



GROWING AREA EH

Seawall to Otter Cove, including Southwest and Northeast Harbors, Somes Sound, Somes Harbor, and the Cranberry Islands

ANNUAL REVIEW for 2010

Report Date: February 17, 2012

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APPROVAL

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Date: _____



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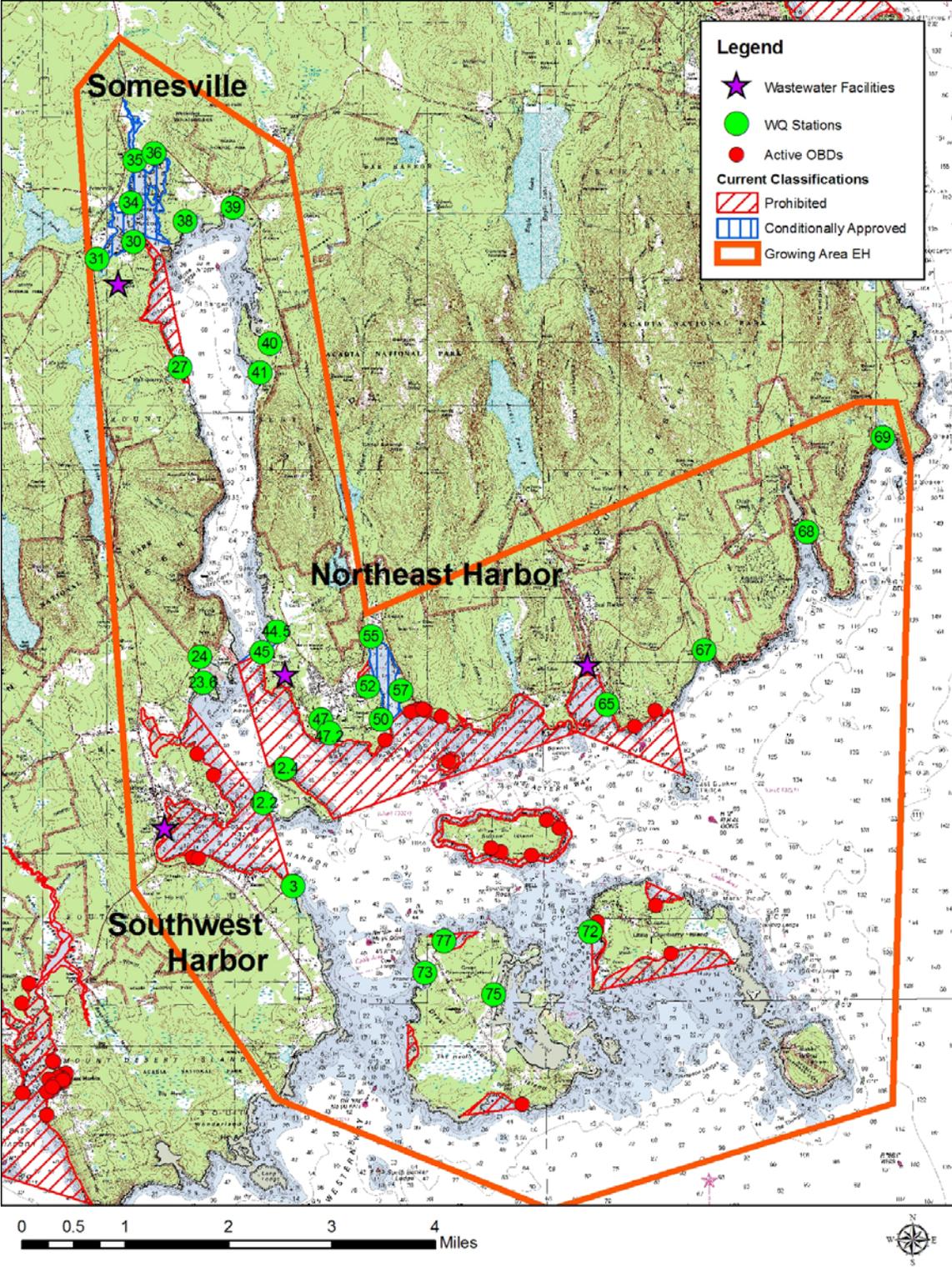
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Figure 1. Growing Area EH, with Active Water Stations





Executive Summary

This is an annual report for growing area EH written in compliance with the requirements of the 2009 Model Ordinance and the National Shellfish Sanitation Program.

