



GROWING AREA EJ

Schoodic Point, Winter Harbor to Dyer Point, Steuben

Triennial Report for 2007-2009

Report Date: December 6, 2010

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APPROVAL

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Figure 1. Growing Area EJ, with Active Water Stations



Growing Area EJ
Maine Department of Marine Resources
Bureau of Public Health
January 2010



Executive Summary

This is a triennial report for growing area EJ written in compliance with the requirements of the 2007 Model Ordinance and the National Shellfish Sanitation Program. The next sanitary survey for growing area EJ is due in 2017; however the present plans are to complete it in 2011, in order to more evenly spread the survey workload.

At the end of the 2009 review year, water quality in the growing area supports its current classification under the NSSP criteria. The Birch Harbor conditionally approved area meets its classification standard during the open status and was sampled the required number of times during the open period. All approved and restricted stations were sampled at least 6 times, following the systematic random sampling (SRS) schedule. There were five regulation changes during this triennial period. Two (2) were repeals of a pollution area, one (1) combined several individual pollution areas into a single regulation, one (1) reduced the size of a restricted area and one (1) redefined the condition (marina to seasonal) and open period of a conditionally approved area. Five of the current pollution closure areas surround licensed discharges with the remaining five closures surrounding shellfish areas that show water quality exceeding the approved criteria. Seven of the nine (7/9) pollution issues identified in the 2006 Sanitary Survey have been corrected or determined not to be a bacterial risk to the growing area. Streams were sampled in 2006 and 2009. The streams sampled in 2009 were under heavy runoff conditions during a state-wide flood event. There were two newly identified pollution sources that will be reported to town or state officials for remediation. Overall, 2009 water quality is similar to the results presented in the 2008 annual report and no classification changes are recommended. Stations EJ 10 and 11 were deactivated due to being embedded in prohibited areas.

Growing Area Description

This growing area straddles the Hancock-Washington County line in eastern Maine (Figure 1). This growing area is bordered on the west by Schoodic Point (Winter Harbor) and on the east by Petit Manan Point (Steuben). The growing area encompasses 60.2 square miles. The northern upland boundary follows US Route 1 and includes the towns of Winter Harbor, Gouldsboro and Steuben. The growing area presently has areas classified as Approved, Prohibited, Conditionally Approved and Restricted. Closures are based on a wastewater treatment facility outfall at the National Park Service Facility on Schoodic Point, a process water discharge at Stinson Canning in Prospect Harbor, clusters of residential licensed overboard discharges in Prospect Harbor, Bunkers Harbor, Shark Cove and Corea Harbor. Workboat moorings are in Bunkers, Prospect and Corea Harbors. No licensed overboard discharges were removed during the 2007-2009 review period. Acadia National Park, Schoodic Division, borders the western edge of the growing area. The area has hiking trails and picnic areas with bathroom facilities; there is no camping. Ocean Woods is a commercial campground in Birch Harbor that caters to tenting and only limited recreational vehicles are allowed.

Current Classifications

Shellfish growing area EJ currently has areas classified as:

Approved: (15 stations) EJ 2, 2.5, 9, 16, 18, 23, 24, 24.3, 24.9, 25, 26, 27, 32, 33 and 34



New Stations (less than 30 samples): (3 stations) EJ 29.5, 30.5 and 31.5- not evaluated against a classification standard

Conditionally Approved:

Area No. 52 (Part B), Mouth of Birch Harbor, Gouldsboro; seasonal conditional area with open status from November 1 through June 30; due to seasonal pollution impacts, (3 stations) EJ 4, 6, 8

Restricted:

Area No. 52 (A5), Mouth of Prospect Harbor, Gouldsboro; water quality does not meet approved standard, (3 stations) EJ 9, 14, 15

Area No. 52G, Joy Bay, Gouldsboro-Steuben; water quality does not meet approved standard, (6 stations) EJ 26, 27, 28, 30, 31, 32

Prohibited:

Area No. 52 (A1), Arey Cove, Gouldsboro; WWTP, (1 station) EJ 113

Area No. 52 (A2), Bunkers Harbor, Gouldsboro; OBDs, (2 stations) EJ 2.5, 3

Area No. 52 (A3), Upper end of Birch Harbor, Gouldsboro; water quality does not meet approved standard, (1 station) EJ 7

Area No. 52 (A4), Forbes Stream, Gouldsboro; water quality does not meet approved standard, (2 stations) EJ 11, 14

Area No. 52 (A6), Prospect Harbor, Gouldsboro; OBDs, water quality does not meet approved standard, (3 stations) EJ 9, 10, 11

Area No. 52 (A7), Shark Cove, Gouldsboro; OBDs, (1 station) EJ 17

Area No. 52 (A8), Corea Harbor and Sand Cove, Gouldsboro; OBDs, water quality does not meet approved standard, (3 stations) EJ 18, 21, 22

Please visit the DMR website to view legal notices:

http://www.maine.gov/dmr/rm/public_health/closures/closedarea.htm#EJ

Activity during Review Period (2007-2009)

July 31, 2007- New water sample stations added during this review period were EJ029.50, EJ030.50 and EJ031.50. Sample station EJ006.00 was reactivated. All these stations are to be used to establish margin stations on proposed classification changes.

January 22, 2008- The size of Restricted Area No. 52G, Joy Bay (Gouldsboro-Steuben) was decreased due to improved water quality in the southern portion of Joy Bay.

January 22, 2008- Area No. 52B, Mill Pond Stream (Gouldsboro), was repealed due to water quality meeting approved criteria.

March 21, 2008- Separated numbered closures Area No. 51A, Arey Cove, Area No. 52, Prospect Harbor-Shark Cove, Area No. 52A, Corea Harbor-Sand Cove, Area No. 52C, Bunkers Harbor to Spruce Point and Area No. 52F, Birch Harbor were combined to a single closure Area No. 52, Schoodic Point to Corea (Winter Harbor-Gouldsboro).



March 21, 2008- Area No. 52H, Wonsqueak Harbor, was repealed after the removal of a licensed overboard discharge was confirmed.

March 21, 2008- The Area No. 52 (Part B), Birch Harbor (Gouldsboro), conditionally approved area criteria was redefined from a marina to a seasonal area and the open period was changed from February 1 - June 30 to November 1 - June 30.

Current Management Plan for Conditional Areas

There is one conditionally managed area in growing area EJ: Conditionally approved Area No. 52 (Part B), Birch Harbor; based on seasonal water quality with the open status November 1 to June 30; 3 stations (EJ 4, 6 and 8). The current management plan was last updated in 2008. A management plan for this conditional area can be found in DMR's central files.

Current Annual Review of Conditional Area Management Plan

Area No. 52 (Part B) is a seasonal conditionally approved area requiring six (6) samples during the open status. Compliance is based on water quality meeting approved criteria during the open status at stations EJ 4, 6, and 8 from November 1 thru June 30. Monitoring stations met conditionally approved criteria during the open status (Table 8). Samples were collected 9 times from each of the water quality monitoring stations during the open status. Sample dates during the open period were January 6th, February 17th, March 4th, April 7th, May 5th, June 2nd, November 3rd and December 7th. A double sampling of EJ 6 in April (April 7 and April 21) made-up a January (January 6) missed sample because of tide and in May (May 5 and May 18) due to sea ice preventing sampling in March (March 3). Specific sample dates are documented in the MARVIN sample database. A complete conditional area management plan review is presented in Appendix A.

Documentation of Pollution Sources

The following sections of this report include information on pollution sources which do or may impact water quality in growing area EJ. The section includes information on new pollution sources identified over the past three review years, as well as updated reviews of existing pollution sources in this growing area. Pollution sources that are reviewed in this section include domestic waste, including both private in-ground systems and over board discharges (OBDs), marinas and mooring fields, waste water treatment facilities, storm water and pollution from non-point sources (streams), farms and other agricultural activities, domestic animals and wildlife areas, and recreational areas.

Evaluation of New Pollution Sources

Two new pollution sources were identified within this review period (Table 1 and shown in Figure 5). A new horse pasture (PS1) is now adjacent to the stream that flows into the head of Birch Harbor. Sample station EJ 7 is located at the mouth of the stream, the sample station does not meet approved standards and the area is classified prohibited. The remainder of Birch Harbor is classified conditionally approved with an open status from November 1 to June 30. Sample station EJ 6 is the conditionally approved boundary station and has shown a sharp rise (degrading water quality) in its percent of approved standard in 2009. The percent is presently slightly less than 80%, up from 47%



in 2008. A new horse pasture at the head of Birch Harbor may to be impacting EJ 6. The area will continue to be monitored and any downward classification made if necessary. An illegal laundry discharge (PS2) in Prospect Harbor was identified by the Maine Department of Environmental Protection (DEP) and reported to the Gouldsboro town office. Follow-up inspections have not been able to identify this pollution source. The area is classified prohibited and monitored by EJ 14, a restricted station that presently meets the approved standard.

Table 1. New Pollution Sources in Growing Area EJ

Location	Source	Sample Station Impacted	Disposition	Area Class
PS1 (EJ00059.00)	A new horse pasture impacting Birch Harbor Stream with runoff	EJ 6 and 7	No action taken at this date. Problem still exists	Prohibited
PS2	Prospect Harbor Illegal laundry discharge to ground surface	EJ 14	Reported to town officials by DEP staff. Follow up inspection was negative for an identified pollution source.	Prohibited

