (Part C) Bar Island Conditionally Restricted, Bar Harbor

**Scope**

This conditionally restricted area is seasonally (March 1-May 31) available for depuration harvesting. The area includes the Bar Island causeway bar, in the town of Bar Harbor, bounded on the east by a line from the Harborside Hotel property northerly to the mid southerly shore of Bar Island; and on the west by a line from the end of Bridge Street to the western tip of Bar Island. Bar Harbor WWTP officials are working with the Maine Department of Environmental Protection to eliminate the combined sewer overflows in the area.

**Compliance with management plan**

Area No. 47(part C), Bar Island Bar, is a seasonal Conditionally Restricted area based on the lack of combined sewer overflow activity at the Rodick Street and West Street outfalls in the Bar Harbor Wastewater Plant collection system for 14 days prior to depuration harvesting and fewer than ten live aboard boats off the Bar Harbor pier during the period from March 1 thru May 31 annually. If a request for depuration is made, the combined sewer overflow records for Rodick Street and West Street are reviewed to see if there has been any activity. The area is required to be sampled monthly during the open status. Samples were collected 3 times from each of the water quality monitoring sites during the open status (3/3, 4/6, 5/5). Lack of boating activity in the mooring field during the open status was confirmed on 3/3 and 5/5. Water quality meets the standard for restricted classification during the open status. There was no depuration harvesting activity from the area in 2009.

**Adequacy of reporting and cooperation of involved persons**

Cooperation between the depuration company, Bar Harbor Town officials, Bar Harbor wastewater treatment plant staff and the DMR during the harvest period ensures that the conditional area meets depuration criteria. Signed agreements address the importance of alerting the DMR in the event of any CSO flow.

Maine Marine Patrol logs indicate law enforcement activity during closed and prohibited periods. The officers take an active role in managing the harvest of the resource during the open status and prevention of contaminated product reaching the market during the closed status.

**Compliance with conditionally restricted growing area criteria**

All stations within the conditional restricted area meet relay or depuration standards during the open status based on geomeans and P90 values and lack of boating activity and/or combined sewer outfall flows. Monitoring stations are part of a scheduled water sampling run CA2. Station EI 9 has an open period of only three months. Sample dates during the open period of March 1-May 31 from 1988 to the present only shows 23 samples. These samples include when the area was classified prohibited.

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EI009.00	CR	23	8	3.1	0.29	48	7.5	41	242



**Field inspection of critical pollution sources**

The area was inspected for lack of boating activity in the mooring field during the open status on March 3, 2009 and May 5, 2009 to confirm that there were fewer than <10 boats with live-aboard crews. Daily monitoring of the CSO flows are carried out before and during harvesting if the area is harvested. All stations within the conditional restricted area meet restricted standards during the open status and lack of boating activity. CSO activity will be reviewed if there is a depuration request. The Bar Harbor Wastewater Treatment Plant operational review was last done in January 2008.

**Water sampling compliance history**

Due to the conditional management plan being based on the absence of pollution from a wastewater combined sewer outfall for certain times of the year, the NSSP requires monthly water samples when the growing area is in the open status of its conditional classification provided that the water samples collected to satisfy the bacteriological standard for the open status are collected when the growing area is in the open status. The station that monitors the Bar Island bar (EI 9) was collected monthly in the open status for a total of three in 2009 (Table 1).

**Table 1. Station EI 9, 2009 Data**

Station	Date	Srategy	Open_Closed	Class	Adversity	Temp	Salinity	Tide	Wind	Col Score
EI009.00	1/5/2009	R	C	CR		0	30	F	NW	12
EI009.00	2/3/2009	R	C	CR		-1	31	F	N	<2
EI009.00	2/18/2009	E	C	CR		0	31	LE	SE	<2
EI009.00	3/3/2009	R	O	CR		0	28	HF	NW	2
EI009.00	4/6/2009	R	O	CR	W	2	30	E	SE	<2
EI009.00	5/5/2009	R	O	CR	P	4	31	E	E	<2
EI009.00	6/2/2009	R	C	CR		8	30	LE	W	<2
EI009.00	7/8/2009	R	C	CR	O	12	30	HE	SW	260
EI009.00	8/4/2009	R	C	CR	O	15	31	L	S	4
EI009.00	9/8/2009	R	C	CR	O	14	30	H	SW	18
EI009.00	10/6/2009	R	C	CR	P	9	32	HE	W	29
EI009.00	11/3/2009	R	C	CR	O	7	32	E	N	<2
EI009.00	12/2/2009	R	C	CR	O	4	31	E	SW	2

**Analysis-recommendations**

Area 47(Part C), Bar Harbor Bar, is a conditionally restricted area that has not been harvested for depuration in recent years and is basically inactive. Requests for depuration digging have not occurred in the period from 1999-2009. Seasonal boating traffic was absent during the current depuration harvest period. Daily monitoring of the CSO flows will be carried out before and during harvesting. All stations within the conditional restricted area met restricted standards during the open status. CSO activity will be reviewed if there is a depuration request. Elevated fecal coliform values were recorded during the summer months (June thru September) of the review period when boating activity is present. The management plan accomplishes its stated purpose. Water quality meets the standard for restricted classification during the open status. There was no depuration harvesting activity from the area in 2009.



No recommendations for changes to the current management plan or conditional area classification status are needed at this time.



## Appendix B. Annual Review of Conditional Area Management Plan Area 47 (Part B)

Growing Area EI; Area 47 (Part B), Thomas Bay, Bar Harbor

### Scope

Area No. 47(part B), Thomas Island, is a seasonal conditionally approved area based on occupancy of an RV campground and requires six (6) samples during the open status. The business season is June thru September. The area is conditionally approved from October 1 thru April 30 and restricted from May 1 thru September 30. The restricted period is during the “peak season” operating period of a seasonal commercial camping area (“Mount Desert Narrows Campground”). The campground has historically operated May 15 through September 20<sup>th</sup>. A more detailed description and map of the area is discussed in the management plan.

### Compliance with management plan

Samples were collected 6 times from each of the water quality monitoring sites during the open status (3/16, 4/6, 4/21, 10/6, 11/3, 12/2). The double sampling in April was necessary due to sea ice cover over the area in January and February preventing sampling. The campground was inspected on April 6 and May 5, 2009, prior to the conditionally approved open status closure date of April 30 to confirm that the campground had not opened for business in the spring. An inspection was completed on September 28, 2009, prior to the conditionally approved open status date of October 1, to confirm that the campground was closed for the winter. Approximately 25 (239 total RV/tenting sites) camper sites were occupied with vacant winterized campers. The access roads to the campground were gated. Water quality meets the standard for approved classification during the open status and restricted classification during the May-September period.

### Adequacy of reporting and cooperation of involved persons

The management plan for this conditional area does not require reporting.

### Compliance with conditionally approved-restricted growing area criteria

The sample stations (EI 34.3 and EI 34.7) met the approved standard when in the open status of the conditionally approved classification from October 1 to April 30. The stations met the restricted standard when in the open status of the conditionally restricted classification from May 1 to September 30.

**Table 1. Thomas Bay During the Conditionally Approved OPEN Period**

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EI034.30	CA	30	22	4.6	0.54	93	23.1	35	191
EI034.70	reactivated	23	21	3.3	0.4	62	10.8	32	171

**Table 2. Thomas Bay During the Restricted Period**

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EI034.30	R	30	19	5.3	0.72	1100	45.8	36	203
EI034.70	reactivated	22	17	3.5	0.56	460	19.1	34	187



### Field inspection of critical pollution sources

The potential for pollution in the Thomas Bay area comes from seasonal camping activity at a campground in the area. Visual observations are made of the campground at the end of April and in the middle of September to ensure that the campground is not active during the open status of the conditionally approved classification from October 1 to April 20.

### Water sampling compliance history

Due to the conditional management plan being based on the absence of pollution from a seasonal campground for certain times of the year, the NSSP does not require monthly water samples when the growing area is in the open status of its conditional classification provided that at least six of the water samples collected to satisfy the bacteriological standard for the open status are collected when the growing area is in the open status. The stations that monitor Thomas Bay (EI 34.3 and 34.7) were collected monthly in the open status for a total of six in 2009 (Table 3).

