



GROWING AREA EB

Cape Rosier, Brooksville to Naskeag Point, Brooklin

ANNUAL REVIEW for 2010

Report Date: January 2011

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APPROVAL

Division Director:

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Print name

A handwritten signature in cursive script that reads "Linda P. Mercer". The signature is written in black ink on a light blue, dotted background.

signature

8/12/2011
Date:



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Figure 1. Growing Area EB

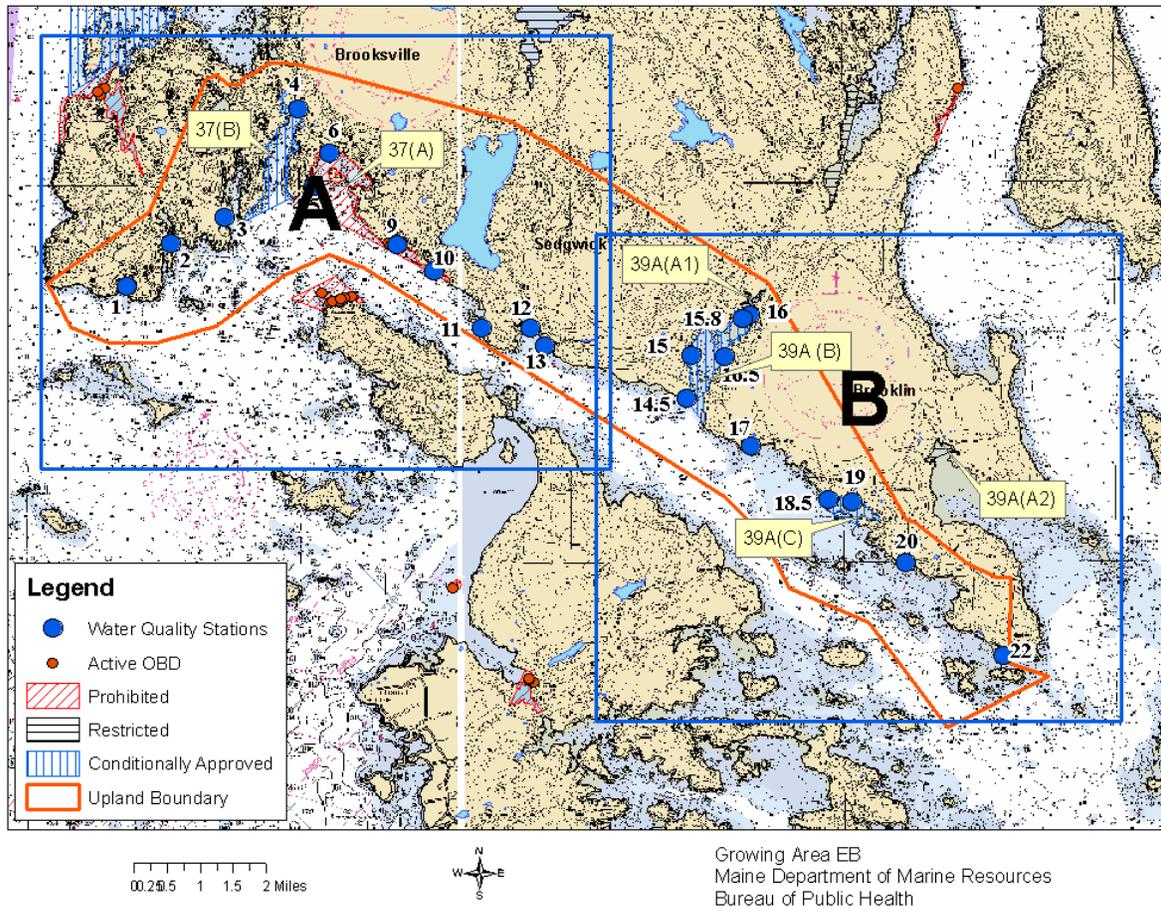




Figure 2. Growing Area EB, with Active Water Stations and Licensed Overboard Discharges (A)