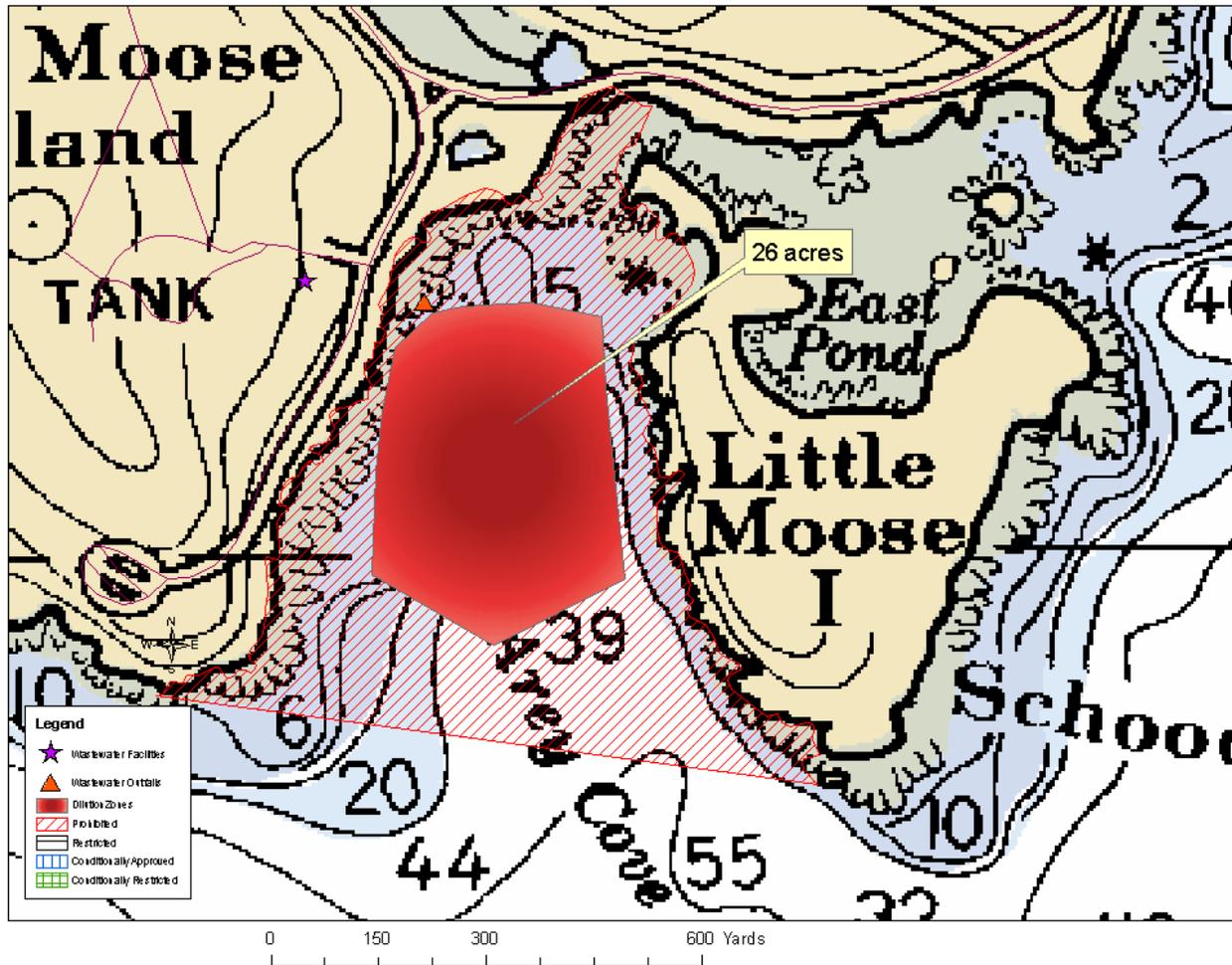
Re-Evaluation of Existing Pollution Sources

Existing pollution sources were re-evaluated as part of this triennial report. The following existing pollution sources were re-evaluated: municipal waste water treatment facilities, domestic waste, including private, in-ground septic systems that were identified as problematic during shoreline survey work that has occurred over the past three years, any properties identified as lacking adequate waste-water disposal systems, and licensed and active over board discharges (ODB's); municipal waste water treatment facilities; agriculture; and domestic animal and wildlife activity.

Wastewater Treatment Plants

The only wastewater treatment facility impacting Area EJ is at the Acadia National Park training facility on Schoodic Point (Schoodic District Wastewater Treatment Facility). The plant is actually located in the adjacent growing area (Area EI) but the plant discharges into the most extreme western portion of Area EJ. According to the contract operator the plant has had little use and is in a stand-by mode. The plant is only processing 300,000 gallons per month (10,000 GPD) during dry weather and 500,000 gallons per month (16,666 GPD) in wet weather. There is no bypass capability at this plant and the plant is not subject to flooding during wet weather or high tides. Equalization high flow holding tanks and a reed beds can accept some high flow volumes from rainfall infiltration. The required wet weather dilution zone based on a standard fecal concentration of 1.4×10^5 FC/100ml, the wet weather flow of 16,666 GPD and receiving water depth of 35 feet (mid tide) is 15 acres for the bacterial loading and 1.5 acres for the 1000:1 viral loading. The prohibited area (Area No. 52 (A1), Arey Cove) around the end of the outfall is 83.6 acres, more than five times the size of the calculated dilution zone. When the plant is in regular operating mode, the daily flow is 30,000 GPD. The bacterial dilution area under these conditions is 26 acres and the 100:1 viral dilution zone is 2.6 acres. The prohibited area is adequate under both flow conditions. The dilution area is monitored by sample station EI 113, which meets approved standard water quality (Figure 2). The most current review of the Schoodic plant operation by DMR was January 2009. The most recent EPA-DEP license is dated August 14, 2009.

Figure 2. Schoodic District Wastewater Treatment Facility Dilution Area



Licensed Discharges and Domestic Waste

There are 21 active overboard discharges (OBDs) located in growing area EJ (Table 2 and 3 and Figures 3 and 4). Dilution volumes for the licensed overboard discharges were based on unchlorinated effluent of 140,000 FC/100ml, the licensed daily flow and 10 feet of receiving water. The process water system at Stinson Seafood is not a bacterial threat to water quality. The prohibited areas enclosing the licensed discharges are significantly larger than the totaled dilution zones of the discharges. Sample stations that monitor the discharge areas (EJ 9, 17, 21, 22, 23) all meet approved standards.



Table 2. Active Licensed Residential Overboard Discharges

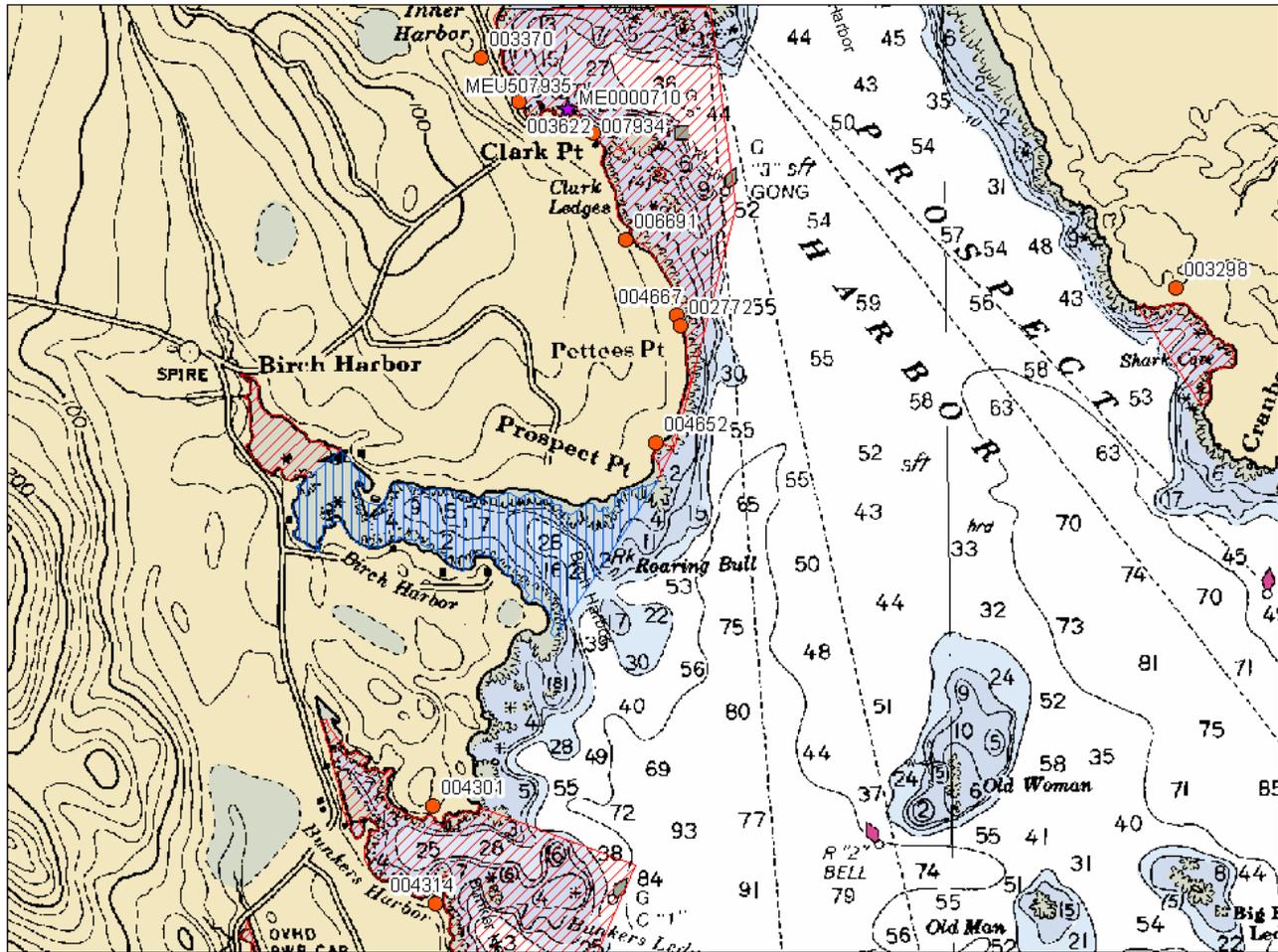
DEP ID	License Expires	GPD Flow	Treatment	Receiving Water	Dilution Acres
6691	8/19/1995	300	Sand	Prospect Harbor	0.9
4652	1/30/2013	300	Sand	Prospect Harbor	0.9
6308	6/11/2014	300	Sand	Prospect Harbor	0.9
7934	11/10/2014	100	Sand	Prospect Harbor	0.3
3622	10/9/1991	300	Mechanical	Prospect Harbor	0.9
7935	11/21/2014	2000	Mechanical	Prospect Harbor	6.1
2772	11/3/2014	300	Sand	Prospect Harbor	0.9
3370	7/16/2014	450	Sand	Prospect Harbor	1.4
4667	6/11/2008	315	Sand	Prospect Harbor	1.0
				Total	13.3
				Total acres Area No. 52 (A6)	202.2
2809	11/24/2014	300	Sand	Corea Harbor	0.9
1042	12/23/2014	300	Sand	Corea Harbor	0.9
3834	1/30/2013	600	Sand	Corea Harbor	1.8
3449	3/28/2013	390	Sand	Corea Harbor	1.2
4886	11/21/2014	300	Sand	Corea Harbor	0.9
4214	11/21/2014	300	Sand	Corea Harbor	0.9
1524	9/26/2012	300	Sand	Corea Harbor	0.9
4315	12/15/2014	300	Sand	Sand Cove	0.9
				Total	8.4
				Total acres Area No. 52 (A8)	112
4301	9/25/2013	300	Mechanical	Bunkers Harbor	0.9
4314	11/21/2014	300	Sand	Bunkers Harbor	0.9
				Total	1.8
				Total acres Area No. 52 (A2)	206.5
3298	11/21/2014	300	Sand	Shark Cove	0.9
				Total acres Area No. 52 (A7)	20.6

Table 3. Licensed Commercial Overboard Discharges

NPDES Lic	GPD Flow	Comments
ME0000710	664,000 (max flow)	Herring processing facility that releases treated seafood processing water from canning operation. Discharges into Area No. 52(A6) prohibited area.