At the end of the review year, all approved water quality sampling stations had P90 calculations that met their NSSP standard. All conditionally approved sampling stations had P90 calculations that met their NSSP standards and management plan criteria during their open status. All active stations were sampled six times following the systematic random sampling (SRS) schedule and conditional stations were sampled the required number of times while in the open status. No downward reclassifications were required, and no upward reclassifications are recommended as a result of this report.

The next triennial report is due in 2011; the next sanitary survey report is due in 2012.

Growing Area Description

Growing area EH encompasses the shoreline on the southern shore of Mount Desert Island between Wonderland, in the Town of Southwest Harbor, and the Eastern shore of Newport Cove in the Town of Bar Harbor, including the islands which lie off the mouth of Somes Sound. The growing area lies within the bounds of Hancock County, Maine (Figure 1). The Somes Sound portion of this growing area is the only natural fjard on the east coast of the United States. Growing Area EH is primarily a rural area of Maine with low population density. It is an island community that is mostly residential with tourism being the main industry. There are 22 licensed overboard discharges (OBDs), all encompassed by prohibited areas, and four municipal waste water treatment plants (WWTP) that continue to operate within their license limits.

Current Classification(s)

At the end of the 2010 review year, shellfish growing area EH had areas classified as:

Approved

- Sample stations associated with approved classification; EH 3, 12.2, 12.6, 23.6, 24, 26, 38, 39, 40, 41, 67, 68, 69, 73, & 75.

Conditionally Approved

- Area No. 44 Part B, Somes Harbor, conditionally approved due to Somesville Municipal marina area. Closed status from May 1 through Sept. 30. Sample stations associated with classification; EH 30, 31, 34, 35, & 36.
- Area No. 44 Part C, Gary Moore Cove, conditionally approved due to seasonal variations. Closed status from May 1 through Nov. 14. Sample stations associated with classification; EH 44.5 & 45.



- Area No. 44 Part D, Northeast Harbor, conditionally approved due to Northeast Harbor Municipal marina area. Closed status from May 1 through Oct. 31. Sample stations associated with classification; EH 50, 55, & 57.