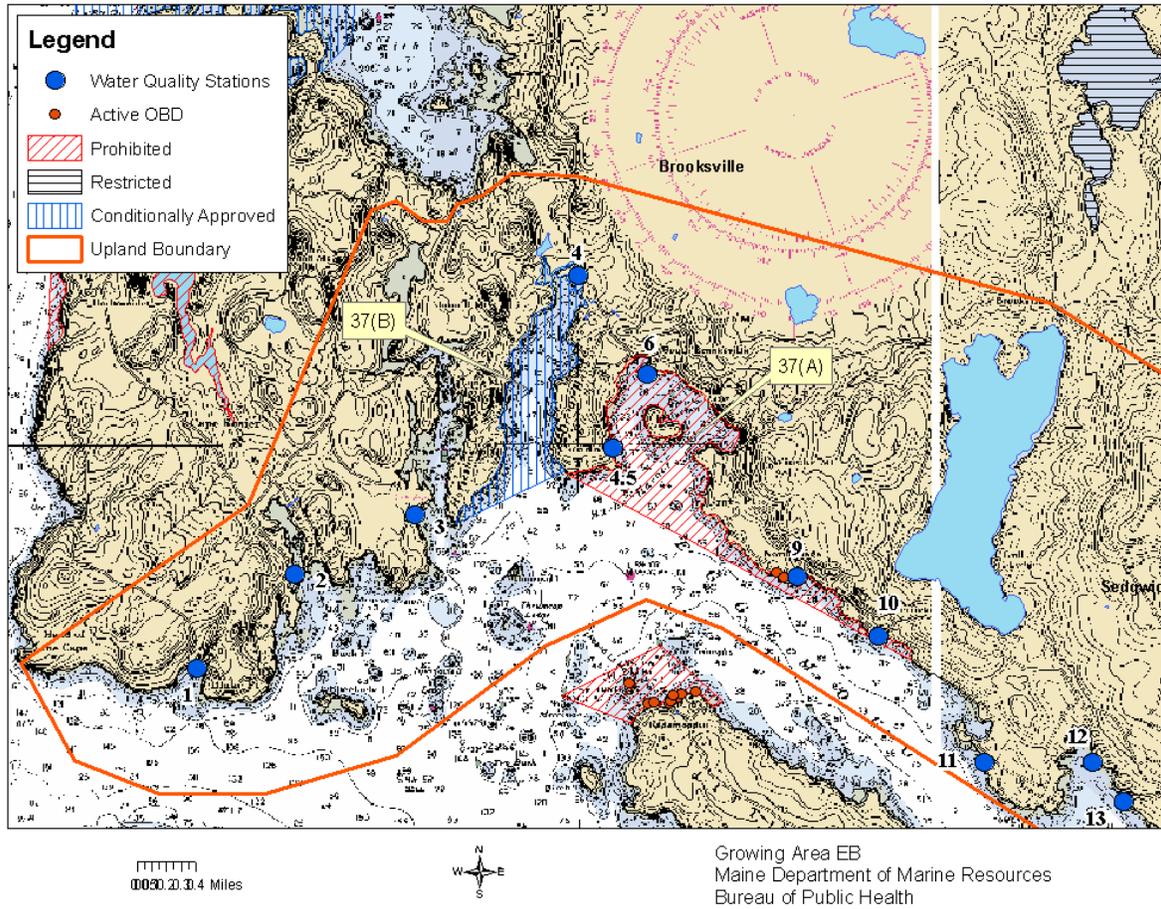
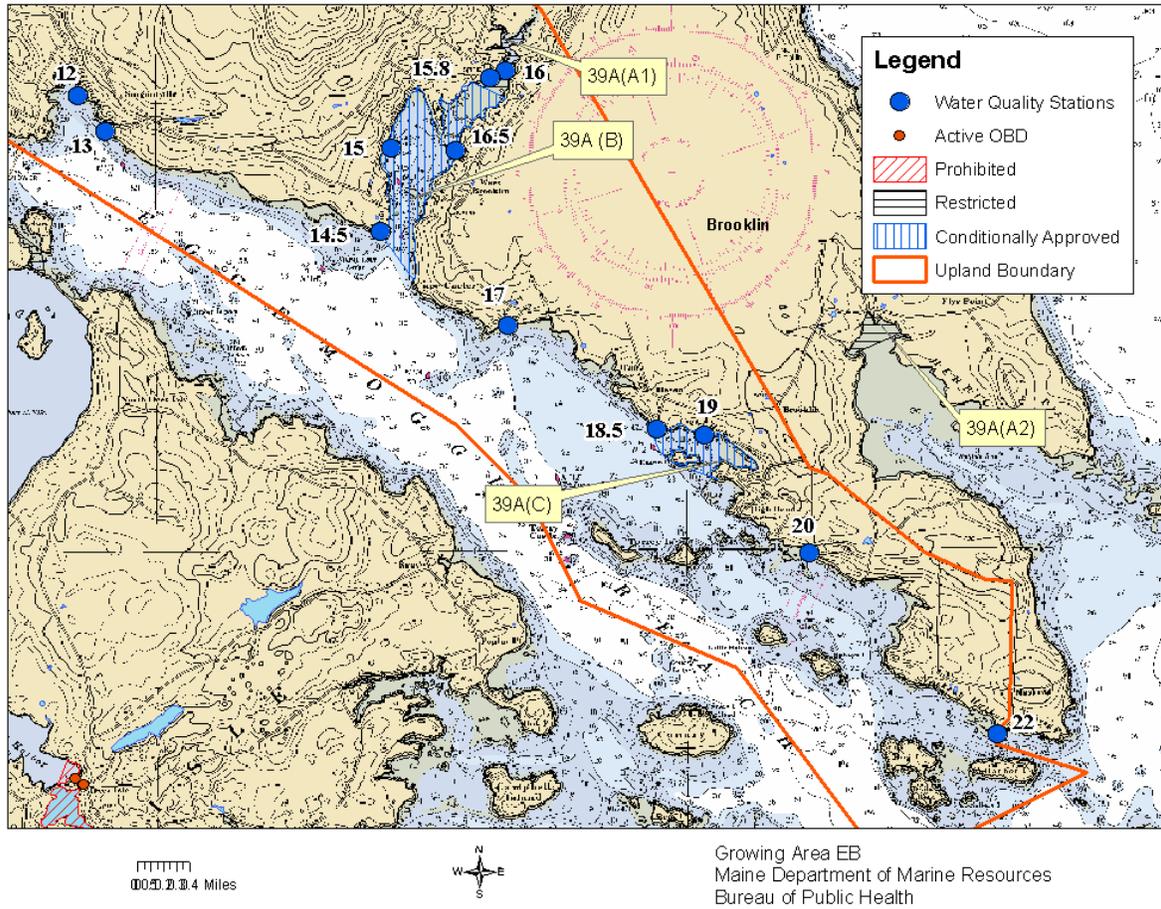