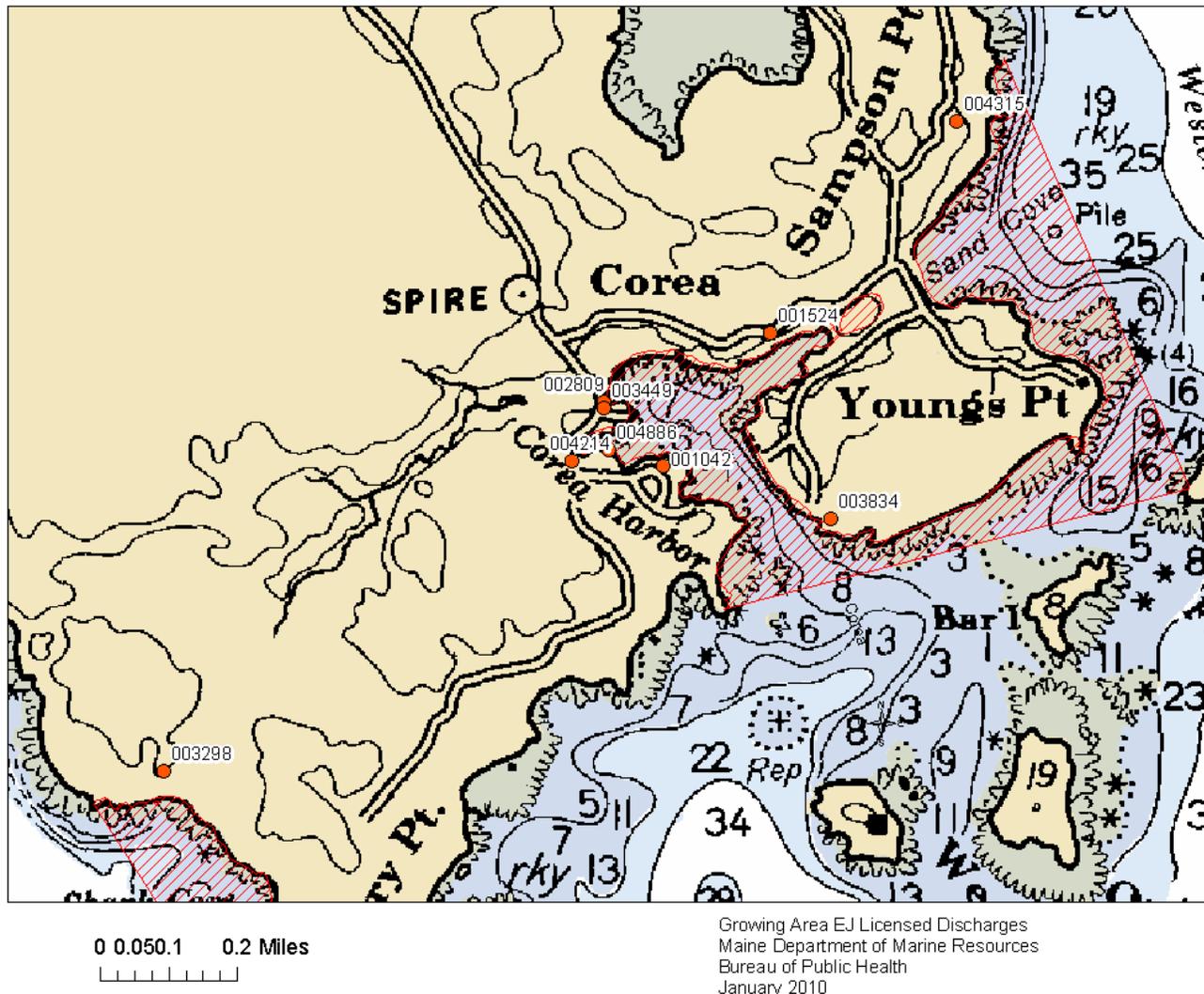
Figure 3. Licensed Overboard Discharges Prospect and Bunker Harbors



Growing Area EJ Licensed Discharges
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January 2010



Figure 4. Licensed Overboard Discharges Corea Harbor, Shark Cove and Sand Cove



Potential or actual pollution sources identified in 2006 are listed in Table 4 and shown in Figure 5. The single issue that may be a persistent problem is PS7. It has not been confirmed as a malfunctioning system but will need to be monitored closely, especially after a long period of wet weather. The remainder of the questionable pollution sources in Table 4 are presently in prohibited or restricted areas, been corrected or have been determined to not be a bacterial risk to the shore.

Table 4. Pollution Sources from 2006 Survey

Location	Source	Sample Station Nearby	Disposition	Area Classification
PS3 (EJ00122.00) Prospect	Fenced duck pond, 100' from water; ? ducks impacting shore	EJ 14	Will be re-tested and referred to Gouldsboro code	Prohibited



Location	Source	Sample Station Nearby	Disposition	Area Classification
Harbor			officer if positive for fecal coliform.	
PS4 (EJ00131.50) Lighthouse Pt	75' from water;? failing leach field flowing under road to Prospect Harbor	EJ 15	Testing of the water running across the rocks into harbor was negative for bacteria	Restricted
PS5 (EJ00276.00) Pt Francis	Camp with sink drain to woods, 50' from water	EJ 24	The camp now has a leach field to the left of the camp. No new problems identified when inspected in 2010	Approved
PS6 (EJ00312.00) Libby Brook	travel trailer with sink drain to woods, 300' from water	No station	Determined that trailer is vacant and little bacterial threat.	Approved
PS7 (EJ00327.40) Guptill Pt	20 year old IG, soft lawn but nothing on ground surface or impacting shore, may be having problems, 200' from water; no problem ID'd fall 2009	No station	Will be re-checked in wet weather and annually.	Approved
PS8 (EJ00395.21) Sunset Pt	Camp, across road from estuary, history of pipe into small stream that drains into Parritt Cove near WQ EJ 31	EJ 31	Owner was interviewed by Steuben code officer in 2006 and problem corrected.	Restricted, but the area presently meets Approved standard. Area will remain restricted due to high variability in stream sample EJ 395

Agriculture

Agricultural operations in the growing area are small commercial or “family farms” with less than 30 animals. Pasture land is buffered by grass or wooded barriers from streams or the shore. Table 5 lists the farms that were identified in 2006. None of these farms have been identified as a public health risk or have been impacting nearby sample stations. A new horse pasture at the head of Birch Harbor, Gouldsboro, may be impacting the harbor and be a risk to public health. The pasture area is discussed under the heading “Evaluation of New Pollution Sources”. Additional sampling and surveys of the area are needed to determine the extent of any bacterial impact.

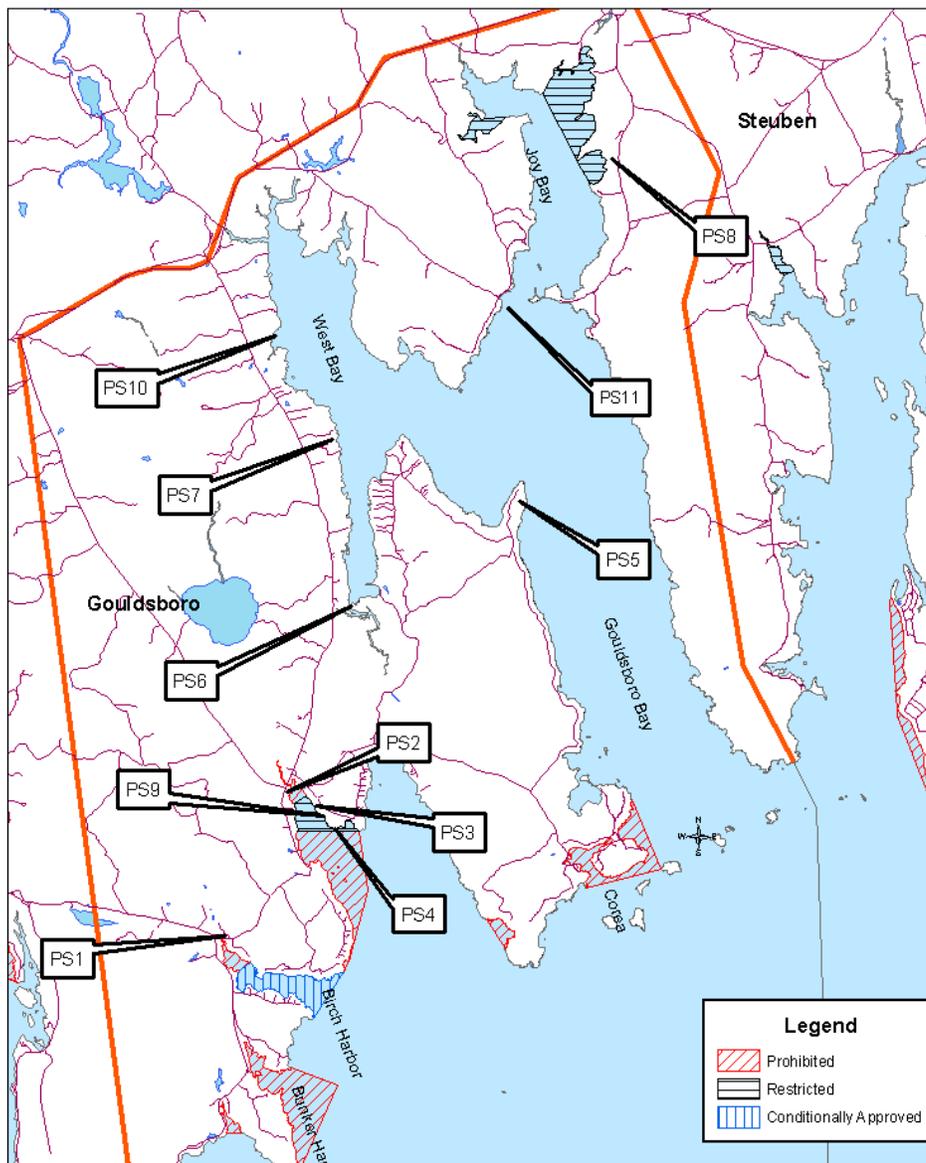
Table 5.Agriculture Operations

SLS_ID	Area	Description
PS9 (EJ00128.00)	Lighthouse Pt	large farm buildings, pasture land across road that drains toward harbor into wet land, no animals noted in 2009; near EJ 14, 15; both stations are classified restricted but meet approved standard criteria.
PS10	Guptill Pt	organic farm, 30 animals, farm stand, pastureland; grass barriers at shore; no



SLS ID	Area	Description
(EJ00323.00)		sample site nearby
PS11 (EJ00347.00)	Jetteau Pt	House, barn and small camp on pier near water (no power or water) 15 sheep, pastureland adjacent to stream flowing to shore; owner made changes to farming practices.; sample station EJ 26 meets approved standard

Figure 5. Identified Pollution Points in Growing Area EJ



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January 2010



Conservation Areas

Acadia National Park, Schoodic Division, is on the western margin of the growing area. Activity is limited to hiking trails and picnic areas with outhouses and an in-ground toilet facility. There are no camping sites. Dogs are required to be on leashes. It is illegal to feed the sea birds. Ocean Woods Campground is in Birch Harbor. It caters to tenting with limited small RV sites. There are outhouses/bath houses for the campers. No public health risk has been identified.