**Table 3. Stations EI 34.3 and 34.7, 2009 Data**

Station	Date	Strategy	Open_Closed	Class	Adversity	Temp	Salinity	Tide	Wind	Col Score
EI034.30	3/16/2009	R	O	CA	T	-4	25	HF	N	<2
EI034.30	4/6/2009	R	O	CA	P	2	27	E	SE	<2
EI034.30	4/21/2009	R	O	CA		2	30	E	E	<2
EI034.30	5/5/2009	R	C	CA	P	5	31	E	E	<2
EI034.30	5/20/2009	R	C	CA		8	30	E	N	<2
EI034.30	6/2/2009	R	C	CA		8	28	E	CL	2
EI034.30	7/1/2009	R	C	CA	P	12	24	E	SE	6
EI034.30	8/4/2009	R	C	CA	O	17	29	E	CL	<2
EI034.30	9/8/2009	R	C	CA	O	15	30	H	SW	5.4
EI034.30	10/7/2009	R	O	CA	P	12	30	H	SE	29
EI034.30	11/3/2009	R	O	CA	O	6	30	H	CL	4
EI034.30	12/2/2009	R	O	CA	O	3	28	HE	SW	<2
EI034.70	3/16/2009	R	O	CA	T	-5	28	HF	N	<2
EI034.70	4/6/2009	R	O	CA	P	2	22	E	SE	<2
EI034.70	4/21/2009	R	O	CA		2	30	E	E	<2
EI034.70	5/5/2009	R	C	CA	P	5	30	E	E	<2
EI034.70	5/20/2009	R	C	CA		8	30	E	N	<2
EI034.70	6/2/2009	R	C	CA		8	30	E	CL	<2
EI034.70	7/1/2009	R	C	CA	P	12	29	E	SE	<2
EI034.70	8/4/2009	R	C	CA	O	18	30	E	SE	<2
EI034.70	9/8/2009	R	C	CA	O	15	30	HE	SW	<2
EI034.70	10/6/2009	R	O	CA	P	9	32	H	NW	62
EI034.70	11/3/2009	R	O	CA	O	6	30	H	CL	2
EI034.70	12/2/2009	R	O	CA	O	3	30	HE	SW	11

### Analysis-recommendations

It is DMR policy to review water quality prior to reopening a seasonal area to ensure compliance



with approved standards. The area will continue to be sampled on a monthly basis to increase the number of data points. Due to the short time this area has been classified conditionally restricted/conditionally approved there is no long term compliance history to review. An historical water sampling review supports the present classifications. Water quality meets the standard for approved classification during the open status of October 1 to April 30 and meets the restricted standard during the May 1 to September 30 period. No changes are recommended at this time.



**Appendix C. Annual Review of Conditional Area Management Plan Area 50 (Part A)**

Growing Area EI      Area 50 (part A)    Sorrento Harbor, Sorrento

**Scope**

A portion of Growing Area EI, Sorrento Harbor, Sorrento, is conditionally approved based on the presence or absence of 10 or more boats with heads, which may discharge into Sorrento Harbor. The area is monitored by stations EI 91, 93 and 96. The area was classified conditionally approved in January 1999. DMR evaluated the data, made observations of the moorings, interviewed the harbormaster in regard to usage in month/year, and made the assessment that fewer than 10 boats are in the harbor from October 1 through April 30. Annually, the mooring area has a peak occupancy period from Memorial Day thru Labor Day. The harbor master confirmed the lack of live-aboards with the exception of transient boaters using moorings overnight in the peak cruising months. Few boats are occupied after September or before May. The water quality met approved standards from October 1 through April 30.

**Compliance with management plan**

In 2009, the seasonal conditional area closed on May 1 and reopened on October 1. The area was visited by the DMR on September 28, 2009 and there were fewer than 10 boats with heads in the area. It was also visited on April 7, 2009 to confirm there were fewer than 10 boats with heads in the water. The seasonal closure is enforced by DMR Marine Patrol.

**Adequacy of reporting and cooperation of involved persons-**

This management plan requires seasonal checks on boat activity in the harbor. These checks are performed prior to the reopening of the area and at the time of closure to ensure the proper open shellfish season.

**Compliance with conditionally approved growing area criteria-**

All stations within the conditional area meet conditionally approved standards during the open status (Table 1).

**Table 1. Sorrento Harbor Marina Area, Open Status**

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EI091.00	CA	30	26	2.1	0.13	8	3.2	32	176
EI093.00	CA	30	26	2.5	0.32	36	6.4	32	176
EI096.00	CA	30	25	2.4	0.25	23	5.3	33	180

**Field inspection of critical pollution sources-**

The potential for pollution in Sorrento Harbor comes from boats with heads that are moored in the harbor. Visual observations are made of the area at the end of September and prior to the closure on April 30 to ensure that there are fewer than 10 boats with heads in the area.



### Water sampling compliance history

Due to the conditional management plan being based on the absence of pollution from marinas/moorings for certain times of the year, the NSSP does not require monthly water samples when the growing area is in the open status of its conditional classification provided that at least three of the water samples collected to satisfy the bacteriological standard for the open status are collected when the growing area is in the open status. The stations that monitor Sorrento Harbor (EI 91, 93 and 96) were collected monthly in the open status for a total of seven in 2009 (Table 2).

**Table 2. Stations EI 91, 93 and 96, 2009 Data**

Station	Date	Srategy	Open_ Closed	Class	Adversity	Temp	Salinity	Tide	Wind	Col Score
EI091.00	1/6/2009	R	O	CA		2	31	LF	NW	<2
EI091.00	2/3/2009	R	O	CA		1	32	E	N	<2
EI091.00	3/3/2009	R	O	CA		0	31	LE	N	4
EI091.00	4/7/2009	R	O	CA	P	3	30	E	SE	<2
EI091.00	5/5/2009	R	C	CA		8	30	E	E	<2
EI091.00	6/2/2009	R	C	CA		11	31	L	N	<2
EI091.00	7/7/2009	R	C	CA	P	11	30	E	SE	<2
EI091.00	8/4/2009	R	C	CA	O	18	31	E	SW	2
EI091.00	9/7/2009	R	C	CA	O	12	30	F	CL	<2
EI091.00	10/6/2009	R	O	CA	P	10	31	LF	NW	8
EI091.00	11/3/2009	R	O	CA	O	6	31	F	NW	<2
EI091.00	12/2/2009	R	O	CA	O	6	32	LE	SW	<2
EI093.00	1/6/2009	R	O	CA		2	31	LF	NW	<2
EI093.00	2/3/2009	R	O	CA		1	32	E	N	<2
EI093.00	3/3/2009	R	O	CA		0	30	LE	N	4
EI093.00	4/7/2009	R	O	CA	P	4	28	E	SE	<2
EI093.00	5/5/2009	R	C	CA		8	30	E	E	<2
EI093.00	6/2/2009	R	C	CA		11	31	L	N	<2
EI093.00	7/7/2009	R	C	CA	P	10	30	E	SE	<2
EI093.00	8/4/2009	R	C	CA	O	18	31	E	SW	<2
EI093.00	9/7/2009	R	C	CA	O	12	30	F	CL	<2
EI093.00	10/6/2009	R	O	CA	P	10	32	LF	NW	<2
EI093.00	11/3/2009	R	O	CA	O	6	32	F	NW	<2
EI093.00	12/2/2009	R	O	CA	O	7	30	LE	SW	<2
EI096.00	1/6/2009	R	O	CA		2	31	LF	NW	<2
EI096.00	2/3/2009	R	O	CA		1	31	E	N	<2
EI096.00	3/3/2009	R	O	CA		0	30	LF	N	13
EI096.00	4/7/2009	R	O	CA	P	4	27	E	SE	4
EI096.00	5/5/2009	R	C	CA		8	30	E	E	<2
EI096.00	6/2/2009	R	C	CA		11	30	L	N	<2
EI096.00	7/7/2009	R	C	CA	P	11	29	E	SE	<2
EI096.00	8/4/2009	R	C	CA	O	18	31	E	SW	<2
EI096.00	9/7/2009	R	C	CA	O	12	30	F	CL	<2



Station	Date	Srategy	Open_ Closed	Class	Adversity	Temp	Salinity	Tide	Wind	Col Score
EI096.00	10/6/2009	R	O	CA	P	10	32	LF	NW	<2
EI096.00	11/3/2009	R	O	CA	O	6	32	F	NW	6
EI096.00	12/2/2009	R	O	CA	O	6	31	LE	SW	<2

### Analysis-recommendations

It is the DMR policy to observe marina areas before closing and reopening to ensure compliance with the management plan. Sorrento Harbor was observed at the end of September for the reopening on October 1. Fewer than 10 boats with heads were in the water. This marina area continues to meet the conditionally approved classification criteria based on boating activity. The open period start date (10/1) and closure date (4/30) continue to be valid. Presently boats are vacating the area in the fall soon enough to meet re-opening criteria, however, it has been noted that the period between boats being present and the area opening date is getting shorter and it may be necessary to extend the closed period to November 1. Warmer and milder fall weather in recent years may be extending the length of the recreational boating season later into the fall. The conditional area encompasses the calculated dilution zone for the moored boats. No recommendations for changes to the current management plan or conditional area classification open status are needed at this time.