Figure 3. Growing Area EB, with Active Water Stations and Licensed Overboard Discharges (B)





Executive Summary

This is an annual report for growing area EB written in compliance with the requirements of the 2007 Model Ordinance and the National Shellfish Sanitation Program.

Area EB has one prohibited area (boat moorings and licensed overboard discharges), three conditionally approved areas (seasonal and boat moorings) and two restricted areas (poor water quality). At the end of the review year, all approved and restricted water quality sampling stations had P90 scores that met their NSSP standard with the exception of station EB 4 at the head of Orcutt Harbor. As a result, a seasonal conditionally approved area was created in Orcutt Harbor with an open status period of November 1 thru May 31. The area was surveyed in November, 2010, with no pollution source identified. All conditionally approved sampling stations had P90 scores 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 water sample stations were added, removed, activated or deactivated during this review period. On January 5, 2011, station EB 22, Naskeag Harbor, was reclassified from restricted to approved after the upgrade proposal was accepted from the 2009 annual report.

The next triennial report is due in 2011; the next sanitary survey report is due in 2019.

Growing Area Description

The growing area is located in the southwestern section of Hancock County. Figures 1, 2 and 3 show the growing area with active water sampling sites and current shellfish classification areas. The shoreline included in this report extends from Head of Cape Rosier, Brooksville to Naskeag Point, Brooklin. The growing area encompasses 44.4 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. The upland land cover is predominately deciduous, with some evergreens, and a wetland forest with minimal development. Blueberry and grass fields are scattered through Brooksville and Sedgwick. Fresh water influence along these shores is predominately from numerous small streams throughout the growing area. There are no large rivers or lakes impacting the area. The villages of Brooksville (population 940), Sedgwick (population 1,119) and Brooklin (population 864) 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. Agricultural operations are small with less than 10 animals per operation. Seasonal boat mooring areas are occupied in summer months only. Two licensed overboard discharges are adjacent to Buck Harbor, Brooksville (DEP2748, DEP6435). Review of DEP inspection reports showed both complied with their licenses during this review period. There are no wastewater treatment facilities in the area. There are no aquaculture leases or wet storage activities in this growing area. Areas most likely to contain significant populations of soft and hard shell clams and mussels include: Weir Cove, Orcutt Harbor, Bucks Harbor, Benjamin River, Center Harbor and Naskeag Point.



Current Classification(s)

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

Approved

13 stations (EB1.0, 2.0, 3.0, 4.5, 10.0, 11.0, 12.0, 13.0, 14.5, 17.0, 18.5, 20.0, 22.0)

Conditionally Approved

Area No. 37 (part B), Orcutt Harbor, Brooksville (January 4, 2011); 1 station (EB 4); seasonal conditional area (seasonal intermittent non-point pollution)

Area No. 39A (part B), Benjamin River, Sedgwick-Brooklin; (May 29, 2009); 3 stations, (EB 15, 15, 16.5); marina conditional area (seasonal boats with heads)

Area No. 39A (part C), Center Harbor, Brooklin; (May 29, 2009); 1 station, (EB 19); marina conditional area (seasonal boats with heads)

Restricted

Area No. 39A (part A1), Benjamin River, Sedgwick-Brooklin; (May 29, 2009); 1 station, (EB 16)

Prohibited

Area No. 37, Condon Point, Brooksville to The Herricks, Brooksville; (September 10, 1996); 2 stations, (EB 6, 9)

Please visit the DMR website to view legal notices:

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

Activity during Review Period

December 20, 2010; at the end of 2010, a review of year end P90 data showed water sample station EB 4, at the head of Orcutt Harbor, Brooksville, no longer meeting approved standards. Review of the data showed elevated fecal coliform scores in July and October. Justification for this conditionally approved area is explained in Appendix C. A seasonal conditionally approved area, with a closed status period of June 1-October 31, was promulgated on January 4, 2011.

January 5, 2011; after the review and approval of the EB 2009 Annual report, a recommendation to reclassify the Naskeag Harbor area (Area No. 39A (part A2), Naskeag Harbor, Brooklin) from restricted to approved (ET 22) was accepted and the repeal took place on January 5, 2011.

Conditionally Managed Areas

Conditionally Approved- Area No. 37 (part B), Orcutt Harbor (Brooksville); conditional on seasonal intermittent non-point pollution, 1 station (EB 4), open status November 1 through May 31.



Conditionally Approved- Area No.39A (part B), Benjamin River (Sedgwick-Brooklin); conditional on boat occupancy, 3 stations (EB 15, 15.8 16.5), open status November 1 through April 30.