Boat Mooring Areas

Several mooring fields (groups of 10 or more moorings) are scattered throughout the growing area with the largest number of boats in Bunkers Harbor (EJ 4), Prospect Harbor (EJ 9, 14, 15) and Corea Harbor (EJ 21). These mooring fields are almost exclusively work boats (lobster boats, trawling vessels). These mooring clusters are classified prohibited but the monitoring stations in each specific area meet approved standards. Joy Bay has a mooring field of <5 summer seasonal mussel draggers adjacent to the Jetteau Point launch ramp. The boats are day use only. The area is monitored by EJ 26 and 27; both stations meet approved classification standards. No closures or conditional managed areas are needed due to the small number of boats (less than 10) and the boat usage.

Streams and Rivers

Streams in area EJ are listed in Table 6. They were sampled once in 2006 (October 25) under normal flow conditions and under heavy rainfall conditions > 2.0" in 24 hours ("flood conditions") in 2009 (August 24, highlighted yellow). The August 2009 sampling was done to investigate any effects of heavy rain on stream fecal coliform values. Rain data from the Acadia National Park rain gauge for the 3-days previous to the sample collection date showed a total rainfall of 2.5" on August 23-24th. A statewide rainfall closure was enacted from south western Maine eastward to Schoodic Point, Winter Harbor, on August 24th per the departments rainfall SOP. Review of the fecal coliform values and dates showed elevated scores at most of the streams sampled under flood status. The stream samples taken on August 24 are considered taken under adverse conditions and likely does not represent the usual bacterial impact to the growing area streams under normal runoff conditions. The majority of the major streams listed in Table 6 have sample stations adjacent to the mouths of the streams. The sample stations and their present classification are listed under the "remarks" column.

Table 6. Streams Sampled During the Triennial Review Period

SLS_ID	Date	Sample Scores FC/100ml	Flow gpm	Remarks/Are a Classification
EJ00005.10	10/25/2006	69	6233	EJ 3; approved
	12/7/2009	10	444	
EJ00047.20	10/25/2006	36	813	EJ 4, conditionally approved
	12/7/2009	1.9	89	
EJ00059.00	10/25/2006	47	4986	EJ 7, prohibited; EJ 6 conditionally approved
	12/7/2009	6	561	
EJ00066.00	12/7/2009	1.9	45	EJ 8, conditionally approved
EJ00102.20	10/25/2006	35	782	OBD discharge, prohibited
	8/24/2009	200	450	

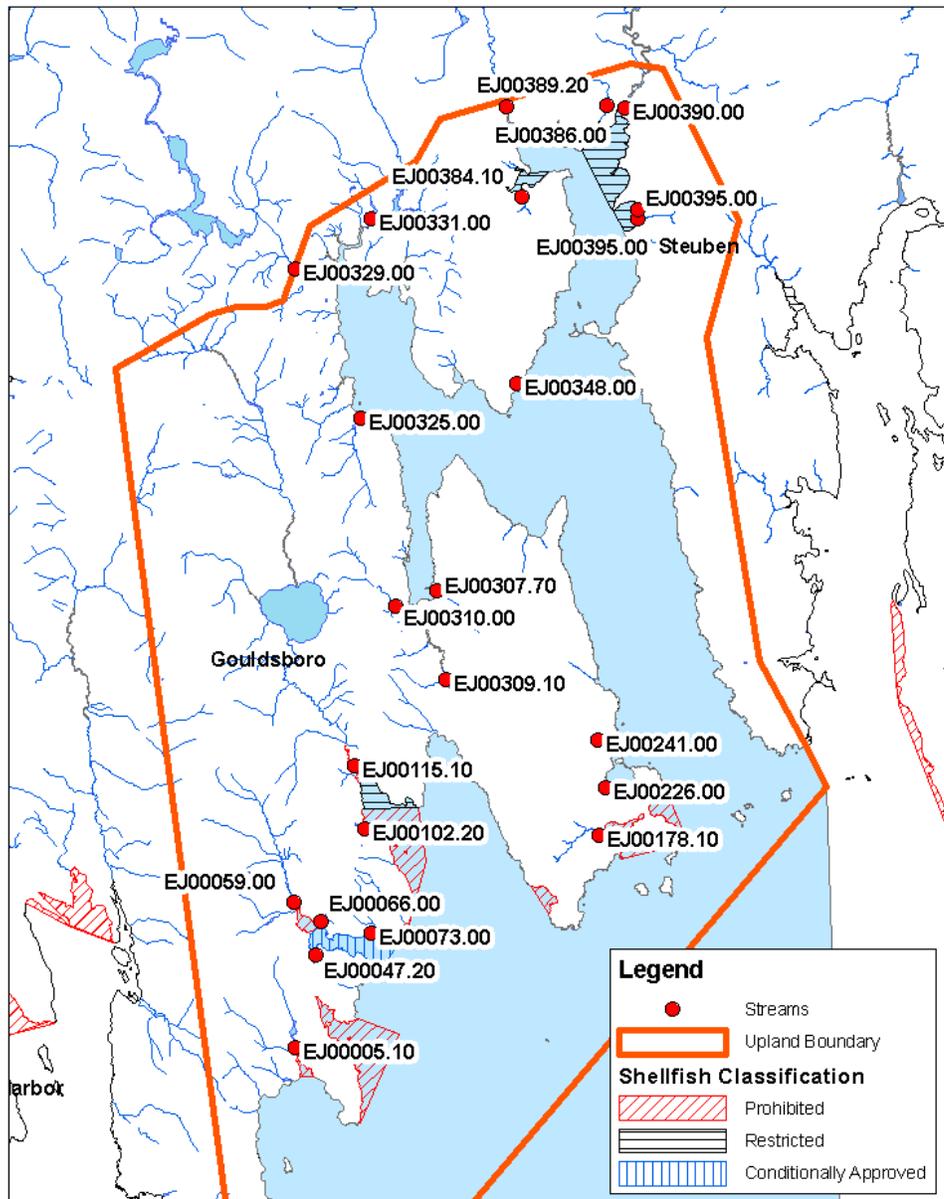


SLS_ID	Date	Sample Scores FC/100ml	Flow gpm	Remarks/Are a Classification
EJ00115.10	10/25/2006	127	52794	EJ 14, prohibited
	8/24/2009	1700	67320	
EJ00178.10	12/7/2009	1.9	108	EJ 21, prohibited
EJ00226.00	10/25/2006	36	293	EJ 23, approved
	12/7/2009	1.9	14	
EJ00241.00	12/7/2009	4	67	approved
EJ00307.70	10/25/2006	7.3	9700	approved
	12/7/2009	1.9	1212	
EJ00309.10	10/25/2006	91	3129	approved
	12/7/2009	1.9	222	
EJ00310.00	10/25/2006	5	2640	approved
	8/24/2009	340	449	
EJ00329.00	10/25/2006	64	29330	EJ 25, approved
	8/24/2009	27	2693	
EJ00331.00	10/25/2006	42	39300	EJ 24.9, approved
	8/24/2009	520	6732	
EJ00348.00	1/11/06	2.9	1500	EJ 26, approved
	3/27/06	2.9	1000	
	8/7/06	93	1200	
	10/25/06	28	3177	
	12/11/06	2	750	
	8/24/09	680	449	
EJ00370.00	8/24/2009	240	135	approved
EJ00384.10	10/25/06	4	100	EJ 28, restricted
	8/24/09	500	110	
EJ00386.00	10/25/2006	44	55150	approved
	8/24/2009	840	10772	
EJ00389.20	10/25/2006	47	469	EJ 29.5, restricted
EJ00390.00	10/25/2006	25	258000	EJ 30, restricted
	8/24/2009	540	10099	
EJ00395.00	1/11/2006	43	500	EJ 30.5, 31, 31.5, restricted
	1/18/2006	23	500	
	1/25/2006	2.9	250	
	3/27/2006	240	500	
	4/18/2006	2.9	500	
	8/7/2006	93	500	
	10/25/2006	2.9	100	
	12/13/2006	39	500	
	1/24/2007	2.9	100	
	8/24/2009	93	600	
EJ00396.30	1/11/2006	2.9	10	EJ 31, restricted
EJ00397.00	1/11/2006	9.1	50	EJ 31.5, approved



Stream EJ 348 was sampled more frequently to determine if an agricultural operation was impacting EJ 26. No correlation between the stream data and station EJ 26 bacterial levels was identified and EJ 26 presently meets approved standards. Stream EJ 395 monitored a suspect bacterial pollution source. Samples taken were from near the suspect house and near Parritt Cove shores. Intermittent elevated stream scores were detected and EJ 31 will remain classified restricted.

Figure 6. Area EJ Streams



Growing Area EJ Streams
Maine Department of Marine Resources
Bureau of Public Health



Water Quality Review and Discussion

Table 7 lists all active approved, restricted and prohibited stations in Growing Area EJ, with their respective geomean and P90 scores for 2009. Please refer to Appendix B for a key to interpreting the headers on the columns of Table 7. The approved and restricted standards for each station are also displayed in Table 7. 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 sample 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 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 the central files.

All approved and restricted stations met their NSSP classification standard in 2009. There are four prohibited sample stations (EJ 3, 17, 21, 22) 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). Restricted stations EJ 14, 15 and 31 are just meeting approved standard but will remain restricted due to the high variability of the water quality. Their P90 scores will be reviewed at the end of the year and any classification changes considered at that time. Overall, 2009 water quality is similar to the results presented in the 2008 annual report and no classification changes are recommended. Sample stations EJ 10 and 11 were deactivated due to being embedded in prohibited areas. Sample stations EJ 29.5, 30.5 and 31.5 are new area boundary stations, have only 18 data points and are not evaluated against a classification standard at this time. Sample station EJ 28 meets restricted classification, is imbedded within Area No. 52G (part B) and the Tucker Creek closure is based on a dilution calculation using the geomean of the creek fecal coliform testing results (66.4 FC/100ml), average flow of the creek (127,440 GPD) and a six foot mid-tide depth of the receiving waters. The calculated dilution area is 0.3 acres and the existing 27.1 acre closure is adequate to dilute bacterial levels to approved standards at the closure boundary.