## Appendix D. Key to Water Quality Table Headers

Station = water quality monitoring station

Class = classification assigned to the station; prohibited (P), restricted (R), conditionally restricted (CR), conditionally approved (CA) and approved (A).

Count = the number of samples evaluated for classification, must be a minimum of 30.

MFCNT = the number of samples evaluated with the MTec method (included in the total Count column)

Geo\_Mean = means the antilog (base 10) of the arithmetic mean of the sample result logarithm (base 10).

SDV = standard deviation

Max = maximum score of the 30 data points in the count column

P90 = 90<sup>th</sup> percentile

APPD\_STD = the 90<sup>th</sup> percentile, at or below which the station would meet approved criteria in the absence of pollution sources or poisonous and deleterious substances.

RESTR\_STD = the 90<sup>th</sup> percentile, at or below which the station would meet restricted criteria.



**Appendix E. Growing Area EI 2009 Data**

Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
EI001.00	3/16/2009	R	O	A	T	-2	28	F	N	<2
	5/5/2009	R	O	A	P	4	29	E	E	13
	6/29/2009	R	O	A	P	12	26	LF	SE	7.3
	7/27/2009	R	O	A	P	10	28	F	S	3.6
	9/15/2009	R	O	A	P	11	30	E	S	<2
	11/2/2009	R	O	A	O	6	30	HE	NE	4
EI003.00	3/16/2009	R	C	P	T	-2	32	F	N	<2
	5/5/2009	R	C	P	P	4	29	E	E	20
	6/29/2009	R	C	P	P	12	6	LF	SE	80
	7/27/2009	R	C	P	P	13	10	F	S	60
	9/15/2009	R	C	P	P	11	31	E	S	<2
	11/2/2009	R	C	P	O	6	29	H	NE	<2
EI005.00	3/16/2009	R	C	P	T	-2	30	F	N	<2
EI006.00	3/16/2009	R	C	P	T	-1	30	F	N	<2
EI008.00	2/18/2009	E	C	P		0	31	L	SE	<2
	3/16/2009	R	C	P	T	-2	31	F	N	<2
	5/5/2009	R	C	P	P	4	31	E	E	4
	6/29/2009	R	C	P	P	12	30	F	SE	28
	7/27/2009	R	C	P	P	11	30	F	S	>1600
	9/15/2009	R	C	P	P	11	30	LE	CL	13
	11/2/2009	R	C	P	O	6	32	HE	NE	40
EI009.00	1/5/2009	R	C	CR		0	30	F	NW	12
	2/3/2009	R	C	CR		-1	31	F	N	<2
	2/18/2009	E	C	CR		0	31	LE	SE	<2
	3/3/2009	R	O	CR		0	28	HF	NW	2
	4/6/2009	R	O	CR	W	2	30	E	SE	<2
	5/5/2009	R	O	CR	P	4	31	E	E	<2
	6/2/2009	R	C	CR		8	30	LE	W	<2
	7/8/2009	R	C	CR	O	12	30	HE	SW	260
	8/4/2009	R	C	CR	O	15	31	L	S	4
	9/8/2009	R	C	CR	O	14	30	H	SW	18
	10/6/2009	R	C	CR	P	9	32	HE	W	29
	11/3/2009	R	C	CR	O	7	32	E	N	<2
12/2/2009	R	C	CR	O	4	31	E	SW	2	
EI011.00	3/16/2009	R	C	P	T	0	28	F	N	<2
EI013.00	3/16/2009	R	C	P	S	-1	28	F	N	<2
EI019.00	3/16/2009	R	C	P	T	-1	30	F	N	<2
EI023.70	3/16/2009	R	C	P	T	-1	30	F	N	<2
	5/5/2009	R	C	P	P	5	31	E	NE	<2
	6/29/2009	R	C	P	P	11	26	F	SE	4
	7/27/2009	R	C	P	P	13	30	F	S	<2
	9/15/2009	R	C	P	P	12	31	LE	CL	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	11/2/2009	R	C	P	O	7	30	HE	NE	4
EI024.00	3/16/2009	R	O	A	T	0	31	F	N	<2
	5/5/2009	R	O	A	P	5	31	E	NE	<2
	6/29/2009	R	O	A	P	12	28	F	SE	<2
	7/27/2009	R	O	A	P	13	30	F	S	<2
	9/15/2009	R	O	A	P	12	31	L	CL	<2
	11/2/2009	R	O	A	O	7	30	E	NE	<2
EI027.00	3/16/2009	R	C	P	T	-2	31	HF	N	<2
EI029.00	3/16/2009	R	C	P	T	-1	31	HF	N	<2
	5/5/2009	R	C	P	P	4	31	E	E	<2
	6/29/2009	R	C	P	P	11	30	F	SE	<2
	7/27/2009	R	C	P	P	14	30	F	S	4
	9/15/2009	R	C	P	P	12	30	L	N	<2
	11/2/2009	R	C	P	O	7	32	E	NE	28
EI031.00	3/16/2009	R	C	P	W	-2	30	HF	N	2
	5/5/2009	R	C	P	P	5	31	E	E	4
	6/29/2009	R	C	P	P	12	30	F	SE	220
	7/27/2009	R	C	P	P	13	30	F	S	22
	9/15/2009	R	C	P	P	12	30	LF	N	2
	11/2/2009	R	C	P	O	7	30	E	NE	<2
EI033.00	3/16/2009	R	O	A	T	0	30	HF	N	<2
	5/5/2009	R	O	A	P	5	31	E	E	<2
	6/29/2009	R	O	A	P	13	30	F	SE	<2
	7/27/2009	R	O	A	P	11	30	F	S	100
	9/15/2009	R	O	A	P	12	30	L	N	<2
	11/2/2009	R	O	A	O	6	31	E	NE	2
EI034.00	3/16/2009	R	O	A	T	1	30	HF	N	<2
	5/5/2009	R	O	A	P	4	31	E	E	<2
	6/29/2009	R	O	A	P	12	30	F	SE	<2
	7/1/2009	R	O	A	P	13	27	E	SE	60
	7/27/2009	R	O	A	W	16	25	F	W	480
	8/4/2009	R	O	A	O	17	30	E	SW	11
	9/7/2009	A	C	A	F	11	30	LF	CL	2
	9/10/2009	A	C	A	F	14	30	HF	SE	<2
	9/15/2009	R	O	A	P	12	30	L	N	2
	11/2/2009	R	O	A	O	7	32	E	NE	<2
EI034.20	7/1/2009	R	O	A	P	12	26	E	CL	11
	7/27/2009	R	O	A	P	15	28	F	SW	82
	8/4/2009	R	O	A	O	16	30	E	SW	<2
	9/2/2009	A	C	A	F	13	0	LE	SW	40
	9/7/2009	A	C	A	F	14	30	HF	SW	10
	9/10/2009	A	C	A	F	14	30	HF	SE	<2
	9/28/2009	E	O	A	P	14	30	HE	SW	34
	10/6/2009	R	O	A	P	9	30	H	NW	20