Prohibited

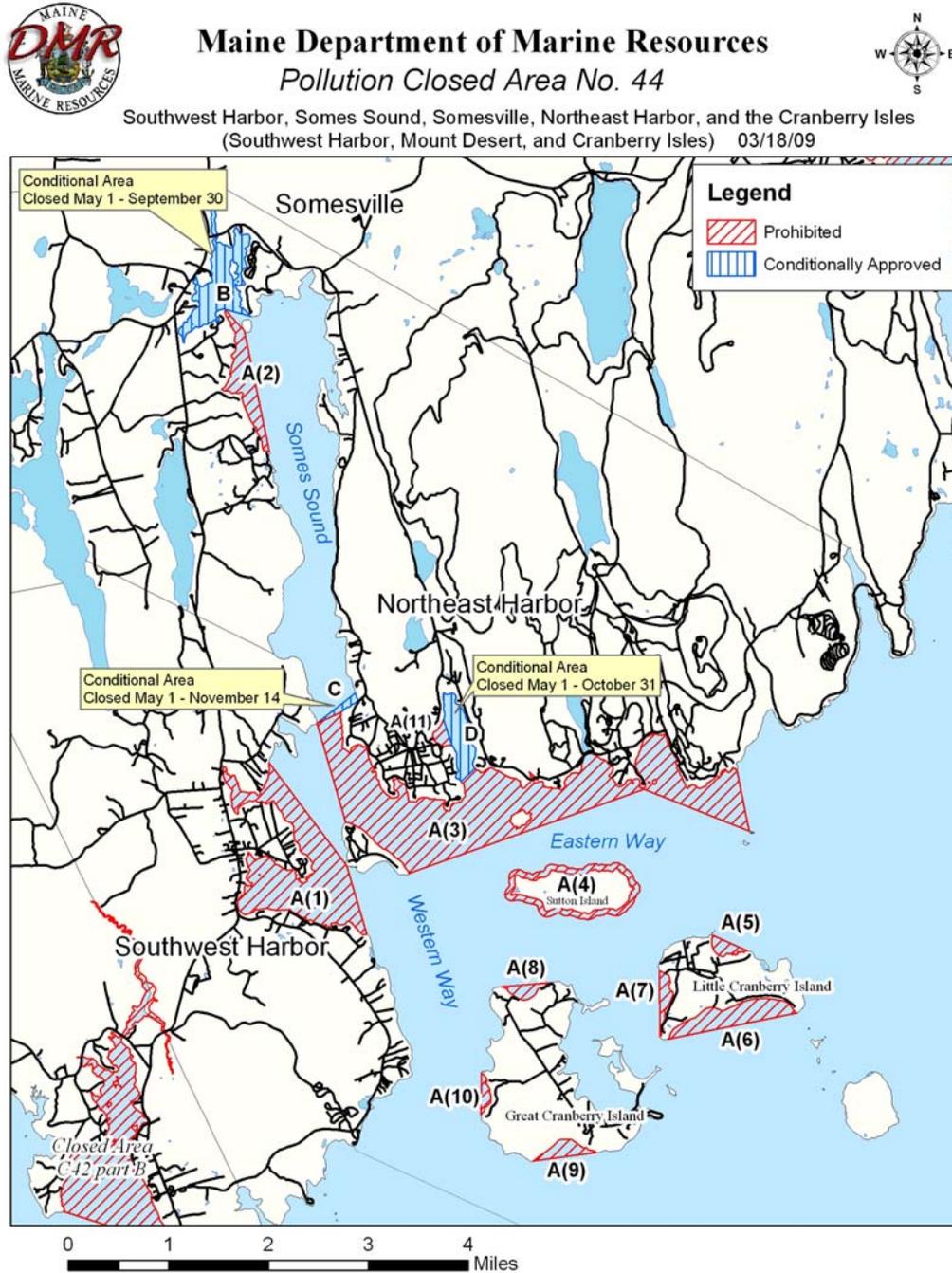
- Area No. 44 Part A (1), Southwest Harbor and Norwood Cove , prohibited due to licensed OBDs, Southwest Harbor WWTP, and seasonal marina traffic. Sample stations associated with classification; EH 3, 12.2, & 23.6.
- Area No. 44 Part A (2), Broad Cove , prohibited due to Somesville WWTP. Sample stations associated with classification; EH 27 & 30.
- Area No. 44 Part A (3), Northeast Harbor, Bracy Cove, and Seal Harbor , prohibited due to licensed OBDs, Northeast Harbor and Seal Cove WWTPs, storm drain contamination, and failing water scores. Sample stations associated with classification; EH 12.4, 45, 47, 47.2, 50, & 65.
- Area No. 44 Part A (4), Sutton Island , prohibited due to licensed OBDs. Zone of impact is based on a dilution calculation.
- Area No. 44 Part A (5), Little Cranberry Island(northern part), prohibited due to licensed OBD. Zone of impact is based on a dilution calculation.
- Area No. 44 Part A (6), Little Cranberry Island(southern part), prohibited due to licensed OBD. Zone of impact is based on a dilution calculation.
- Area No. 44 Part A (7), Little Cranberry Island(western part), prohibited due to licensed OBD. Sample stations associated with classification; EH 72.
- Area No. 44 Part A (8), Spurling Cove, Great Cranberry Island, prohibited due to former failing water quality. Sample stations associated with classification; EH 77.
- Area No. 44 Part A (9), Bunker Head, Great Cranberry Island, prohibited due to licensed OBD. Zone of impact is based on a dilution calculation.
- Area No. 44 Part A (10), Great Head, Great Cranberry Island, prohibited due to licensed OBD. Zone of impact is based on a dilution calculation.
- Area No. 44 Part A (11), Northeast Harbor, prohibited due to year round marina activity. Sample stations associated with classification; EH 52.

Please visit the DMR website to view legal notices:

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



Figure 2. Growing Area EH, with Classifications





Activity during Review Period

There were no classification changes during the review period.

Conditionally Managed Area(s)

- Area No. 44 Part B, Somes Harbor, conditionally approved due to Somesville Municipal marina area with a closed status from May 1 through Sept. 30. Sample stations associated with classification; EH 30, 31, 34, 35, & 36. All conditions for the open status were satisfactorily met in 2010. The complete Management Plan review is provided in Appendix A of this report.
- Area No. 44 Part C, Gary Moore Cove, conditionally approved due to seasonal variations with a closed status from May 1 through Nov. 14. Sample stations associated with classification; EH 44.5 & 45. All conditions for the open status were satisfactorily met in 2010. The complete Management Plan review is provided in Appendix B of this report.
- Area No. 44 Part D, Northeast Harbor, conditionally approved due to Northeast Harbor Municipal marina area with a closed status from May 1 through Oct. 31. Sample stations associated with classification; EH 50, 55, & 57. All conditions for the open status were satisfactorily met in 2010. The complete Management Plan review is provided in Appendix C of this report.