Table 7. Geomean and P90 Scores, Growing Area EJ

Station	Class	Count	MFCnt	GM	SDV	MAX	P90	Appd Std	Restr Std
EJ002.00	A	30	20	2.8	0.28	36	6.6	36	199
EJ002.50	A	29	20	2.1	0.09	3.6	2.8	35	196
EJ003.00	P	30	20	2.7	0.3	52	6.7	36	199
EJ007.00	P	30	20	15.6	0.76	260	148.5	36	199
EJ009.00	A	30	20	2.4	0.19	9.1	4.3	36	199
EJ014.00	R	30	20	5.1	0.61	460	31.8	36	199
EJ015.00	R-boundary	30	20	5.3	0.62	1100	33.9	36	199
EJ016.00	A	30	21	3	0.4	93	10.2	35	195
EJ017.00	P	30	20	2.3	0.13	7	3.5	36	199
EJ018.00	A	30	20	2.9	0.32	34	7.5	36	199
EJ021.00	P	30	20	3.2	0.36	52	9.6	36	199
EJ022.00	P	30	20	2.8	0.36	93	8.1	36	199
EJ023.00	A	30	20	3.2	0.43	240	11.8	36	199
EJ024.00	A	30	21	2.4	0.17	9.1	4.1	35	195
EJ024.30	A	30	21	2.9	0.24	18	6.1	35	195
EJ024.90	A	30	21	3	0.35	93	8.7	35	195
EJ025.00	A	30	21	6.2	0.45	56	24	35	195
EJ026.00	A	30	21	2.6	0.27	43	5.9	35	195



Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EJ027.00	A	30	20	3	0.37	43	9.1	36	199
EJ028.00	R	30	21	6.6	0.6	240	39.8	35	195
EJ029.50	New-boundary	18	18	3.4	0.35	16	9.9	31	163
EJ030.00	R	30	20	9.8	0.69	240	75.6	36	199
EJ030.50	New-boundary	18	18	2.1	0.16	10	3.4	31	163
EJ031.00	R	30	23	3.7	0.43	31	13.2	34	187
EJ031.50	New-boundary	18	18	2.3	0.2	8	4.3	31	163
EJ032.00	A	30	20	2.7	0.44	500	10.3	36	199
EJ033.00	A	30	20	3.1	0.39	56	10.2	36	199
EJ034.00	A	30	20	2.3	0.18	16	4.1	36	199

Table 8 lists all conditionally approved stations in the Birch Harbor seasonal conditional area with their respective geomean and P90 scores for 2009. Data for conditionally approved stations reflects only the open status. All conditionally approved stations met their NSSP classification standard in 2009.

Table 8. Birch Harbor Seasonal Conditional Area, Open Status

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EJ004.00	CA	30	27	2.9	0.42	240	10.5	32	173
EJ006.00	CA	30	23	4.3	0.5	280	19	34	187
EJ008.00	CA	30	26	3.5	0.43	43	12.9	32	176

Table 9 lists the sample stations that had sampling dates that are within 72 hours of a rainfall total of 0.5 to 2.0 inches and had fecal coliform scores greater than 14 FC/100ml during this 2007-2009 review period. Sample stations that have been most frequently impacted by rainfall are EJ 6, 7, 8 and 15. These stations currently meet their classification standards.

Table 9. Rainfall Impacted Sample Stations

Station	Class	Status	Date	Total	Month						
					May	Jun	Jul	Aug	Sep	Nov	Dec
EJ002.00	A	O	8/13/08	1.08				36			
EJ006.00	CA	C	9/10/07	0.8					88		
			8/5/08	1.39			40				
		O	5/18/09	1.09	16						
			12/7/09	0.71							280
EJ007.00	P	C	6/7/06	1.95		240					
			7/18/07	0.55			74				
EJ008.00	CA	C	8/8/07	0.65				88			
			9/10/07	0.8				36			
		O	6/5/07	1.55		18					
			12/1/08	1.04							22
EJ014.00	R	O	6/7/06	1.95		23					
EJ015.00	R	O	6/7/06	1.95		43					
			7/18/07	0.55			28				
EJ025.00	P	C	11/1/06	0.96						18	



					Month						
Station	Class	Status	Date	Total	May	Jun	Jul	Aug	Sep	Nov	Dec
EJ031.00	R	O	6/26/06	1.34		31					

All approved 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 10 and Appendix C), with the exception of stations EJ 10 and 11 which were discontinued in April. Additional samples were collected under adverse conditions at stations EJ 23, 24.9, 25, 26 and 27 for flood re-opening and EJ 4, 6 and 8 were sampled to collect additional samples under rainfall conditions. The Birch Harbor conditionally approved stations EJ 4, 6 and 8 were sampled nine (9) times in the open status in 2009.

Table 10. EJ Samples Collected in 2009

Station	Class	Adverse	Random		Total Count	Notes
		Closed	Closed	Open		
EJ002.00	A			6	6	
EJ002.50	A			5	6	Reclass P to A 2-09
	P		1			
EJ003.00	P		6		6	
EJ004.00	CA	3			15	
			3			
				9		
EJ006.00	CA		3		12	
				9		
EJ007.00	P		7		7	
EJ008.00	CA		3		12	
				9		
EJ009.00	A			5	6	Reclass P to A 2-09
	P		1			
EJ010.00	P		1		1	De-activated; embedded in prohibited area; 4-09
EJ011.00	P		1		1	De-activated; embedded in prohibited area; 4-09
EJ014.00	R		6		6	
EJ015.00	R			6	6	
EJ016.00	A			6	6	
EJ017.00	P		6		6	
EJ018.00	A			6	6	
EJ021.00	P		6		6	
EJ022.00	P		6		6	
EJ023.00	A	14			20	Flood station
	A			6		
EJ024.00	A			6	6	
EJ024.30	A			6	6	



Station	Class	Adverse	Random		Total Count	Notes
		Closed	Closed	Open		
EJ024.90	A	3			9	Flood station
	A			6		
EJ025.00	A	13			19	Flood station
	A			6		
EJ026.00	A	13			19	Flood station
	A			6		
EJ027.00	A	10			16	Flood station
	A			6		
EJ028.00	R			6	6	
EJ029.50	A			6	6	
EJ030.00	R			6	6	
EJ030.50	A			6	6	
EJ031.00	R			6	6	
EJ031.50	A			6	6	
EJ032.00	A			6	6	
EJ033.00	A			6	6	
EJ034.00	A			6	6	

Figures 7, 8, and 9 are trend graphs of the approved, conditionally approved and restricted sample stations in the growing area. Station P90 scores are expressed as percents of the approved standard. Approved or conditionally approved sample stations that have met or exceeded 90% of the approved standard are at risk of being reclassified to a more restrictive classification. Presently there are no stations at risk. Sample sites EJ 6 and 30 made the most significant spike in percentages; both stations are near the mouths of streams. The EJ 6 stream drains an area with beaver dams and a recently constructed horse pasture that may be contributing to the declining water quality.



Figure 7. Area EJ P90 Scores for Approved Stations (expressed as the percent of the Approved standard), 2007-2009

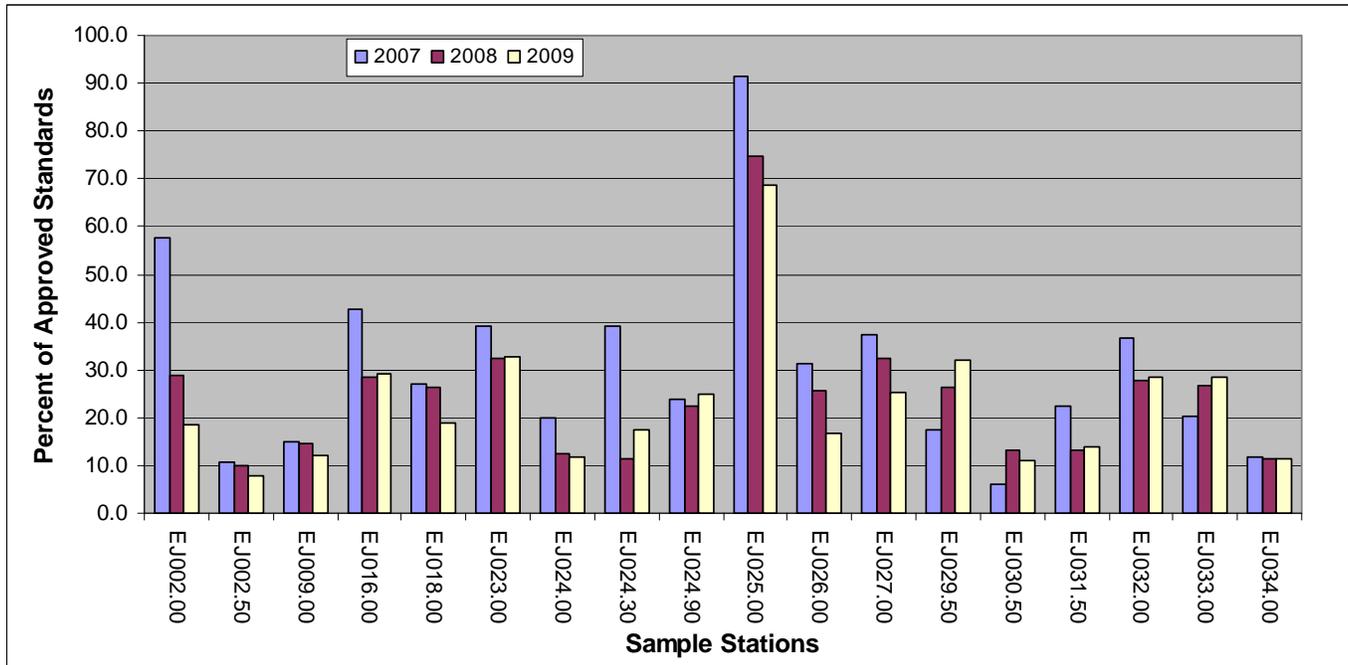


Figure 8. Area EJ P90 Scores for Restricted Stations (expressed as the percent of the Approved standard), 2007-2009