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	10/28/2009	A	C	A	F	5	27	H	NE	6
	10/29/2009	A	C	A	F	5	22	HE	NE	18
	10/30/2009	A	C	A	F	5	30	HF	CL	<2
	11/2/2009	R	O	A	O	7	30	E	NE	4
	11/3/2009	R	O	A	O	6	30	H	CL	4
EI034.30	3/16/2009	R	O	CA	T	-4	25	HF	N	<2
	4/6/2009	R	O	CA	P	2	27	E	SE	<2
	4/21/2009	R	O	CA		2	30	E	E	<2
	5/5/2009	R	C	CA	P	5	31	E	E	<2
	5/20/2009	R	C	CA		8	30	E	N	<2
	6/2/2009	R	C	CA		8	28	E	CL	2
	7/1/2009	R	C	CA	P	12	24	E	SE	6
	8/4/2009	R	C	CA	O	17	29	E	CL	<2
	9/8/2009	R	C	CA	O	15	30	H	SW	5.4
	10/7/2009	R	O	CA	P	12	30	H	SE	29
	11/3/2009	R	O	CA	O	6	30	H	CL	4
	12/2/2009	R	O	CA	O	3	28	HE	SW	<2
EI034.70	3/16/2009	R	O	CA	T	-5	28	HF	N	<2
	4/6/2009	R	O	CA	P	2	22	E	SE	<2
	4/21/2009	R	O	CA		2	30	E	E	<2
	5/5/2009	R	C	CA	P	5	30	E	E	<2
	5/20/2009	R	C	CA		8	30	E	N	<2
	6/2/2009	R	C	CA		8	30	E	CL	<2
	7/1/2009	R	C	CA	P	12	29	E	SE	<2
	8/4/2009	R	C	CA	O	18	30	E	SE	<2
	9/8/2009	R	C	CA	O	15	30	HE	SW	<2
	10/6/2009	R	O	CA	P	9	32	H	NW	62
	11/3/2009	R	O	CA	O	6	30	H	CL	2
	12/2/2009	R	O	CA	O	3	30	HE	SW	11
EI036.00	3/18/2009	R	O	A	T		30	F	SW	<2
	4/8/2009	R	O	A	P	1	28	E	SW	<2
	5/6/2009	R	O	A	P	7	28	H	E	<2
	7/29/2009	R	O	A	P	20	30	F	SE	<2
	9/21/2009	R	O	A	O	11	30	F	CL	<2
	11/16/2009	R	O	A	P	6	30	HE	NW	2
EI037.00	2/18/2009	E	O	R		1	25	E	CL	<2
	3/18/2009	R	O	R	T	1	30	LE	SW	10
	4/8/2009	E	O	R	P	1	28	HE	SW	<2
	5/5/2009	R	O	E	P	5	30	F	E	<2
	5/6/2009	R	O	R	P	7	29	H	E	<2
	5/20/2009	R	O	R		8	30	E	CL	<2
	6/2/2009	E	O	R		8	30	E	CL	<2
	6/16/2009	A	C	R	F	11	28	E	SW	2
6/17/2009	A	C	R	F	11	30	E	SW	<2	



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	6/30/2009	R	O	R	P	13	28	L	NW	<2
	7/29/2009	R	O	R	P	20	30	F	SE	<2
	9/9/2009	R	O	R	O	13	30	F	SW	<2
	9/21/2009	R	O	R	O	10	30	F	CL	<2
	10/5/2009	E	O	R	P	12	28	HF	NW	<2
	10/7/2009	E	O	R	P	12	28	HE	SE	1260
	10/21/2009	E	O	R	O	7	31	E	NW	3.6
	11/3/2009	R	O	R	O	6	31	HF	CL	<2
11/16/2009	R	O	R	P	7	28	HE	NW	<2	
EI039.00	3/18/2009	R	O	A	T	1	30	LE	SW	64
	5/6/2009	R	O	A	P	7	30	H	E	<2
	6/30/2009	R	O	A	P	17	29	F	E	4
	7/29/2009	R	O	A	P	20	30	F	SE	<2
	9/21/2009	R	O	A	O	11	30	HF	CL	2
	11/16/2009	R	O	A	P	7	30	HE	NW	8
EI040.00	3/25/2009	R	O	A		-1	30	HF	N	<2
	5/6/2009	R	O	A	P	8	24	E	E	<2
	6/30/2009	R	O	A	P	16	27	F	NE	<2
	7/29/2009	R	O	A	P	19	30	F	SE	<2
	9/21/2009	R	O	A	O	11	30	HF	CL	<2
	11/16/2009	R	O	A	P	6	31	E	NW	<2
EI041.00	3/18/2009	R	O	A	T	1	30	F	SW	<2
	5/6/2009	R	O	A	P	6	30	F	E	<2
	6/30/2009	R	O	A	P	15	28	LF	NW	2
	7/29/2009	R	O	A	P	20	30	F	SE	<2
	9/21/2009	R	O	A	O	12	30	HF	N	<2
	11/16/2009	R	O	A	P	6	32	E	NW	<2
EI042.00	3/18/2009	R	O	A	T	0	28	LE	SW	<2
	5/6/2009	R	O	A	P	6	30	HF	E	<2
	6/30/2009	R	O	A	P	16	28	LF	NW	<2
	7/29/2009	R	O	A	P	20	30	F	SE	<2
	9/21/2009	R	O	A	O	10	30	HF	NE	<2
	11/16/2009	R	O	A	P	7	30	E	NW	2
EI042.80	3/18/2009	R	O	A	T	0	30	E	SW	<2
	5/6/2009	R	O	A	P	6	28	HF	E	<2
	6/30/2009	R	O	A	P	12	29	LF	N	<2
	7/29/2009	R	O	A	P	20	30	F	SE	<2
	9/21/2009	R	O	A	O	10	31	HF	NE	<2
	11/16/2009	R	O	A	P	7	30	E	NW	10
EI043.00	3/18/2009	R	O	A	T	0	30	E	SW	<2
	5/6/2009	R	O	A	P	7	28	HF	E	<2
	6/30/2009	R	O	A	P	15	27	LF	N	<2
	7/29/2009	R	O	A	P	20	30	F	SE	2
	9/21/2009	R	O	A	O	10	31	H	NE	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	11/16/2009	R	O	A	P	6	30	E	NW	4
EI044.00	3/18/2009	R	O	A	T	0	30	LE	SW	<2
	5/6/2009	R	O	A	P	7	30	HF	E	<2
	6/30/2009	R	O	A	P	14	28	F	NE	2
	7/29/2009	R	O	A	P	20	30	F	SE	4
	9/21/2009	R	O	A	O	11	31	H	CL	<2
	10/28/2009	A	C	A	F	6	29	H	CL	<2
	10/29/2009	A	C	A	F	4	28	F	CL	2
	10/30/2009	A	C	A	F	3	29	F	CL	<2
	11/16/2009	R	O	A	P	7	30	E	NW	7.3
EI045.00	3/18/2009	R	O	R	T	-1	2	E	SW	<2
	5/6/2009	R	O	R	P	7	28	HF	E	<2
	6/30/2009	R	O	R	P	16	25	F	E	18
	7/29/2009	R	O	R	P	20	30	F	SE	4
	9/21/2009	R	O	R	O	12	30	H	CL	<2
	11/16/2009	R	O	R	P	6	24	HE	NW	13
EI046.00	3/18/2009	R	O	R	T	-1	25	E	SW	<2
	5/6/2009	R	O	R	P	7	25	HF	E	10
	6/30/2009	R	O	R	P	15	28	F	CL	<2
	7/29/2009	R	O	R	P	19	30	F	SE	<2
	9/21/2009	R	O	R	O	12	30	H	CL	2
	11/16/2009	R	O	R	P	6	28	E	NW	33
EI047.00	3/18/2009	R	O	R	W	-1	28	E	SW	<2
	5/6/2009	R	O	R	P	7	28	HF	E	<2
	6/30/2009	R	O	R	P	16	28	F	E	<2
	7/29/2009	R	O	R	P	20	30	F	SE	<2
	9/21/2009	R	O	R	O	12	30	HE	N	<2
	11/16/2009	R	O	R	P	7	26	E	NW	22
EI047.60	3/25/2009	R	O	A		-1	28	HF	N	<2
	5/6/2009	R	O	A	P	7	28	HF	E	2
	6/30/2009	R	O	A	P	15	26	F	E	4
	7/29/2009	R	O	A	P	20	30	F	SE	<2
	9/21/2009	R	O	A	O	12	31	H	N	<2
	11/16/2009	R	O	A	P	7	26	E	NW	33
EI048.00	3/25/2009	R	C	P		-1	2	H	N	<2
EI050.00	3/25/2009	R	O	A		-1	30	H	N	<2
	4/29/2009	R	O	A		9	28	F	N	<2
	7/22/2009	R	O	A	P	16	26	E	SE	78
	8/5/2009	R	O	A	O	17	29	H	SW	2
	9/14/2009	R	O	A	O	13	31	E	SW	2
	11/4/2009	R	O	A	O	5	30	HF	NW	<2
EI051.00	3/9/2009	R	O	A		0	4	HF	CL	8
	4/26/2009	A	C	A	F	10	30	HE	SW	<2
	4/27/2009	A	C	A	F	6	20	E	SW	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	4/29/2009	R	O	A		7	30	F	N	<2
	6/15/2009	A	C	A	F	15	22	F	S	4
	6/16/2009	A	C	A	F	12	15	LE	S	22
	6/17/2009	A	C	A	F	12	28	E	CL	5.4
	6/23/2009	A	C	A	F	10	18	F	NE	18
	6/24/2009	A	C	A	F	10	26	E	CL	2
	6/25/2009	A	C	A	F	12	28	E	SE	2
	6/30/2009	R	O	A	P	14	27	HE	NE	66
	7/21/2009	R	O	A	O	12	30	HF	SW	<2
	8/29/2009	A	C	A	F	11	30	HE	SE	28
	9/1/2009	A	C	A	F	15	16	E	CL	32
	9/2/2009	A	C	A	F	13	29	E	W	4
	9/9/2009	R	O	A	O	11	31	F	CL	<2
	10/28/2009	A	C	A	F	5	28	HE	CL	2
	10/29/2009	A	C	A	F	4	26	F	CL	<2
	10/30/2009	A	C	A	F	3	28	F	CL	2
11/2/2009	R	O	A	O	4	30	H	CL	<2	
EI052.00	3/9/2009	R	O	A		0	32	HF	CL	<2
	4/29/2009	R	O	A		6	30	F	NW	<2
	6/30/2009	R	O	A	P	14	29	HE	NE	<2
	7/21/2009	R	O	A	O	12	31	HF	SW	10
	9/9/2009	R	O	A	O	11	32	F	CL	<2
	11/2/2009	R	O	A	O	5	32	H	CL	4
EI054.00	3/9/2009	R	O	A		0	30	H	CL	<2
	4/29/2009	R	O	A		5	30	F	NW	<2
	6/30/2009	R	O	A	P	13	30	HE	NE	<2
	7/21/2009	R	O	A	O	12	30	HF	SW	11
	9/9/2009	R	O	A	O	11	30	F	SW	<2
	11/2/2009	R	O	A	O	5	32	HE	CL	<2
EI056.00	3/31/2009	R	O	A	T	0	31	F	NW	<2
	4/29/2009	R	O	A		5	30	F	NW	<2
	6/30/2009	R	O	A	P	13	28	E	NE	4
	7/21/2009	R	O	A	O	12	29	HF	SW	6
	9/9/2009	R	O	A	O	11	30	F	SW	4
	11/2/2009	R	O	A	O	5	31	HE	CL	<2
EI058.00	3/9/2009	R	O	A		0	32	H	CL	<2
	4/29/2009	R	O	A		5	30	F	NW	<2
	6/30/2009	R	O	A	P	13	28	E	NE	5.4
	7/21/2009	R	O	A	O	12	30	HF	SW	<2
	9/9/2009	R	O	A	O	11	30	F	SW	<2
	11/2/2009	R	O	A	O	5	30	HE	CL	<2
EI059.00	3/9/2009	R	O	A		-1	30	H	NE	<2
	4/29/2009	R	O	A		5	30	F	NW	<2
	6/30/2009	R	O	A	P	13	28	E	NE	9.1