All three management plans can be found in DMR's central files. Annual reviews of each management plan can be found in the appendix of this report.

Water Quality Review and Discussion

Table 1 lists all active approved and prohibited stations in Growing Area EH, with their respective Geomean and P90 calculations for 2010. Please refer to Appendix D for a key to interpreting the headers on the columns of Table 1. Table 2 lists all conditionally approved stations in growing area EH with their respective Geomean and P90 calculations for 2010; data reflect open status only. The approved and restricted standards for each station are also displayed in Tables 1 and 2. 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 verses 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 central files.

All approved stations and all conditionally approved stations in their open status met their NSSP classification during the 2010 review year.



Table 1. Geomean and P90 Scores, Growing Area EH, 2005-2010

Station	Class	Count	MFCCount	GeoMean	SDV	MAX	P90	Appd_Std	Restr_Std
EH003.00	A	29	27	2.5	0.28	22	5.7	31	170
EH012.20	A	30	26	2.3	0.23	30	4.6	32	176
EH012.40	P	30	26	2	0.07	3.6	2.5	32	176
EH023.60	A	29	27	2.9	0.43	100	10.4	31	170
EH024.00	A	30	26	3.6	0.5	300	16	32	176
EH027.00	P	30	26	2.2	0.23	23	4.5	32	176
EH038.00	A	30	26	2.8	0.4	93	9.3	32	176
EH039.00	A	30	26	3.9	0.52	240	18.7	32	176
EH040.00	A	30	27	3	0.36	42	8.7	32	173
EH041.00	A	30	26	2.7	0.38	90	8.7	32	176
EH047.00	P	30	30	8.2	1	1700	158.5	31	163
EH047.20	P	30	30	3.8	0.63	152	25.3	31	163
EH052.00	P	30	30	3.2	0.59	1140	19	31	163
EH065.00	P	30	26	2.5	0.33	68	6.9	32	176
EH067.00	A	30	26	2.7	0.32	48	7.1	32	176
EH068.00	A	30	26	3.4	0.5	240	15.2	32	176
EH069.00	A	30	26	2.9	0.47	420	11.8	32	176
EH072.00	P	30	26	2.1	0.11	6	3	32	176
EH073.00	A	30	26	2.1	0.12	8	3	32	176
EH075.00	A	30	26	2	0.06	2.9	2.4	32	176
EH077.00	P	30	26	2.1	0.1	4	2.9	32	176

Table 2. Geomean and P90 Scores for Conditionally Approved Stations in the Open Status

Station	Class	Count	MFCCount	GeoMean	SDV	MAX	P90	Appd_Std	Restr_Std
Somes Harbor open 10/1 – 4/30									
EH030.00	CA	30	30	3.1	0.38	48	9.7	31	163
EH031.00	CA	30	30	2.8	0.4	88	9.3	31	163
EH034.00	CA	30	30	2.7	0.4	114	9.1	31	163
EH035.00	CA	30	30	2.4	0.22	10	4.8	31	163
EH036.00	CA	30	30	2.6	0.3	33	6.5	31	163
Gary Moore Cove open 11/15 – 4/30									
EH044.50	CA	30	21	2.4	0.16	9.1	4	35	195
EH045.00	CA	20	20	2.1	0.14	6	3.3	31	163
Northeast Harbor open 11/1 – 4/30									
EH050.00	CA	30	17	2.3	0.09	3.6	3	37	212
EH055.00	CA	26	13	2.6	0.22	23	5.2	38	221
EH057.00	CA	30	17	2.3	0.1	4	3.2	37	212



All approved and prohibited stations that were active at the end of 2009 were sampled at least 6 times following the systematic random sampling (SRS) schedule (Table 3 and Appendix E). Some stations had additional samples collected under adverse conditions as part of the flood sampling strategy. Conditionally Approved stations based on seasonality were sampled a minimum of 6 times during the OPEN status, and stations based on marina closures were sampled a minimum of 3 times during the OPEN status.