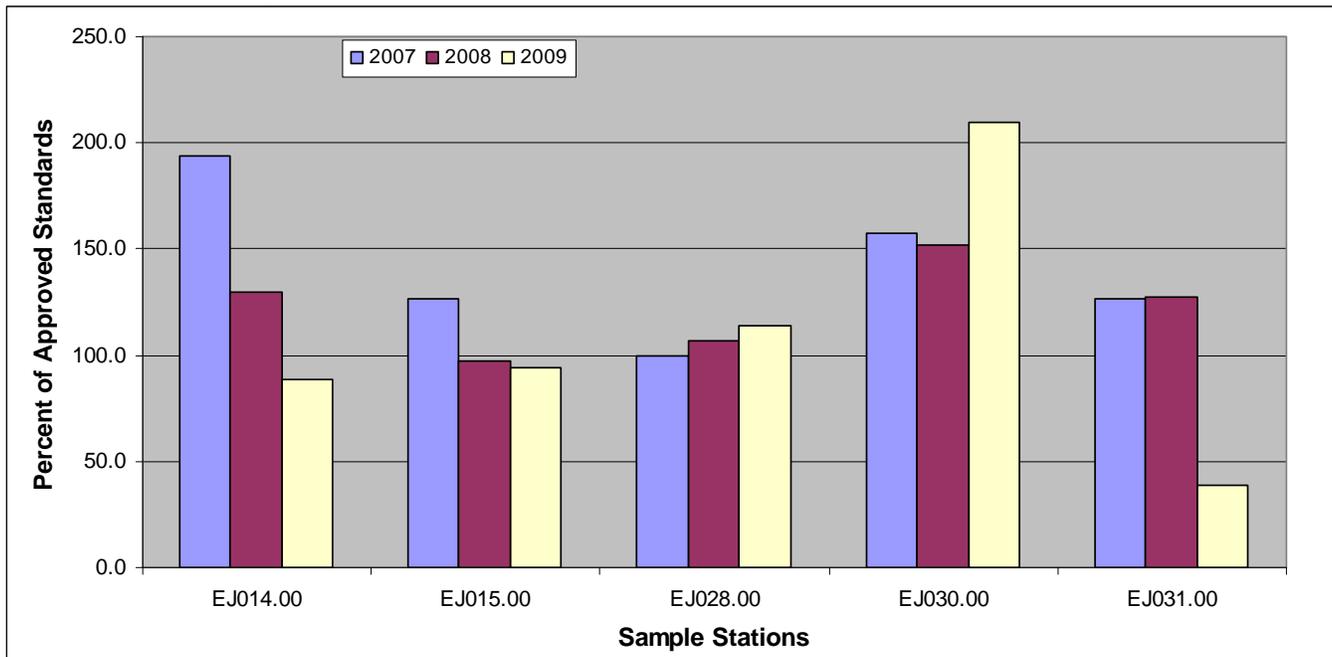
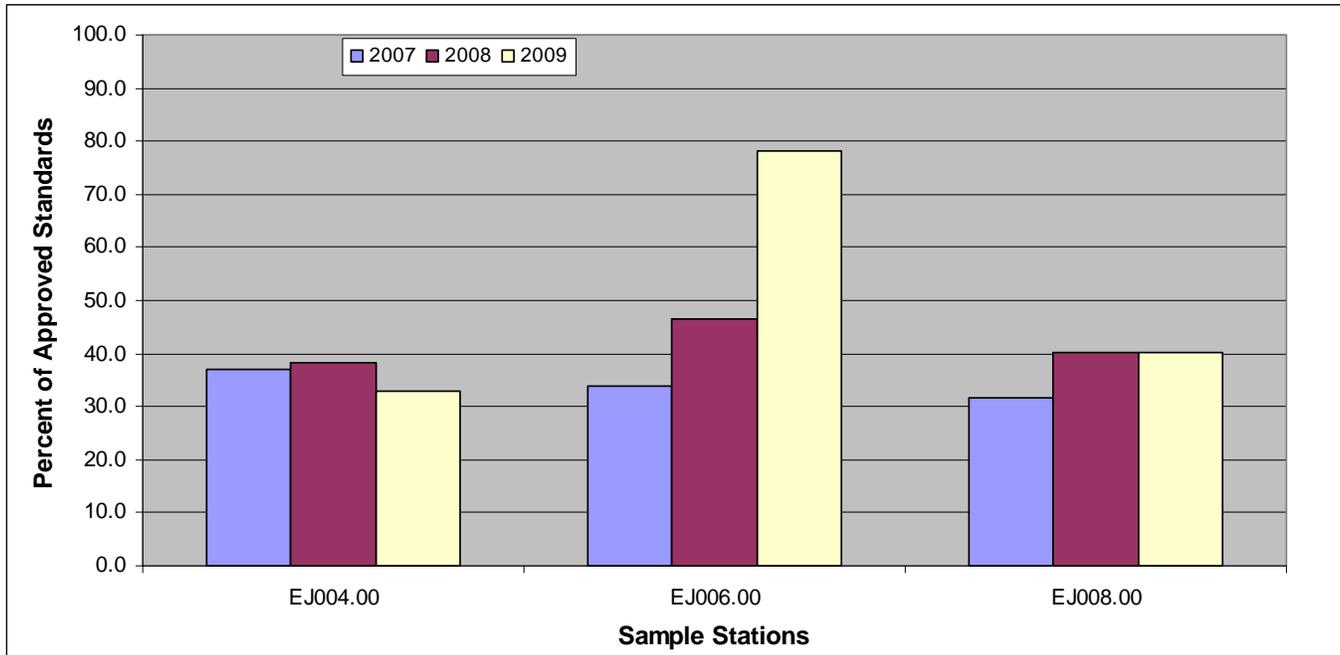




Figure 9. Area EJ P90 Scores for Conditionally Approved Stations (expressed as the percent of the Approved standard), 2007-2009



Recommendations for Upward Classification

There are no recommendations for upward classification changes.

Shoreline Survey Activity during Review Period

Drives through surveys were done during routine scheduled water sampling runs. Specific surveys of areas are listed below.

2007- No licensed overboard discharges were removed in 2007, although a proposed removal of a system on Pettee Point was delayed due to construction issues.

March 2008- The properties surrounding Wonsqueak Harbor were re-surveyed to confirm the removal of a licensed overboard discharge and identify any unidentified pollution sources before the Area No. 52H was repealed.

Pollution source EJ00395.00 previously had a history of an illegal wastewater discharge into a small stream that flowed into Parritt Cove, Joy Bay, Steuben. The problem was reported to the Steuben code officer who contacted the homeowners and they corrected the issue. It was sampled January 24, 2007 and August 24, 2009. Sampling of the stream during this review period showed variable results for fecal coliform.

March 26, 2008- Licensed overboard discharges in Bunker Harbor were considered for removal but the lack of funding cancelled the project. Active licensed discharges on Pettees Point were recommended for removal but they did not have viable construction options.



October 31, 2008- A wash water discharge into a prohibited area was identified by the DEP near the mouth of Forbes Stream (Prospect Harbor). The problem was reported to the Gouldsboro town officials by DEP staff.

Fall 2009- Lot EJ00284.40 was re-surveyed for a suspect malfunctioning septic field that was identified in the 2006 survey. The septic system did not appear to be discharging to the ground surface or impacting the shore in 2006 or during the 2009 review.

Twenty (20) streams were sampled during August and December in 2009. August 24, 2009 stream samples were taken after 2.5 "of rain in 24 hours and during a flood event.

Residential licensed overboard discharges are still present in Bunkers Cove, Prospect Harbor, Shark Cove and Corea. DEP records confirmed the licensed overboard discharges met their license criteria for the years 2007-2009.

Aquaculture/Wet Storage Activity

There is no wet storage or aquaculture activity in the growing area.

Classification Changes

No changes are recommended at this time.

Summary

Water quality in the growing area supports its current classification under the NSSP. All identified point source pollution sources are in prohibited areas that are of adequate size to dilute any effluent to safe levels. The newly identified pollution sources will be reported to town and/or state officials for remediation. The one questionable pollution issue identified in 2006 has been monitored under wet and dry weather conditions and no evidence of a failure of the septic system has been identified. Overall, 2009 water quality is similar to the results presented in the 2008 annual report and no classification changes are recommended. All conditionally approved 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. There are no classification changes recommended. Reviews of the water quality at stations EJ 6, 14, 15, 30 and 31 will be done at year end and classification changes made if possible or necessary.

Recommendation for Future Work

1. Survey the Tucker Creek area to identify the pollution source impacting sample station EJ 28.



2. Get more rainfall samples at EJ 6, 7, 25, 28, 30, 31 to increase the sample database under rainfall conditions.
3. Monitor PS7 to determine if the septic system is showing signs of failing.

References

Maine Department of Environmental Protection Licensed Overboard Discharge data base.



Appendix A. Annual Review of Conditional Area Management Plan Area No. 52 (Part B)

Growing Area EJ; Area No. 52 (Part B), Birch Harbor, Gouldsboro

Scope

Area No. 52 (part B), Birch Harbor, is a seasonal conditionally approved area based on water quality meeting approved standards from November 1 thru June 30. The area requires six (6) samples during the open status. A more detailed description and map of the area is discussed in the management plan.

Compliance with management plan

Samples were collected 9 times from each of the water quality monitoring stations during the open status. Sample dates during the open period were January 6th, February 17th, March 4th, April 7th, May 5th, June 2nd, November 3rd and December 7th. A double sampling of EJ 6 in April (April 7 and April 21) made-up a January (January 6) missed sample because of tide and in May (May 5 and May 18) due to sea ice preventing sampling in March (March 3). Specific sample dates are documented in the MARVIN sample database. Geomean and P90 data analysis was done on October 15, 2009 to confirm that the area met approved reopening criteria.

Adequacy of reporting and cooperation of involved persons

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

Compliance with conditionally approved growing area criteria

The sample stations (EJ 4, 6 and 8) met the approved standard when in the open status of the conditionally approved classification from November 1 to June 30.

Table 1. Birch Harbor During the Conditionally Approved OPEN Status

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EJ004.00	CA	30	27	2.9	0.42	240	10.5	32	173
EJ006.00	CA	30	23	4.3	0.5	280	19	34	187
EJ008.00	CA	30	26	3.5	0.43	43	12.9	32	176

Field inspection of critical pollution sources

The pollution in the Birch Harbor area is coming from an unconfirmed source resulting in poor water quality from July 1 to October 31.

Water sampling compliance history

Due to the conditional management plan being based on the absence of seasonal pollution 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 Birch Harbor (EJ 4, 6 and 8) were collected in the open status for a total of nine in 2009 (Table 2).