Conditionally Approved- Area No. 39A (part C), Center Harbor (Brooklin); conditional on boat occupancy, 1 station (EB 19), open status November 1 through April 30.

Area No. 37 (part B), Orcutt Harbor (Brooksville) is a newly created seasonal conditionally approved area that will require six (6) samples during the open status but will be sampled monthly to increase the number of data points for all seasons. The open status period (November 1-May 31) met approved status criteria on December 20, 2010, based on the most recent 30 random samples queried from the proposed open status period. Because this is a new conditional area, no compliance history has been generated for 2010. A management plan for this new conditional area is in the central files. Areas No. 39A (parts A and B) are marina conditionally approved areas requiring three (3) samples during the open status but is sampled monthly to increase the number of data points for all seasons. Samples were collected 6 times from each of the water quality monitoring sites during the open status (January 4, February 1, March 16, April 5, November 1 and December 1). The marina areas in the Benjamin River and Center Harbor were inspected on April 29, 2010, previous to the harvest area closure date of April 30 and confirmed that there were less than 10 boats. Inspections were completed on October 27, 2010, previous to the harvest area opening date of November 1, to confirm that there were less than 10 boats with live-aboard crews. The mooring areas annually have peak occupancy periods of Memorial Day thru Labor Day. The harbor masters confirmed the lack of live-aboard boats most of the time, with random transient boaters using moorings in the peak cruising months. It is unlikely boats are occupied after September or before May. Both areas met closing and opening criteria. Water quality meets the standard for approved classification during the open status. Compliance inspections are done during scheduled sampling of the conditional areas during their open and closed status. More detailed annual reviews are provided in Appendices A and B.

The Benjamin River and Center Harbor management plans were last updated in 2009. The Orcutt Harbor management plan was created at the end of 2010. All three management plans can be found in DMR's central files.

Water Quality Review and Discussion

Table 1 lists all active approved restricted and prohibited stations in Growing Area EB, 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. 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 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 DMR central files.



With the exception of EB 4, all approved and restricted stations met their respective NSSP classification during the 2010 review year. An explanation for each of the stations hi-lighted gray in Table1 is listed below. Station EB 4 no longer met its approved classification at the end of 2010. Review of the water testing data showed elevated fecal coliform scores in July and October. A proposed seasonal conditionally approved open status period of November 1st thru May 31st met approved criteria and a conditionally approved area with these dates was promulgated on January 4, 2011. Stations EB 6 and EB 9 meet approved classification standards but are near to known point pollution sources. Station EB 22, which is currently classified as restricted, now meets the approved standard. A recommendation in the 2009 annual report for an upward classification for this station was approved and EB 22 was reclassified from restricted to approved on January 5, 2011.

Table 1. Geomean and P90 Scores, Growing Area EB

Station	Class	Count	MFCnt	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EB001.00	A	30	27	3.3	0.52	320	15.6	32	173
EB002.00	A	30	26	2.8	0.34	50	7.9	32	176
EB003.00	A-boundary	30	26	3.5	0.43	100	13	32	176
EB004.00	A	30	27	5.5	0.77	940	54.3	32	173
EB004.50	A-boundary	30	26	2.5	0.28	52	5.8	32	176
EB006.00	P	30	26	3	0.4	96	10	32	176
EB009.00	P	30	26	3.7	0.57	118	20	32	176
EB010.00	A-boundary	30	26	3.3	0.48	280	13.9	32	176
EB011.00	A	30	26	2.5	0.22	12	4.8	32	176
EB012.00	A	30	26	3.5	0.52	340	16.3	32	176
EB013.00	A	30	27	4	0.53	152	19.6	32	173
EB014.50	A-boundary	30	26	3.2	0.46	81	12.9	32	176
EB016.00	R	30	30	5.1	0.6	106	30.3	31	163
EB017.00	A	30	26	2.9	0.36	33	8.8	32	176
EB018.50	A-boundary	30	26	2.5	0.29	62	6.2	32	176
EB020.00	A	30	27	2.1	0.12	6	3.1	32	173
EB022.00	R	30	30	2.5	0.38	88	8	31	163

Table 2 lists all conditionally approved stations in the Benjamin River and Center Harbor marina conditionally approved areas with their respective Geomean and P90 calculations for 2010. Data for conditionally approved stations reflects only the open status. All stations met the approved standard during open status. Stations EB15.8 and EB 16.50 are new stations established to defend the line between the restricted area and conditionally approved at the head of the Benjamin River (Area No. 39A (part A1)).

Table 2. Benjamin River and Center Harbor Conditional Areas, Open Status

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EB015.00	CA	30	30	3	0.61	1160	18.6	31	163
EB015.80	new	20	20	2.6	0.55	558	13.9	31	163



EB016.50	new	19	19	3.1	0.48	68	13.1	30	163
EB019.00	CA	30	29	3.5	0.63	1700	22.8	31	166

All approved, restricted and prohibited stations that were active at the beginning of 2010 were sampled at least 6 times following the systematic random sampling (SRS) schedule (Table 3). At stations EB 16 and EB 22, extra samples were collected to more closely monitor two restricted areas for possible reclassification. Station EB 16 was sampled routinely in the monthly conditional area sample run; however, after April 5th, EB 22 was discontinued from the conditional Run CA1 and sampled the remainder of the year in Run 2. The Benjamin River and Center Harbor conditionally approved stations were sampled 6 times in the open status.