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	7/21/2009	R	O	A	O	12	30	HF	SW	4
	9/9/2009	R	O	A	O	10	30	F	SE	<2
	11/2/2009	R	O	A	O	5	30	HE	E	<2
EI061.00	3/9/2009	R	O	A		-1	30	H	NE	<2
	4/29/2009	R	O	A		7	29	F	N	6
	6/30/2009	R	O	A	P	14	30	E	NE	<2
	7/21/2009	R	O	A	M	12	30	H	CL	2
	9/9/2009	R	O	A	O	10	30	F	E	<2
	11/2/2009	R	O	A	O	5	30	HE	E	2
EI063.00	3/9/2009	R	O	A		0	30	H	NE	<2
	4/29/2009	R	O	A		9	30	F	N	<2
	6/30/2009	R	O	A	P	13	28	E	NE	<2
	7/21/2009	R	O	A	O	12	31	H	CL	2
	9/9/2009	R	O	A	O	13	30	F	E	<2
	11/2/2009	R	O	A	O	4	30	HE	E	10
EI064.00	3/9/2009	R	C	P	W	-1	27	H	NE	12
	4/29/2009	R	C	P		7	30	F	N	<2
	6/30/2009	R	C	P	P	13	18	E	NE	48
	7/21/2009	R	C	P	O	15	27	H	CL	26
	9/9/2009	R	C	P	O	15	30	F	CL	4
	11/2/2009	R	C	P	O	5	30	HE	E	120
EI065.00	3/9/2009	R	C	P		-1	30	H	NE	<2
	4/29/2009	R	C	P		7	30	F	N	<2
	6/30/2009	R	C	P	P	13	27	E	NE	8
	7/21/2009	R	C	P	O	14	30	H	CL	<2
	9/9/2009	R	C	P	O	14	30	F	CL	<2
	11/2/2009	R	C	P	O	5	30	E	E	2
EI068.00	3/9/2009	R	O	A		-1	31	HE	NE	<2
	4/29/2009	R	O	A		8	28	F	N	<2
	6/30/2009	R	O	A	P	13	29	E	NE	<2
	7/21/2009	R	O	A	O	12	30	H	CL	10
	9/9/2009	R	O	A	O	11	30	HF	NE	<2
	11/2/2009	R	O	A	O	5	30	E	SE	2
EI069.00	3/9/2009	R	O	A		-1	30	HE	NE	<2
	4/29/2009	R	O	A		7	28	F	N	<2
	6/30/2009	R	O	A	P	13	29	E	NE	<2
	7/21/2009	R	O	A	O	12	30	H	CL	<2
	9/9/2009	R	O	A	O	8	30	HF	CL	<2
	11/2/2009	R	O	A	O	4	30	E	SE	<2
EI070.00	3/18/2009	R	O	A	P	3	30	E	S	<2
	4/26/2009	A	C	A	F	7	28	H	SW	<2
	4/27/2009	A	C	A	F	5	28	E	SW	<2
	4/29/2009	R	O	A		8	28	LE	N	<2
	6/15/2009	A	C	A	F	12	29	F	S	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	6/16/2009	A	C	A	F	10	29	E	S	<2
	6/17/2009	A	C	A	F	12	30	E	SW	<2
	6/23/2009	A	C	A	F	10	25	F	NE	6
	6/24/2009	A	C	A	F	8	28	E	CL	6
	6/25/2009	A	C	A	F	8	29	E	CL	2
	7/22/2009	R	O	A	P	12	30	H	SE	<2
	8/5/2009	R	O	A	O	17	30	H	CL	<2
	8/27/2009	A	C	A	F	16	28	LF	NW	<2
	8/28/2009	A	C	A	F	13	30	LE	CL	2
	8/29/2009	A	C	A	F	10	30	H	SE	8
	9/1/2009	A	C	A	F	13	30	HE	NW	2
	9/2/2009	A	C	A	F	12	30	E	SW	2
	9/14/2009	R	O	A	O	12	31	E	SW	12
	10/28/2009	A	C	A	F	5	30	H	NE	2
	10/29/2009	A	C	A	F	4	30	F	CL	2
10/30/2009	A	C	A	F	4	29	F	CL	<2	
11/4/2009	R	O	A	O	7	30	H	NW	<2	
EI070.10	3/18/2009	R	O	A	P	2	30	E	S	<2
	4/29/2009	R	O	A		8	26	LE	N	2
	7/22/2009	R	O	A	P	14	30	H	SE	4
	8/5/2009	R	O	A	O	16	30	H	CL	8
	9/14/2009	R	O	A	O	12	30	E	SW	25
	11/4/2009	R	O	A	O	6	30	H	NW	2
EI070.15	3/9/2009	R	O	A		0	25	HE	NE	<2
	3/18/2009	R	O	A	P	2	30	E	S	<2
	4/8/2009	E	O	A	P	1	22	HF	SW	2
	4/29/2009	R	O	A		8	27	LE	N	4
	5/18/2009	R	O	A	P	11	27	E	N	10
	5/20/2009	R	O	A		10	28	E	N	2
	6/3/2009	R	O	A		10	28	E	CL	2
	7/22/2009	R	O	A	P	15	29	H	SE	11
	8/5/2009	R	O	A	O	16	31	H	CL	4
	9/14/2009	R	O	A	O	12	30	E	SW	22
11/4/2009	R	O	A	O	6	29	H	NW	4	
EI070.20	3/18/2009	R	C	P	P	2	28	E	S	<2
	4/8/2009	R	O	A	P	0	24	HF	SW	<2
	4/29/2009	R	O	A		8	25	LE	N	<2
	7/22/2009	R	O	A	P	15	30	HE	SE	4
	8/5/2009	R	O	A	O	16	30	H	CL	3.6
	9/14/2009	R	O	A	O	13	30	E	CL	20
	11/4/2009	R	O	A	O	6	30	H	NW	6
EI070.30	3/18/2009	R	C	P	P	2	0	E	S	2
	4/29/2009	R	C	R		8	0	LE	N	30
	7/22/2009	R	O	R	P	15	30	HE	SE	11