Table 2. Stations EJ 4, 6 and 8, 2009 Data

Station	Date	Strategy	Status	Class	Adversity	Temp °C	Salinity ppt	Tide	Wind	Col Score
EJ004.00	1/6/2009	R	O	CA		2	31	L	NW	<2
	2/17/2009	R	O	CA		4	30	F	NW	<2
	3/4/2009	R	O	CA		0	30	LF	NW	<2
	4/7/2009	R	O	CA	P	4	18	E	SE	<2
	5/5/2009	R	O	CA		10	31	H	E	<2
	6/2/2009	R	O	CA		13	30	LE	N	<2
	7/8/2009	R	O	CA		13	28	E	CL	14
	8/4/2009	R	C	CA		19	30	E	SW	4
	9/7/2009	R	C	CA		12	31	F	SW	<2
	10/6/2009	R	C	CA	P	10	30	F	NW	<2
	10/28/2009	A	C	CA	F	3	28	H	CL	12
	10/29/2009	A	C	CA	F	5	28	HF	N	2
	10/30/2009	A	C	CA	F	4	30	HF	CL	4
11/3/2009	R	O	CA		6	31	F	NW	2	
12/7/2009	R	O	CA	P	-1	30	H	CL	<2	
EJ006.00	2/17/2009	R	O	CA		4	24	F	NW	<2
	4/7/2009	R	O	CA	P	3	6	E	SE	10
	4/21/2009	R	O	CA	P	6	27	E	SE	<2
	5/5/2009	R	O	CA		10	22	H	E	<2
	5/18/2009	R	O	CA		11	5	LE	N	16
	6/3/2009	R	O	CA		11	30	E	CL	<2
	7/8/2009	R	O	CA		15	16	E	CL	64
	8/4/2009	R	C	CA		19	18	E	SW	150
	9/7/2009	R	C	CA		11	31	F	SW	6
	10/6/2009	R	C	CA	P	10	30	F	NW	4
	11/3/2009	R	O	CA		5	14	F	NW	4
12/7/2009	R	O	CA	P	0	30	H	CL	280	
EJ008.00	1/6/2009	R	O	CA		2	32	L	NW	<2
	2/17/2009	R	O	CA		4	22	F	NW	<2
	3/4/2009	R	O	CA		0	30	LF	NW	<2
	4/7/2009	R	O	CA	P	2	4	E	SE	8
	5/5/2009	R	O	CA		9	30	H	E	<2
	6/2/2009	R	O	CA		13	29	LE	N	<2
	7/8/2009	R	O	CA		14	27	E	CL	54
	9/7/2009	R	C	CA		12	31	F	SW	<2
	10/6/2009	R	C	CA	P	10	30	F	NW	4
	11/3/2009	R	O	CA		6	31	HF	NW	<2
	12/7/2009	R	O	CA	P	0	30	H	CL	2



Analysis-recommendations

It is DMR policy to review water quality prior to reopening a seasonal area to ensure compliance with approved standards. Water quality was reviewed October 15, 2009 and met reopening criteria. The area will continue to be sampled on a monthly basis to increase the number of data points. An historical water sampling review supports the present classification. Water quality meets the standard for approved classification during the open status of November 1 to June 30. No changes are recommended at this time.



Appendix B. 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 = 90th percentile

APPD_STD = the 90th 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 90th percentile, at or below which the station would meet restricted criteria.



Appendix C. EJ 2009 Data

Station	Date	Strategy	Open/ Closed	Class	Adversity	Temp 0°	Salinity ppt	Tide	Wind	Col Score
EJ002.00	3/4/2009	R	O	A		0	25	LF	NW	<2
	4/21/2009	R	O	A	P	5	30	HE	SE	<2
	6/10/2009	R	O	A	P	7	30	HF	SE	<2
	7/21/2009	R	O	A		14	28	E	S	4
	9/9/2009	R	O	A		15	31	F	N	<2
	11/18/2009	R	O	A		6	30	F	SW	2
EJ002.50	3/18/2009	R	C	P		3	30	LE	S	<2
	4/21/2009	R	O	A	P	5	30	HE	SE	<2
	6/10/2009	R	O	A	P	7	31	HF	SE	<2
	7/21/2009	R	O	A		13	31	E	CL	<2
	9/9/2009	R	O	A		14	32	F	N	<2
	11/18/2009	R	O	A		5	31	F	SW	<2
EJ003.00	3/4/2009	R	C	P		0	31	LF	NW	<2
	4/21/2009	R	C	P	P	5	28	HE	SE	9
	6/10/2009	R	C	P	P	7	31	HF	SE	<2
	7/21/2009	R	C	P		14	30	E	SE	<2
	9/9/2009	R	C	P		15	32	F	N	<2
	11/18/2009	R	C	P		6	31	F	SW	<2
EJ004.00	1/6/2009	R	O	CA		2	31	L	NW	<2
	2/17/2009	R	O	CA		4	30	F	NW	<2
	3/4/2009	R	O	CA		0	30	LF	NW	<2
	4/7/2009	R	O	CA	P	4	18	E	SE	<2
	5/5/2009	R	O	CA		10	31	H	E	<2
	6/2/2009	R	O	CA		13	30	LE	N	<2
	7/8/2009	R	O	CA		13	28	E	CL	14
	8/4/2009	R	C	CA		19	30	E	SW	4
	9/7/2009	R	C	CA		12	31	F	SW	<2
	10/6/2009	R	C	CA	P	10	30	F	NW	<2
	10/28/2009	A	C	CA	F	3	28	H	CL	12
	10/29/2009	A	C	CA	F	5	28	HF	N	2
	10/30/2009	A	C	CA	F	4	30	HF	CL	4
	11/3/2009	R	O	CA		6	31	F	NW	2
12/7/2009	R	O	CA	P	-1	30	H	CL	<2	
EJ006.00	2/17/2009	R	O	CA		4	24	F	NW	<2
	4/7/2009	R	O	CA	P	3	6	E	SE	10
	4/21/2009	R	O	CA	P	6	27	E	SE	<2
	5/5/2009	R	O	CA		10	22	H	E	<2
	5/18/2009	R	O	CA		11	5	LE	N	16
	6/3/2009	R	O	CA		11	30	E	CL	<2
	7/8/2009	R	O	CA		15	16	E	CL	64
	8/4/2009	R	C	CA		19	18	E	SW	150
	9/7/2009	R	C	CA		11	31	F	SW	6
	10/6/2009	R	C	CA	P	10	30	F	NW	4
	11/3/2009	R	O	CA		5	14	F	NW	4
12/7/2009	R	O	CA	P	0	30	H	CL	280	



Station	Date	Strategy	Open/ Closed	Class	Adversity	Temp 0°	Salinity ppt	Tide	Wind	Col Score
EJ007.00	4/21/2009	R	C	P	P	6	3	E	SE	260
	5/5/2009	R	C	P		9	24	H	E	14
	6/10/2009	R	C	P	P	9	28	HF	CL	20
	7/28/2009	R	C	P	P	19	8	F	W	96
	9/9/2009	R	C	P		16	26	F	N	4
	11/18/2009	R	C	P		6	18	HF	SW	12
	12/7/2009	R	C	P	P	0	25	H	CL	4
EJ008.00	1/6/2009	R	O	CA		2	32	L	NW	<2
	2/17/2009	R	O	CA		4	22	F	NW	<2
	3/4/2009	R	O	CA		0	30	LF	NW	<2
	4/7/2009	R	O	CA	P	2	4	E	SE	8
	5/5/2009	R	O	CA		9	30	H	E	<2
	6/2/2009	R	O	CA		13	29	LE	N	<2
	7/8/2009	R	O	CA		14	27	E	CL	54
	9/7/2009	R	C	CA		12	31	F	SW	<2
	10/6/2009	R	C	CA	P	10	30	F	NW	4
	11/3/2009	R	O	CA		6	31	HF	NW	<2
	12/7/2009	R	O	CA	P	0	30	H	CL	2
EJ009.00	3/4/2009	R	C	P		0	32	LF	NW	<2
	4/21/2009	R	O	A	P	5	30	E	SE	<2
	6/10/2009	R	O	A	P	7	31	HF	S	<2
	7/21/2009	R	O	A		14	31	E	SE	<2
	9/9/2009	R	O	A		14	32	F	N	<2
	11/18/2009	R	O	A		6	31	HF	SW	2
EJ010.00	3/4/2009	R	C	P		0	28	F	NW	2
EJ011.00	3/4/2009	R	C	P		0	28	F	NW	2
EJ014.00	3/4/2009	R	O	R		0	29	F	NW	<2
	4/21/2009	R	O	R	P	5	28	E	SE	<2
	6/10/2009	R	O	R	P	7	30	HF	SE	2
	7/28/2009	R	O	R	P	18	12	F	W	40
	9/9/2009	R	O	R		15	31	F	N	<2
	11/18/2009	R	O	R		6	30	HF	SW	4
EJ015.00	3/4/2009	R	O	R		0	30	F	NW	2
	4/21/2009	R	O	R	P	5	28	E	SE	<2
	6/10/2009	R	O	R	P	7	30	HF	SE	2
	7/21/2009	R	O	R		14	30	E	CL	8
	9/9/2009	R	O	R		15	31	F	N	20
	11/18/2009	R	O	R		6	31	HF	SW	<2
EJ016.00	3/4/2009	R	O	A		0	32	F	NW	<2
	4/21/2009	R	O	A	P	5	30	E	SE	24
	6/10/2009	R	O	A	P	7	30	H	SE	4
	7/21/2009	R	O	A		13	30	LE	CL	<2
	9/9/2009	R	O	A		15	31	F	N	4
	11/18/2009	R	O	A		6	30	HF	SW	<2
EJ017.00	3/4/2009	R	C	P		-1	32	L	W	<2
	4/15/2009	R	C	P	T	3	30	LF	CL	<2
	6/9/2009	R	C	P		7	30	F	SE	<2
	7/20/2009	R	C	P		11	32	HE	SW	<2