Table 3. Area EB Samples Collected in 2010

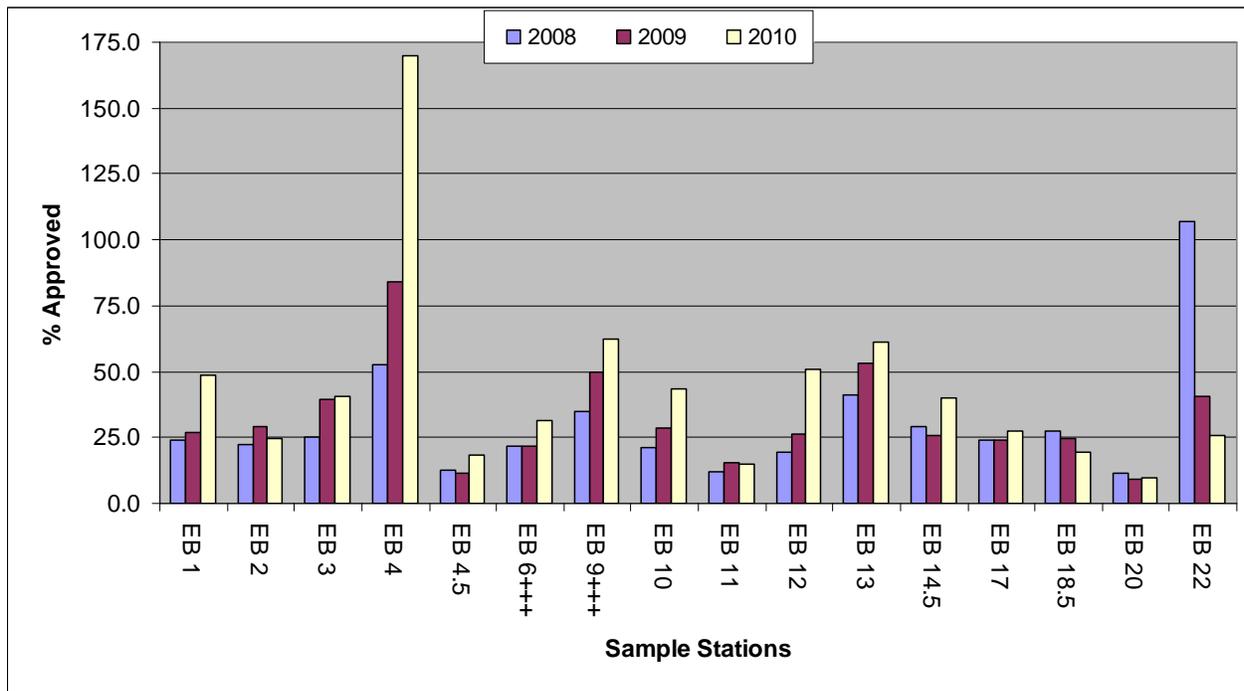
Station	Class	Extra	Random		Grand Total	Comments
		Open	Closed	Open		
EB001.00	A			6	6	
EB002.00	A			6	6	
EB003.00	A			6	6	Boundary station of new conditional area
EB004.00	A	1		6	7	New conditional area Jan. 5, 2011
EB004.50	A			6	6	Boundary station of new conditional area
EB006.00	P		6		6	
EB009.00	P		6		6	
EB010.00	A			6	6	
EB011.00	A			6	6	
EB012.00	A			6	6	
EB013.00	A			6	6	
EB014.50	A			6	6	Boundary station of conditional area
EB015.00	CA		6	6	12	Conditional area
EB015.80	CA		6	6	12	Conditional area
EB016.00	R			12	12	Sampled during CA1 conditional run
EB016.50	CA		6	6	12	Conditional area
EB017.00	A			6	6	
EB018.50	A			6	6	Boundary station of conditional area
EB019.00	CA		6	6	12	Conditional area
EB020.00	A			6	6	
EB022.00	R			7	7	Initially sampled during CA1 run but sampled in Run 2 after April 5

Figures 4, 5 and 6 are trend graphs of the approved and prohibited, 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 during the open status only. Overall,



2010 water quality has improved or remained level compared with 2008-2009 percentages. Exceptions have been increases in percentages, indicating declining water quality over the previous two years, at approved classified stations EB 1, EB 4 and EB 12. Station EB 4 has exceeded the approved standard and must be classified downward (reclassified from approved to seasonal conditionally approved January 4, 2011). Elevated scores are limited to July and October and no pollution source has been identified to date. Additional surveying in the area during the July-October period is necessary to identify the source. No cause for the declining water quality at EB 1 and EB 12 has been identified. Conditionally approved stations EB 15, 15.8, 16.5 and 19 have all shown downward percentages of the approved standard indicating improved water quality. Station EB 22 continues to show improving water quality and supports the reclassification proposal. Stations that are approved or conditionally approved in the open status over 90% are at risk of downward classification and require further assessment. No sample stations in the growing area are at risk at this time. Closure Area 37, Condon Point to “The Herricks” (Brooksville) is a prohibited area that meets approved standards at EB 6 and EB 9 but can not be reclassified approved because of DEP licensed overboard point source discharges No. 2478 and 6435 nearby.