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	8/5/2009	R	O	R	O	18	27	H	CL	7.3
	9/14/2009	R	O	R	O	13	30	E	CL	31
	11/4/2009	R	O	R	O	6	30	H	NW	<2
EI070.40	3/18/2009	R	O	A	P	2	28	E	S	<2
	4/8/2009	E	O	A	P	1	19	HF	SW	33
	4/29/2009	R	O	A		8	26	L	N	5.4
	5/18/2009	R	O	A	P	11	28	E	N	13
	5/20/2009	R	O	A		11	28	E	N	<2
	6/3/2009	R	O	A		10	30	E	CL	<2
	7/22/2009	R	O	A	P	14	30	HE	SE	6
	8/5/2009	R	O	A	O	19	30	HF	SW	2
	9/14/2009	R	O	A	O	13	30	E	SW	10
	11/4/2009	R	O	A	O	5	29	H	NW	7.3
EI070.50	3/25/2009	R	C	P		0	0	HF	N	6
	4/29/2009	R	C	P		8	15	E	N	<2
	7/22/2009	R	C	P	P	17	2	F	CL	102
	8/5/2009	R	C	P	O	20	25	E	CL	<2
	9/14/2009	R	C	P	O	14	29	H	CL	8
	11/4/2009	R	C	P	O	5	18	F	NW	4
EI070.52	3/25/2009	R	C	P		0	1	HF	N	<2
	4/29/2009	R	C	P		8	13	E	N	4
	7/22/2009	R	C	P	P	17	26	F	CL	10
	8/5/2009	R	C	P	O	19	22	E	CL	1200
	9/14/2009	R	C	P	O	14	28	H	CL	4
	11/4/2009	R	C	P	O	5	16	F	NW	<2
EI070.60	3/18/2009	R	O	A	P	2	28	E	S	<2
	4/8/2009	R	O	R	P	1	22	HF	SW	<2
	4/29/2009	R	O	R		8	24	LE	N	<2
	7/22/2009	R	O	R	P	15	30	HE	SE	10
	8/5/2009	R	O	R	O	19	30	H	CL	4
	9/14/2009	R	O	R	O	13	30	E	SW	4
	11/4/2009	R	O	R	O	6	30	H	NW	<2
EI070.70	3/25/2009	R	C	P		-1	0	HF	N	<2
	4/29/2009	R	C	P		8	24	E	N	<2
	7/22/2009	R	C	P	P	17	24	F	SE	52
	8/5/2009	R	C	P	O	19	27	E	SW	6
	9/14/2009	R	C	P	O	12	28	H	CL	2
	11/4/2009	R	C	P	O	5	27	F	NW	<2
EI070.82	3/25/2009	R	O	A		-1	28	HF	NW	<2
	4/29/2009	R	O	A		8	28	E	N	<2
	7/22/2009	R	O	A	P	17	28	F	SE	18
	8/5/2009	R	O	A	O	19	28	E	SW	4
	9/14/2009	R	O	A	O	13	30	H	CL	3.6
	10/28/2009	A	C	A	F	5	25	H	NE	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	10/29/2009	A	C	A	F	6	26	E	N	2
	10/30/2009	A	C	A	F	5	24	E	S	<2
	11/4/2009	R	O	A	O	6	26	F	NW	<2
EI070.90	3/25/2009	R	O	A		-1	28	HF	NW	<2
	4/29/2009	R	O	A		9	27	E	N	<2
	7/22/2009	R	O	A	P	17	27	F	SE	58
	8/5/2009	R	O	A	O	19	28	E	SW	2
	9/14/2009	R	O	A	O	12	30	H	CL	5.4
	11/4/2009	R	O	A	O	6	28	F	NW	<2
EI071.00	3/25/2009	R	C	P		-1	21	HF	NW	<2
	4/29/2009	R	C	P		9	6	E	N	18
	7/22/2009	R	C	P	P	17	28	F	SE	31
	8/5/2009	R	C	P	O	21	26	E	CL	2
	9/14/2009	R	C	P	O	13	28	H	CL	9.1
	11/4/2009	R	C	P	W	6	26	F	NW	2
EI071.50	3/25/2009	R	C	P		-1	15	HF	NW	<2
	4/8/2009	E	C	P	P	0	0	HF	SW	12
	4/29/2009	R	C	P		10	0	F	N	2
	5/20/2009	R	C	P		12	24	E	CL	<2
	6/3/2009	R	C	P		11	0	F	CL	44
	7/22/2009	R	C	P	P	18	25	F	SE	34
	8/5/2009	R	C	P	O	21	20	E	SW	40
	9/14/2009	R	C	P	O	13	28	H	CL	29
	10/5/2009	E	C	P	P	12	25	F	NW	10
	11/4/2009	R	C	P	W	6	20	F	NW	16
EI072.00	3/18/2009	R	C	P	P	2	26	E	S	2
	4/8/2009	E	C	P	P	0	0	H	SW	<2
	4/29/2009	R	C	P		9	0	E	N	2
	7/22/2009	R	C	P	P	16	2	HF	SE	160
	8/5/2009	R	C	P	O	21	10	E	CL	8
	9/14/2009	R	C	P	O	13	27	HE	CL	31
	11/4/2009	R	C	P	O	5	8	HF	NW	18
EI072.50	3/18/2009	R	O	A	P	3	24	E	S	<2
	4/29/2009	R	C	P		8	26	E	N	<2
	7/22/2009	R	C	P	P	17	28	HF	SE	27
	8/5/2009	R	C	P	O	18	28	E	SW	8
	9/14/2009	R	C	P	O	13	30	HE	SW	<2
	11/4/2009	R	C	P	O	6	26	HF	NW	<2
EI073.00	3/25/2009	R	O	A		-1	26	HF	NW	<2
	4/26/2009	A	C	A	F	10	24	HE	SW	<2
	4/27/2009	A	C	A	F	7	27	E	SW	<2
	4/29/2009	R	O	A		8	26	E	N	<2
	6/15/2009	A	C	A	F	14	20	F	S	4
	6/16/2009	A	C	A	F	14	24	E	CL	2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	6/17/2009	A	C	A	F	14	26	E	SW	<2
	6/23/2009	A	C	A	F	11	16	F	NE	33
	6/24/2009	A	C	A	F	9	25	H	CL	<2
	6/25/2009	A	C	A	F	14	24	HE	SE	24
	7/22/2009	R	O	A	P	17	26	HF	SE	14
	8/5/2009	R	O	A	O	20	28	HE	CL	<2
	8/29/2009	A	C	A	F	11	27	H	SE	2
	9/1/2009	A	C	A	F	16	25	E	NW	12
	9/2/2009	A	C	A	F	14	26	E	SW	6
	9/14/2009	R	O	A	O	14	30	HE	SW	3.6
	10/28/2009	A	C	A	F	6	25	H	NE	<2
	10/29/2009	A	C	A	F	6	27	E	W	2
	10/30/2009	A	C	A	F	6	24	E	W	<2
11/4/2009	R	O	A	O	7	22	HF	NW	<2	
EI073.70	3/18/2009	R	C	P	P	2	0	E	S	2
	4/29/2009	R	C	P		8	0	E	N	8
	7/22/2009	R	C	P	P	18	0	HF	SE	116
	8/5/2009	R	C	P	O	20	0	HE	CL	31
	9/14/2009	R	C	P	O	14	0	HE	SW	84
	11/4/2009	R	C	P	O	4	0	HF	NW	6
EI074.00	3/25/2009	R	O	A		0	6	H	NW	<2
	4/29/2009	R	O	A		9	10	LE	N	<2
	7/22/2009	R	O	A	P	18	25	HF	SE	14
	8/5/2009	R	O	A	O	19	26	HE	CL	11
	9/14/2009	R	O	A	O	14	28	HE	SW	16
	11/4/2009	R	O	A	O	5	18	HF	NW	6
EI075.00	3/25/2009	R	O	A		-1	25	H	NW	<2
	4/29/2009	R	O	A		8	26	LE	N	<2
	7/22/2009	R	O	A	P	16	29	HF	SE	8
	8/5/2009	R	O	A	O	17	30	HE	CL	<2
	9/14/2009	R	O	A	O	14	29	HE	SW	6
	11/4/2009	R	O	A	O	5	26	HF	NW	<2
EI075.60	3/25/2009	R	O	R	W	-1	4	H	NW	<2
	4/29/2009	R	O	R		8	26	LE	N	<2
	7/22/2009	R	O	R	P	16	26	H	SE	9.1
	8/5/2009	R	O	R	O	17	30	HE	CL	<2
	9/14/2009	R	O	R	O	12	30	E	SW	22
	11/4/2009	R	O	R	O	5	28	HF	NW	2
EI075.80	3/18/2009	R	C	P	P	3	30	E	S	<2
	4/29/2009	R	C	P		8	2	LE	N	<2
	7/22/2009	R	C	P	P	13	30	H	SE	<2
	8/5/2009	R	C	P	O	17	30	HE	CL	<2
	9/14/2009	R	C	P	O	12	31	E	SW	<2
	11/4/2009	R	C	P	O	7	30	H	NW	48