Station	Date	Strategy	Open/ Closed	Class	Adversity	Temp 0°	Salinity ppt	Tide	Wind	Col Score
	9/16/2009	R	C	P		9	32	LE	E	<2
	11/23/2009	R	C	P		7	30	L	NE	<2
EJ018.00	3/4/2009	R	O	A		-1	32	L	W	<2
	4/15/2009	R	O	A	T	3	30	LF	N	<2
	6/9/2009	R	O	A		7	30	F	SE	<2
	7/20/2009	R	O	A		11	30	HE	SW	<2
	9/16/2009	R	O	A		9	32	LE	E	<2
	11/23/2009	R	O	A		7	30	LF	NE	<2
	3/4/2009	R	C	P		-1	30	LF	W	<2
EJ021.00	4/15/2009	R	C	P	T	3	30	LF	N	<2
	6/9/2009	R	C	P		7	30	HF	SE	<2
	7/20/2009	R	C	P		11	30	HE	SW	19
	9/16/2009	R	C	P		10	32	LE	CL	4
	11/23/2009	R	C	P		7	30	LF	NE	<2
EJ022.00	3/4/2009	R	C	P		0	30	LF	W	<2
	4/15/2009	R	C	P	T	5	29	F	N	<2
	6/9/2009	R	C	P		10	30	HF	SE	<2
	7/20/2009	R	C	P		11	30	HE	SW	<2
	9/16/2009	R	C	P		11	32	LE	E	2
	11/23/2009	R	C	P		7	30	LF	NE	<2
EJ023.00	3/4/2009	R	O	A		0	30	LF	W	<2
	4/15/2009	R	O	A	T	5	30	F	CL	<2
	4/26/2009	A	C	A	F	5	28	E	N	<2
	4/27/2009	A	C	A	F	6	27	E	SE	<2
	6/9/2009	R	O	A		10	30	HF	SE	<2
	6/23/2009	A	C	A	F	10	25	HF	E	92
	6/24/2009	A	C	A	F	8	22	F	CL	22
	6/25/2009	A	C	A	F	12	26	HE	SE	56
	6/26/2009	A	C	A	F	13	28	HF	SE	<2
	6/27/2009	A	C	A	F	10	24	E	CL	<2
	6/28/2009	A	C	A	F	13	30	E	E	<2
	6/29/2009	A	C	A	F	12	28	LF	SE	3.6
	7/20/2009	R	O	A		15	29	E	SW	20
	9/1/2009	A	C	A	F	12	28	H	NW	9.1
	9/2/2009	A	C	A	F	11	28	HF	CL	4
	9/21/2009	R	O	A		15	30	HE	NW	6
	10/28/2009	A	C	A	F	3	28	H	CL	5.5
	10/29/2009	A	C	A	F	4	29	H	N	2
10/30/2009	A	C	A	F	3	29	HF	CL	<2	
11/23/2009	R	O	A		7	29	LF	NE	<2	
EJ024.00	3/4/2009	R	O	A		0	30	LF	W	<2
	4/15/2009	R	O	A	T	6	29	F	N	<2
	6/9/2009	R	O	A		11	30	HF	SE	<2
	7/20/2009	R	O	A		15	29	E	SW	9.1
	9/16/2009	R	O	A		10	32	L	NE	<2
	11/23/2009	R	O	A		7	29	LF	NE	<2
EJ024.30	4/15/2009	R	O	A	T	8	27	HE	CL	<2
	5/5/2009	R	O	A		10	2	H	E	3.6



Station	Date	Strategy	Open/ Closed	Class	Adversity	Temp 0°	Salinity ppt	Tide	Wind	Col Score
	6/9/2009	R	O	A		11	29	HF	SE	2
	7/20/2009	R	O	A		17	27	E	SW	18
	9/21/2009	R	O	A		15	30	HE	NW	10
	11/23/2009	R	O	A		3	28	HE	SE	2
EJ024.90	3/25/2009	R	O	A		1	26	E	NW	<2
	4/15/2009	R	O	A	T	9	13	F	N	<2
	6/9/2009	R	O	A		13	28	H	SE	<2
	7/20/2009	R	O	A		17	28	E	SW	7.2
	9/16/2009	R	O	A		12	30	E	NE	8
	10/28/2009	A	C	A	F	3	24	H	N	<2
	10/29/2009	A	C	A	F	3	25	H	N	<2
	10/30/2009	A	C	A	F	2	26	H	CL	2
11/23/2009	R	O	A		3	24	H	SE	<2	
EJ025.00	3/25/2009	R	O	A		0	22	E	NW	2
	4/15/2009	R	O	A	T	7	0	F	N	<2
	4/26/2009	A	C	A	F	10	5	E	W	8
	4/27/2009	A	C	A	F	9	3	E	E	16
	6/9/2009	R	O	A		16	20	H	E	4
	6/23/2009	A	C	A	F	14	2	HF	NE	27
	6/24/2009	A	C	A	F	8	0	F	CL	20
	6/25/2009	A	C	A	F	16	24	HE	SE	>1600
	6/26/2009	A	C	A	F	17	5	HF	CL	8
	6/27/2009	A	C	A	F	16	0	E	CL	4
	6/28/2009	A	C	A	F	15	16	H	CL	8
	6/29/2009	A	C	A	F	13	0	L	SE	66
	7/20/2009	R	O	A		19	9	E	SW	25
	9/1/2009	A	C	A	F	13	2	H	CL	44
	9/2/2009	A	C	A	F	14	0	HF	CL	13
	9/7/2009	A	C	A	F	14	0	F	SW	8
	9/10/2009	A	C	A	F	18	0	F	SW	11
	9/16/2009	R	O	A		14	24	E	SW	16
11/23/2009	R	O	A		5	0	F	NE	2	
EJ026.00	3/4/2009	R	O	A		0	30	F	W	<2
	4/15/2009	R	O	A	T	6	27	F	N	<2
	4/26/2009	A	C	A	F	3	28	HE	N	<2
	4/27/2009	A	C	A	F	4	24	E	E	2
	6/9/2009	R	O	A		11	28	H	S	<2
	6/23/2009	A	C	A	F	9	27	H	NE	6
	6/24/2009	A	C	A	F	8	23	F	E	5.5
	6/25/2009	A	C	A	F	11	22	HE	SE	2
	6/26/2009	A	C	A	F	13	26	HF	E	3.6
	6/28/2009	A	C	A	F	10	29	E	NE	<2
	6/29/2009	A	C	A	F	12	12	L	SE	140
	7/20/2009	R	O	A		15	24	E	SW	6
	9/1/2009	A	C	A	F	11	28	HE	CL	14
	9/2/2009	A	C	A	F	12	27	HF	CL	8
	9/16/2009	R	O	A		11	32	E	CL	<2
10/28/2009	A	C	A	F	3	28	HE	N	<2	



Station	Date	Strategy	Open/ Closed	Class	Adversity	Temp 0°	Salinity ppt	Tide	Wind	Col Score
	10/29/2009	A	C	A	F	5	30	H	N	<2
	10/30/2009	A	C	A	F	4	30	H	CL	<2
	11/23/2009	R	O	A		6	25	F	NE	2
EJ027.00	3/4/2009	R	O	A		0	30	F	W	<2
	4/15/2009	R	O	A	T	6	28	F	N	<2
	4/26/2009	A	C	A	F	3	30	HE	N	<2
	4/27/2009	A	C	A	F	4	27	HE	S	<2
	6/9/2009	R	O	A		11	30	H	S	<2
	6/23/2009	A	C	A	F	9	27	H	NE	4
	6/24/2009	A	C	A	F	8	27	F	E	4
	6/25/2009	A	C	A	F	11	27	HE	SE	44
	6/26/2009	A	C	A	F	14	27	H	SE	<2
	6/28/2009	A	C	A	F	10	29	E	NE	<2
	6/29/2009	A	C	A	F	12	16	L	SE	220
	7/20/2009	R	O	A		16	28	E	SW	2
	9/1/2009	A	C	A	F	12	28	HE	CL	8
	9/2/2009	A	C	A	F	12	29	HF	CL	<2
9/16/2009	R	O	A		11	32	E	NE	<2	
11/23/2009	R	O	A		6	30	F	NE	<2	
EJ028.00	4/15/2009	R	O	R	T	8	10	H	CL	<2
	5/5/2009	R	O	R		10	2	H	E	<2
	6/9/2009	R	O	R		12	27	H	CL	7.3
	7/28/2009	R	O	R	P	20	0	F	W	34
	9/16/2009	R	O	R		10	24	E	NE	46
	11/23/2009	R	O	R		6	0	F	NE	<2
EJ029.50	4/15/2009	R	O	A	T	9	5	F	N	<2
	5/5/2009	R	O	A		10	28	H	E	<2
	6/9/2009	R	O	A		14	28	HE	S	<2
	7/20/2009	R	O	A		21	12	E	SW	11
	9/16/2009	R	O	A		11	30	E	NE	16
	11/23/2009	R	O	A		7	21	F	NE	5.4
EJ030.00	4/15/2009	R	O	R	T	8	20	F	N	<2
	5/5/2009	R	O	R		10	28	HE	E	<2
	6/9/2009	R	O	R		14	8	HE	S	106
	7/28/2009	R	O	R	P	22	4	F	SW	66
	9/16/2009	R	O	R		11	31	E	NE	2
	11/23/2009	R	O	R		6	18	F	NE	6
EJ030.50	4/15/2009	R	O	A	T	10	21	F	N	<2
	5/5/2009	R	O	A		10	28	HE	E	<2
	6/9/2009	R	O	A		14	28	HE	S	<2
	7/28/2009	R	O	A	P	20	26	F	SW	2
	9/16/2009	R	O	A		11	31	E	N	<2
	11/23/2009	R	O	A		7	24	F	NE	2
EJ031.00	4/15/2009	R	O	R	T	9	24	F	N	<2
	5/5/2009	R	O	R		10	28	HE	E	<2
	6/9/2009	R	O	R		12	29	HE	SW	<2
	7/28/2009	R	O	R	P	21	26	F	SW	25
	9/16/2009	R	O	R		11	31	E	CL	<2



Station	Date	Strategy	Open/ Closed	Class	Adversity	Temp 0°	Salinity ppt	Tide	Wind	Col Score
	11/23/2009	R	O	R		7	18	F	NE	2
EJ031.50	3/4/2009	R	O	A		0	30	F	W	<2
	4/15/2009	R	O	A	T	9	24	F	N	<2
	6/9/2009	R	O	A		9	30	HE	SW	<2
	7/28/2009	R	O	A	P	20	26	F	SW	8
	9/16/2009	R	O	A		11	31	E	N	2
	11/23/2009	R	O	A		7	28	F	NE	<2
	EJ032.00	3/4/2009	R	O	A		1	30	F	W
4/15/2009		R	O	A	T	5	30	F	N	<2
6/9/2009		R	O	A		9	30	HE	S	<2
7/20/2009		R	O	A		17	29	LE	SW	2
9/16/2009		R	O	A		11	32	E	CL	<2
11/23/2009		R	O	A		6	30	F	NE	<2
EJ033.00	3/4/2009	R	O	A		0	30	F	NW	<2
	4/15/2009	R	O	A	T	5	30	F	N	<2
	6/9/2009	R	O	A		9	30	E	SW	<2
	7/20/2009	R	O	A		15	30	L	SW	<2
	9/16/2009	R	O	A		11	32	E	CL	<2
	11/23/2009	R	O	A		7	30	F	NE	<2
EJ034.00	3/4/2009	R	O	A		0	30	F	NW	<2
	4/15/2009	R	O	A	T	5	30	F	N	<2
	6/9/2009	R	O	A		9	31	E	SW	<2
	7/20/2009	R	O	A		15	30	L	SW	<2
	9/16/2009	R	O	A		11	32	E	CL	<2
	11/23/2009	R	O	A		6	30	F	NE	<2