Figure 4. Area EB P90 Score Trends for Approved and Prohibited Stations (expressed as the percent of the approved standard), 2008-2010



+++ = Prohibited stations



Figure 5. Area EB P90 Score Trends for Restricted Stations (expressed as the percent of the approved standard), 2008-2010

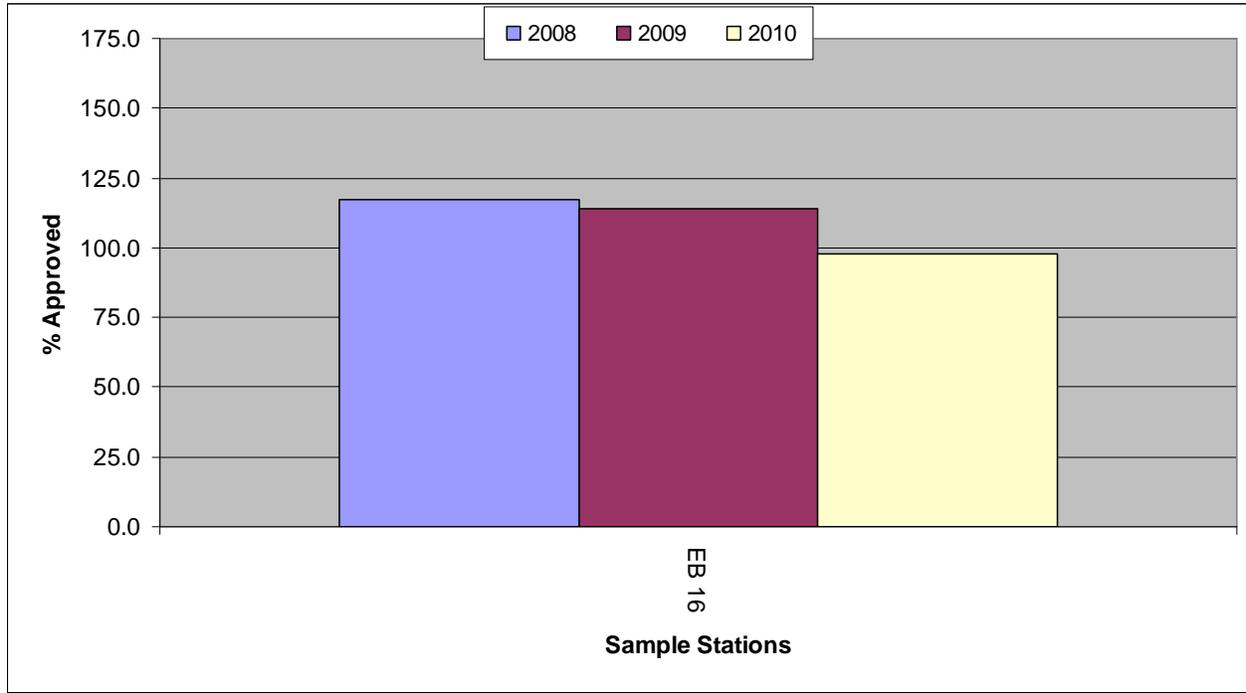
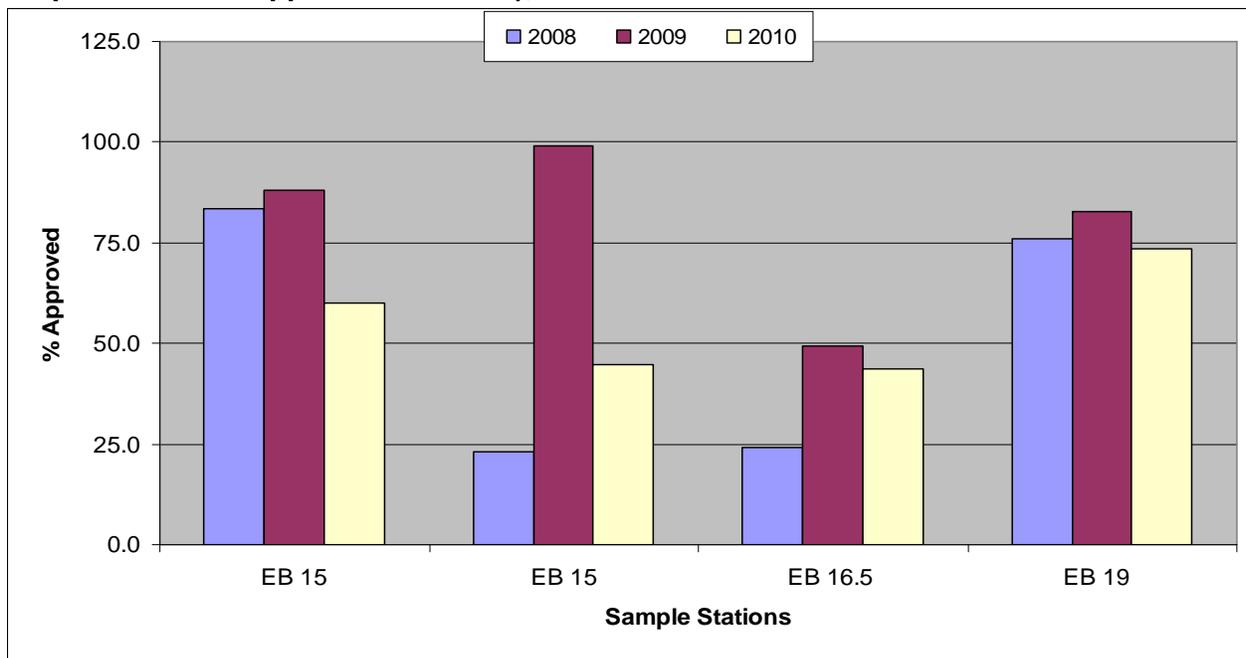