Table 3. EH Samples Collected in 2010

Station	Class	Adverse		Random		Total	Comments
		Closed	Open	Closed	Open		
EH003.00	A				6	6	
EH012.20	A				6	6	
EH012.40	P			6		6	
EH023.60	A	21			6	27	
EH024.00	A				6	6	
EH027.00	P			6		6	
EH030.00	CA	23	2	5	7	37	
EH031.00	CA			5	7	12	
EH034.00	CA			5	7	12	
EH035.00	CA			5	7	12	
EH036.00	CA			5	7	12	
EH038.00	A				6	6	
EH039.00	A	21	2		6	29	
EH040.00	A	23			6	29	
EH041.00	A				6	6	
EH044.50	CA			6	6	12	
EH045.00	CA			6	6	12	
EH047.00	P			6		6	
EH047.20	P			6		6	
EH050.00	CA			6	6	12	
EH052.00	P			12		12	
EH055.00	CA			6	6	12	
EH057.00	CA			6	6	12	
EH065.00	P			6		6	
EH067.00	A				6	6	
EH068.00	A	21			6	27	
EH069.00	A				6	6	
EH072.00	P			6		6	
EH073.00	A				6	6	
EH075.00	A				6	6	
EH077.00	P			6		6	



Upward Classification Changes

There are no upward reclassifications proposed in this report.

Shoreline Survey Activity

Drive through surveys of growing area EH were conducted on the same dates as random water sampling runs. In 2010, they were conducted on the following dates: January 4, February 2, 9, 10, & 17, March 23, April 6, 12, 13, 14, & 28, May 4, 10, 24, & 25, June 2 & 22, July 6 & 7, August 3, 10, 16, & 17, September 13, 21, 27, & 28, October 5 & 12, November 2, and December 7. No changes in pollution sources were noted at the time of drive through surveys.

Aquaculture/Wet Storage Activity

There are no aquaculture leases or wet storage sites in growing area EH.

Recommendation for Future Work

2011 will include a review of all known pollution sources, streams, and WWTPs for the Triennial Report, which is due in 2011.



Appendix A. Annual Review of Conditional Area Management Plan, Somes Harbor, Mount Desert, Area No. 44 (Part B)

Scope-

A portion of Growing Area EH, Somes Harbor, is conditionally approved based on the presence or absence of 10 or more boats with heads, which may discharge into Somes Harbor. The area is monitored by stations EH 30, 31, 34, 35, and 36. The area was classified Conditionally Approved in November 7, 2000. 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 mid September through mid May. 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. The water quality met approved standards from October 1 through April 30.

Compliance with management plan-

The marina area of Somes Harbor is operational only during the months of May through September. The conditional area was placed in the closed status on May 1st. A field inspection on April 28, 2010 confirmed that no live aboard type boats were in the marina area on that date. The area was reopened on October 1st, after field review on September 27, 2010 confirmed the removal of all live aboard type boats. This conditional closure is enforced by DMR Marine Patrol.

Adequacy of reporting and cooperation of involved persons-

On-going cooperation between marine patrol enforcement activity (Division II, Lamoine) and seasonal checks on boating activity (Water Quality Laboratory, Lamoine) have provided an adequate system of monitoring and prohibition of harvesting during the closed status.

Compliance with approved growing area criteria-

All stations within the conditional area meet approved standards during the open status based on geomean and P90 values and lack of boating activity or other pollution threats.

Field inspection of critical pollution sources-

No point source pollution problems were identified during a 2000 sanitary survey. Problems are thought to be seasonal boating traffic. There have been no live aboard type boats observed moored in the area during the open status period. Conditional area sampling and routing drive-bys confirmed the lack of pollution sources during open periods. Interview with harbor master indicates no changes in usage of existing moorings or the number of moorings.

Water sampling compliance history-



Table 1 below shows that all the water quality stations in Somes Harbor meet Approved area standards during the Open Status time period. This management plan calls for the sampling of this area once a month during the Open status.

Table 1. Conditional Area Stations During the Open Status

STATION	CLASS	COUNT	MFCNT	GEO_MEAN	SDV	MAX	P90	APPD_STD	RESTR_STD
EH030.00	CA	30	30	3.1	0.38	48	9.7	31	163
EH031.00	CA	30	30	2.8	0.4	88	9.3	31	163
EH034.00	CA	30	30	2.7	0.4	114	9.1	31	163
EH035.00	CA	30	30	2.4	0.22	10	4.8	31	163
EH036.00	CA	30	30	2.6	0.3	33	6.5	31	163

All stations in this Conditionally Approved area meet their present classification standards.

Analysis-recommendations-

This marina area continues to meet the conditionally approved classification criteria based on boating activity. The open period start date of October 1st and closure date of May 1st continue to be valid. 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 B. Annual Review of Conditional Area Management Plan, Gary Moore Cove, Mount Desert Area No. 44 (Part C)

Scope-

The Gary Moore Cove portion of Growing Area EH is Conditionally Approved based on seasonality. Water quality in this area met Approved standards while in the Open status, from November 15 through April 30.