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
EI075.90	3/18/2009	R	C	P	P	3	30	E	S	2
	4/29/2009	R	C	P		8	28	LE	N	<2
	7/22/2009	R	C	P	P	15	30	H	SE	6
	8/5/2009	R	C	P	O	17	30	HE	CL	2
	9/14/2009	R	C	P	O	13	30	E	SW	<2
	11/4/2009	R	C	P	O	6	30	H	NW	<2
EI079.00	3/9/2009	R	O	A		0	30	HE	NE	<2
	4/29/2009	R	O	A		9	28	F	N	<2
	6/30/2009	R	O	A	P	13	29	E	NE	<2
	7/21/2009	R	O	A	O	13	31	H	SW	<2
	9/9/2009	R	O	A	O	10	30	HF	CL	<2
	11/2/2009	R	O	A	O	5	30	E	E	<2
EI082.00	3/9/2009	R	O	A		-1	28	E	NE	2
	4/29/2009	R	O	A		9	27	F	N	<2
	6/30/2009	R	O	A	P	13	27	E	NE	<2
	7/21/2009	R	O	A	O	14	30	H	SW	>1600
	9/9/2009	R	O	A	O	11	30	HF	NE	<2
	11/2/2009	R	O	A	O	5	30	E	E	<2
EI083.00	3/31/2009	R	O	A	T	0	30	LF	NW	<2
	4/29/2009	R	O	A		8	29	F	N	<2
	6/30/2009	R	O	A	P	14	28	E	NE	2
	7/21/2009	R	O	A	O	14	30	HE	SW	2
	9/9/2009	R	O	A	O	11	30	H	E	2
	11/2/2009	R	O	A	O	6	30	E	CL	<2
EI084.00	3/25/2009	R	O	A		0	28	HE	NW	<2
	4/29/2009	R	O	A		10	26	F	N	<2
	6/30/2009	R	O	A	P	14	26	E	NE	<2
	7/21/2009	R	O	A	W	15	30	HE	SW	44
	9/9/2009	R	O	A	O	13	30	H	CL	<2
	11/2/2009	R	O	A	O	6	29	E	CL	2
EI086.00	3/31/2009	R	O	A	T	-1	31	LF	NW	<2
	4/29/2009	R	O	A		7	31	F	N	<2
	6/30/2009	R	O	A	P	13	30	E	NE	<2
	7/21/2009	R	O	A	O	14	31	HE	SW	<2
	9/9/2009	R	O	A	O	8	32	H	W	<2
	11/2/2009	R	O	A	O	5	32	E	W	<2
EI087.00	3/9/2009	R	O	A		-1	29	E	NE	<2
	4/29/2009	R	O	A		7	30	F	N	<2
	6/30/2009	R	O	A	P	13	28	E	NE	4
	7/21/2009	R	O	A	O	14	30	HE	SW	<2
	9/9/2009	R	O	A	O	12	31	H	NW	<2
	11/2/2009	R	O	A	O	6	32	E	CL	<2
EI089.00	3/9/2009	R	C	P		-1	28	E	NE	<2
	4/29/2009	R	C	P		7	30	F	N	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	6/30/2009	R	C	P	P	13	29	E	NE	2
	7/21/2009	R	C	P	O	14	31	HE	SW	<2
	9/9/2009	R	C	P	O	12	30	H	SW	<2
	11/2/2009	R	C	P	O	6	32	E	CL	<2
EI090.00	3/9/2009	R	C	P		-1	27	E	NE	4
EI091.00	1/6/2009	R	O	CA		2	31	LF	NW	<2
	2/3/2009	R	O	CA		1	32	E	N	<2
	3/3/2009	R	O	CA		0	31	LE	N	4
	4/7/2009	R	O	CA	P	3	30	E	SE	<2
	5/5/2009	R	C	CA		8	30	E	E	<2
	6/2/2009	R	C	CA		11	31	L	N	<2
	7/7/2009	R	C	CA	P	11	30	E	SE	<2
	8/4/2009	R	C	CA	O	18	31	E	SW	2
	9/7/2009	R	C	CA	O	12	30	F	CL	<2
	10/6/2009	R	O	CA	P	10	31	LF	NW	8
	11/3/2009	R	O	CA	O	6	31	F	NW	<2
12/2/2009	R	O	CA	O	6	32	LE	SW	<2	
EI093.00	1/6/2009	R	O	CA		2	31	LF	NW	<2
	2/3/2009	R	O	CA		1	32	E	N	<2
	3/3/2009	R	O	CA		0	30	LE	N	4
	4/7/2009	R	O	CA	P	4	28	E	SE	<2
	5/5/2009	R	C	CA		8	30	E	E	<2
	6/2/2009	R	C	CA		11	31	L	N	<2
	7/7/2009	R	C	CA	P	10	30	E	SE	<2
	8/4/2009	R	C	CA	O	18	31	E	SW	<2
	9/7/2009	R	C	CA	O	12	30	F	CL	<2
	10/6/2009	R	O	CA	P	10	32	LF	NW	<2
	11/3/2009	R	O	CA	O	6	32	F	NW	<2
12/2/2009	R	O	CA	O	7	30	LE	SW	<2	
EI096.00	1/6/2009	R	O	CA		2	31	LF	NW	<2
	2/3/2009	R	O	CA		1	31	E	N	<2
	3/3/2009	R	O	CA		0	30	LF	N	13
	4/7/2009	R	O	CA	P	4	27	E	SE	4
	5/5/2009	R	C	CA		8	30	E	E	<2
	6/2/2009	R	C	CA		11	30	L	N	<2
	7/7/2009	R	C	CA	P	11	29	E	SE	<2
	8/4/2009	R	C	CA	O	18	31	E	SW	<2
	9/7/2009	R	C	CA	O	12	30	F	CL	<2
	10/6/2009	R	O	CA	P	10	32	LF	NW	<2
	11/3/2009	R	O	CA	O	6	32	F	NW	6
12/2/2009	R	O	CA	O	6	31	LE	SW	<2	
EI098.00	3/25/2009	R	O	A		0	29	E	NW	<2
	4/21/2009	R	O	A	P	5	30	H	SE	2
	6/10/2009	R	O	A	P	8	30	F	S	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	7/21/2009	R	O	A	O	15	31	HE	SW	<2
	9/9/2009	R	O	A	O	16	31	HF	N	<2
	11/18/2009	R	O	A	O	5	30	F	SW	<2
EI100.00	3/25/2009	R	O	A		0	24	E	NW	<2
	4/21/2009	R	O	A	P	5	28	H	SE	<2
	4/26/2009	A	C	A	F	10	21	E	SW	<2
	4/27/2009	A	C	A	F	5	30	E	SW	<2
	6/10/2009	R	O	A	P	8	30	F	CL	<2
	6/15/2009	A	C	A	F	15	23	F	S	<2
	6/17/2009	A	C	A	F	14	29	LE	SW	<2
	6/23/2009	A	C	A	F	9	26	HF	E	2
	6/24/2009	A	C	A	F	10	30	E	CL	2
	6/25/2009	A	C	A	F	10	30	E	CL	6
	6/26/2009	A	C	A	F	14	27	F	CL	<2
	7/21/2009	R	O	A	O	16	30	E	SW	<2
	8/27/2009	A	C	A	F	16	30	F	NW	2
	8/28/2009	A	C	A	F		30	LF	CL	2
	8/29/2009	A	C	A	F	12	31	HE	CL	<2
	9/1/2009	A	C	A	F	10	18	H	NW	22
	9/2/2009	A	C	A	F	10	29	F	CL	2
9/9/2009	R	O	A	O	15	30	HF	N	<2	
11/23/2009	R	O	A	O	3	30	H	SE	<2	
EI102.00	3/4/2009	R	O	A		0	32	LE	NW	<2
	4/21/2009	R	O	A	P	6	30	H	SE	4
	6/10/2009	R	O	A	P	8	30	F	E	<2
	7/21/2009	R	O	A	O	14	30	E	SW	18
	9/9/2009	R	O	A	O	15	30	HF	N	<2
	11/23/2009	R	O	A	O	3	30	H	SE	<2
EI103.00	3/18/2009	R	O	A	P	3	0	LE	S	2
	4/21/2009	R	O	A	P	5	28	H	SE	94
	4/26/2009	A	C	A	F	8	28	E	SW	<2
	4/27/2009	A	C	A	F	6	26	E	SW	<2
	6/10/2009	R	O	A	P	8	27	F	SE	<2
	6/15/2009	A	C	A	F	16	5	F	S	13
	6/16/2009	A	C	A	F	14	9	L	SW	<2
	6/17/2009	A	C	A	F	12	12	LE	SW	6
	6/23/2009	A	C	A	F	10	24	HF	E	40
	6/24/2009	A	C	A	F	9	26	E	CL	25
	6/25/2009	A	C	A	F	12	22	E	S	11
	6/26/2009	A	C	A	F	15	21	HF	SE	<2
	6/27/2009	A	C	A	F	11	26	E	SE	36
	7/21/2009	R	O	A	O	14	28	E	SW	8
8/27/2009	A	C	A	F	16	30	F	NW	2	
8/28/2009	A	C	A	F	13	32	L	CL	2	