Figure 6. Area EB P90 Score Trends for Conditionally Approved Stations (expressed as the percent of the approved standard), 2008-2010





Upward Classification Changes

Station EB 22 water quality has improved after signage by the Town of Brooklin warned of a threat to water quality from domestic dog feces pollution on the shore. Station EB 22 now has a P90 score of 8.0, with an approved standard of 31. A reclassification proposal to up-grade EB 22 from restricted to approved was presented in the 2009 report. After the review and approval of the EB 2009 Annual report, the recommendation to reclassify the Naskeag Harbor area (Area No. 39A (part A2), Naskeag Harbor, Brooklin) was accepted and the classification change took place on January 5, 2011.

Shoreline Survey Activity

June 30, 2010; Eaton Brook, Brooklin was sampled to determine if there was a bacterial impact on the brook from a nearby seasonal house. The bacterial score was 22 FC/100ml and a flow of 100 gallons per minute.

July 28, 2010; Eaton Brook, Brooklin was sampled to determine if there was a bacterial impact on the brook from a nearby seasonal house. The bacterial score was 14 FC/100ml and a flow of 224 gallons per minute. The brook will be sampled when the house is occupied.

October 14, 2010; Deer Isle bridge (Brooksville); a recreational mussel harvester reported paint on mussels below the Deer Island end of the Eggemoggin Reach bridge. The bridge was being painted by a contractor at the time. The harvester reported a green froth along the low tide line for approximately 20 feet and there was a strong smell of paint. It was reported to a Department of Transportation compliance inspector (Annis) and the area below the bridge was inspected for paint and no evidence of paint was seen at the low or high tide line. The contractor did not admit to any paint spill. Because the paint being used is zinc based (not lead), not toxic as a heavy metal and the tide had washed any evidence of the paint away, no closure was promulgated.

October 27, 2010; a drive through survey of the growing area was done. No significant changes were noted.

November 16, 2010; Orcutt Harbor, Brooksville was surveyed looking for a source of the declining water quality at EB 4. No source was found. The plan is to return when scores have been historically elevated (July-October).

Aquaculture/Wet Storage Activity

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

Recommendation for Future Work

1. Sample EB 4, 15.8, 16 and 16.5 after rainfall to increase database under rainfall conditions.
2. Sample streams in area for 2011 triennial report.
3. Review status of the identified pollution sources (marinas, licensed discharges) in the growing area.



References

Maine Department of Environmental Protection Licensed Overboard Discharge data base.



Appendix A. Annual Review of Conditional Area Management Plan Area No. 39-A (Part C)

Area No. 39-A (Part C), Center Harbor (Brooklin)

Scope

A portion of Growing Area EB, Center Harbor, Brooklin, is conditionally approved based on the presence or absence of 10 or more boats with heads, which may discharge into Center Harbor. The area is monitored by station EB 19. The area was classified conditionally approved in December 2004. 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 November 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 October or before May. The water quality met approved standards from November 1 through April 30.

Compliance with management plan

In 2010, the seasonal conditional area closed on May 1 and reopened on November 1. The area was visited by the DMR on October 27, 2010 and there were fewer than 10 boats with heads in the area. It was also visited on April 29, 2010 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 Approved growing area criteria

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

Table 1. Center Harbor Marina Area, Open Status

Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EB019.00	CA	30	29	3.5	0.63	1700	22.8	31	166

Field inspection of critical pollution sources

The potential for pollution in Center Harbor comes from boats with heads that are moored in the harbor. Visual observations are made of the area at the end of October 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 station that monitors Center Harbor (EB 19) was collected monthly in the open status for a total of six in 2010 (Table 2).