Compliance with management plan-

The Gary Moore Cove area was sampled monthly while in the open status. The tables below show that the Geomean and P90 calculations are well within approved area standards during the open period, and that samples taken within two weeks prior to opening showed scores <14 FC/100ml. of fecal coliform bacteria. This conditional closure is enforced by DMR Marine Patrol.

Adequacy of reporting and cooperation of involved persons-

On-going cooperation between marine patrol enforcement activity (Division II, Lamoine) and water testing (Water Quality Laboratory, Lamoine) have provided an adequate system of monitoring and prohibition of harvesting during the restricted time period.

Compliance with approved growing area criteria-

All stations within the conditional area meet approved standards during the open status based on geomean and p90 values and lack of other pollution threats.

Field inspection of critical pollution sources-

Analysis of the winter samples from the Gary Moore Cove (EH 44.5 & 45) shows geomean and P90 scores that meet Approved standards. This calculation is for the most recent thirty samples between November 15th and April 30th. A complete shoreline survey of the Gary Moore Cove area indicates no point sources of pollution. The reason for summer increase in WQ scores is unknown but is likely due to the increase in seasonal population of the area.

Water sampling compliance history-

WATER QUALITY DATA BETWEEN 11/15 AND 4/30 (winter)



STATION	CLASS	COUNT	MFCNT	GEO_MEAN	SDV	MAX	P90	APPD_STD	RESTR_STD
EH044.50	CA	30	21	2.4	0.16	9.1	4	35	195
EH045.00	CA	20	20	2.1	0.14	6	3.3	31	163

All stations within the conditional area meet approved standards while it is in the open status (11/15 to 4/30).

Analysis-recommendations-

This seasonal area continues to meet the Conditionally Approved classification criteria based on water quality scores listed above. The open period start date of November 15th and closure date of May 1st continue to be valid. No recommendations for changes to the current management plan or conditional area classification open status are needed at this time.



Appendix C. Annual Review of Conditional Area Management Plan, Northeast Harbor, Mount Desert, Area No. 44 (Part D)

Scope-

A portion of Growing Area EH, Northeast Harbor, is Conditionally Approved based on the presence or absence of 10 or more boats with heads, which may discharge into Northeast Harbor. The area is monitored by stations EH 50, 55, and 57. The area was classified Conditionally Approved on March 18, 2009. 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 mid October through mid May. 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. The water quality met Approved standards from November 1 through April 30.

Compliance with management plan-

The inner marina area of Northeast Harbor is operational year round, and the outer marina area operational during the months of May through September. The conditional area was placed in the closed status on April 30. A field inspection on April 28, 2010 confirmed that no live aboard type boats were in the marina area on that date. The area was reopened on November 1, after field review on October 29, 2010 confirmed the removal of all live aboard type boats. This conditional closure is enforced by DMR Marine Patrol.

Adequacy of reporting and cooperation of involved persons-

On-going cooperation between marine patrol enforcement activity (Division II, Lamoine) and seasonal checks on boating activity (Water Quality Laboratory, Lamoine) have provided an adequate system of monitoring and prohibition of harvesting during the closed status.

Compliance with Approved growing area criteria-

All stations within the conditional area meet Approved standards during the open status based on geomean and p90 values and lack of boating activity or other pollution threats.

Field inspection of critical pollution sources-

No point source pollution problems were identified during a 2008 sanitary survey. There is a high potential for boats to discharge into the harbor during the tourist summer months. There have been no live aboard type boats observed moored in the area during the open status. Conditional area sampling and routing drive-bys confirmed the lack of pollution sources during open periods. Interview with harbor master indicates no changes in usage of existing moorings or the number of moorings.

Water sampling compliance history-



Table 1 below shows that all the water quality stations in Northeast Harbor meet Approved area standards during the Open Status time period. This management plan calls for the sampling of this area once a month during the Open status.

Table 1. Conditional Area Stations During the Open Status

STATION	CLASS	COUNT	MFCNT	GEO_MEAN	SDV	MAX	P90	APPD_STD	RESTR_STD
EH050.00	CA	30	17	2.3	0.09	3.6	3	37	212
EH055.00	CA	26	13	2.6	0.22	23	5.2	38	221
EH057.00	CA	30	17	2.3	0.1	4	3.2	37	212

All stations in this Conditionally Approved area meet their present classification standards.

Analysis-recommendations-

This marina area continues to meet the Conditionally Approved classification criteria based on boating activity. The open period start date of November 1st and closure date of May 1st continue to be valid. 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 = 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.