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	8/29/2009	A	C	A	F	11	30	HE	CL	<2
	9/1/2009	A	C	A	F	10	26	H	NW	4
	9/2/2009	A	C	A	F	10	28	F	CL	2
	9/9/2009	R	O	A	O	15	31	F	N	<2
	10/28/2009	A	C	A	F	4	29	HF	CL	<2
	10/29/2009	A	C	A	F	5	32	HF	CL	<2
	10/30/2009	A	C	A	F	4	30	HF	CL	10
	11/18/2009	R	O	A	O	5	26	F	SW	<2
EI105.00	3/18/2009	R	C	P	P	3	2	LE	S	<2
	4/21/2009	R	C	P	P	5	30	H	SE	2
	6/10/2009	R	C	P	P	7	31	F	CL	<2
	7/21/2009	R	C	P	O	14	30	E	CL	400
	9/9/2009	R	C	P	O	15	31	F	N	<2
	11/18/2009	R	C	P	O	5	31	F	SW	<2
EI105.10	3/4/2009	R	O	A		0	32	LE	NW	2
	4/21/2009	R	O	A	P	5	30	H	SE	<2
	6/10/2009	R	O	A	P	7	31	F	S	<2
	7/21/2009	R	O	A	O	13	30	E	CL	<2
	9/9/2009	R	O	A	O	14	32	F	N	<2
	11/18/2009	R	O	A	O	5	31	F	SW	<2
EI106.00	3/4/2009	R	O	A		-1	28	L	NW	4
	4/21/2009	R	O	A	P	5	30	H	SE	<2
	6/10/2009	R	O	A	P	7	31	F	CL	<2
	7/21/2009	R	O	A	O	14	30	E	CL	<2
	9/9/2009	R	O	A	O	15	31	F	N	<2
	11/18/2009	R	O	A	O	5	30	F	SW	<2
EI107.00	3/4/2009	R	C	P		0	19	L	NW	<2
EI108.00	3/4/2009	R	O	A		0	32	L	NW	<2
	4/21/2009	R	O	A	P	5	30	HE	SE	<2
	6/10/2009	R	O	A	P	7	31	F	SE	<2
	7/21/2009	R	O	A	O	12	30	E	CL	<2
	9/9/2009	R	O	A	O	15	32	F	N	<2
	11/18/2009	R	O	A	O	5	31	F	SW	<2
EI109.00	3/4/2009	R	O	A		0	32	L	NW	<2
	4/21/2009	R	O	A	P	5	30	HE	SE	<2
	6/10/2009	R	O	A	P	9	30	F	SE	<2
	7/21/2009	R	O	A	O	15	30	E	S	2
	9/9/2009	R	O	A	O	15	32	F	N	<2
	11/18/2009	R	O	A	O	5	30	F	SW	<2
EI110.70	3/4/2009	R	O	A		0	24	L	NW	<2
	4/21/2009	R	O	A	P	5	30	HE	SE	<2
	6/10/2009	R	O	A	P	8	30	F	E	2
	7/21/2009	R	O	A	O	13	30	E	S	2
	9/9/2009	R	O	A	O	15	32	F	N	<2



Station	Date	Strategy	Open Closed	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
	11/18/2009	R	O	A	O	6	20	F	SW	2
EI111.00	3/4/2009	R	O	A		0	20	L	NW	<2
	4/21/2009	R	O	A	P	5	30	HE	SE	<2
	6/10/2009	R	O	A	P	7	31	F	CL	<2
	6/25/2009	A	C	A	F	12	30	E	SE	<2
	7/21/2009	R	O	A	O	14	31	E	S	<2
	9/9/2009	R	O	A	O	16	31	F	N	2
	11/18/2009	R	O	A	O	6	31	F	SW	<2
EI112.00	3/4/2009	R	O	A		0	24	LF	NW	<2
	4/21/2009	R	O	A	P	5	30	HE	SE	<2
	6/10/2009	R	O	A	P	7	31	F	SE	<2
	6/15/2009	A	C	A	F	12	28	HF	S	2
	6/16/2009	A	C	A	F	14	29	L	SW	<2
	6/17/2009	A	C	A	F	12	30	LE	SW	<2
	7/21/2009	R	O	A	O	14	30	E	S	3.6
	8/27/2009	A	C	A	F	15	31	F	NW	<2
	8/28/2009	A	C	A	F	12	30	LF	CL	4
	8/29/2009	A	C	A	F	11	31	HE	E	6
	9/9/2009	R	O	A	O	16	32	F	N	<2
11/18/2009	R	O	A	O	6	30	F	SW	<2	
EI113.00	3/4/2009	R	C	P		0	27	LF	NW	<2
	4/21/2009	R	C	P	P	5	30	HE	SE	<2
	6/10/2009	R	C	P	P	7	31	F	SE	<2
	7/21/2009	R	C	P	W	13	31	E	S	<2
	9/9/2009	R	C	P	O	14	32	F	N	<2
	11/18/2009	R	C	P	O	6	31	F	SW	<2