Table 2. Stations EB 19, 2010 Data

Station	Date	Strategy	Class	Status	Adversity	Salinity	Wind	ColScore
EB019.00	12/1/10	R	CA	O	O	31	S	<2
EB019.00	11/1/10	R	CA	O	O	30	NW	>1600
EB019.00	4/5/10	R	CA	O	O	24	SW	<2
EB019.00	3/16/10	R	CA	O	O	32	CL	<2
EB019.00	2/1/10	R	CA	O	O	31	NW	2
EB019.00	1/4/10	R	CA	O	S	30	NW	<2

Summary

It is the DMR policy to observe marina areas before closing and reopening to ensure compliance with the management plan. Center Harbor was observed at the end of October for the reopening on November 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 (11/1) and closure date (4/30) 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 Area No. 39-A (Part B)

Area No. 39-A (Part B), Benjamin River (Sedgwick-Brooklin)

Scope

A portion of Growing Area EB, Benjamin River, Sedgwick-Brooklin, is conditionally approved based on the presence or absence of 10 or more boats with heads, which may discharge into the Benjamin River. The area is monitored by stations EB 15, 15.8 and 16.5. The area was classified conditionally approved in November 1993. 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 November 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 October or before May. The water quality met approved standards from November 1 through April 30.

Compliance with management plan

In 2010, the seasonal conditional area closed on May 1 and reopened on November 1. The area was visited by the DMR on October 27, 2010 and there were fewer than 10 boats with heads in the area. It was also visited on April 29, 2010 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 Approved growing area criteria

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

Table 1. Benjamin River Marina Area, Open Status

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EB015.00	CA	30	30	3	0.61	1160	18.6	31	163
EB015.80	new	20	20	2.6	0.55	558	13.9	31	163
EB016.50	new	19	19	3.1	0.48	68	13.1	30	163

Field inspection of critical pollution sources

The potential for pollution in the Benjamin River comes from boats with heads that are moored in the harbor. Visual observations are made of the area at the end of October 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 the Benjamin River (EB 15, 15.8 and 16.5) were collected monthly in the open status for a total of six (6) samples in 2010 (Table 2).

Table 2. Stations EB 15, 15.8 and 16.5, 2010 Data

Station	Date	Strategy	Class	Status	Adversity	Salinity	Wind	ColScore
EB015.00	2/1/10	R	CA	O	O	31	NW	<2
EB015.00	3/16/10	R	CA	O	O	31	N	<2
EB015.00	4/5/10	R	CA	O	O	25	SW	2
EB015.00	11/1/10	R	CA	O	O	30	NW	<2
EB015.00	12/1/10	R	CA	O	O	22	S	3.6
EB015.00	1/4/10	R	CA	O	S	31	NW	<2
EB015.80	4/27/10	R	CA	O	O	30	NE	<2
EB015.80	1/4/10	R	CA	O	S	31	NW	2
EB015.80	3/16/10	R	CA	O	O	31	N	<2
EB015.80	11/1/10	R	CA	O	O	30	NW	<2
EB015.80	12/8/10	R	CA	O	P	30	CL	5.4
EB015.80	2/1/10	R	CA	O	O	31	NW	<2
EB016.50	12/1/10	R	CA	O	O	30	S	2
EB016.50	1/4/10	R	CA	O	S	26	NW	<2
EB016.50	2/1/10	R	CA	O	O	20	NW	2
EB016.50	3/16/10	R	CA	O	O	31	N	<2
EB016.50	4/5/10	R	CA	O	O	22	SW	68
EB016.50	11/1/10	R	CA	O	O	30	NW	<2

Summary

It is the DMR policy to observe marina areas before closing and reopening to ensure compliance with the management plan. The Benjamin River was observed at the end of October for the reopening on November 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 (11/1) and closure date (4/30) 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 C. Annual Review of Conditional Area Management Plan Area No. 37 (Part B)

Area No. 37 (Part B), Orcutt Harbor (Brooksville)

Scope

A portion of Growing Area EB, Orcutt Harbor, Brooksville, is conditionally approved based on intermittent seasonal bacteria pollution impacting the area. The area is monitored by station EB 4. Boundary stations are EB 3 and 4.5. The area was classified conditionally approved in January 4, 2011 after the P90 score exceeded the approved standard at EB 4 for the most recent 30 samples. DMR evaluated the data and made the assessment that the harbor met approved standards from November 1 through May 31.

Compliance with management plan

There is no sample compliance history at the time of this review. Sample stations EB 3 and 4 were sampled January 3, 2011 and both stations are now on a monthly SRS conditional sample run. The seasonal closure is enforced by DMR Marine Patrol.

Adequacy of reporting and cooperation of involved persons

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

Compliance with Approved growing area criteria

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

Table 1. Orcutt Harbor Area, Open Status

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
EB003.00	A	30	11	2.8	0.17	12	4.8	41	239	5/15/2000
EB004.00	CA	30	11	2.6	0.14	9.1	4	41	239	5/15/2000
EB004.50	A	15	11	3.1	0.41	52	10.8	35	191	5/23/2005

Field inspection of critical pollution sources

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

Water sampling compliance history

Due to the conditional management plan being based on the absence of 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 Orcutt Harbor (EB 3, 4 and 4.5) were collected in the proposed open status period for a total of three (3) samples in 2010 (Table 2).

Table 2. Stations EB 3, 4 and 4.5, 2010 Data for the Proposed Open Status Period

Station	Date	Strategy	Class	Status	Tide	Temp	Adv	Sal	Wind	ColScore
EB003.00	4/6/10	R	A	O	E	5	O	25	S	7.3
EB003.00	4/27/10	R	A	O	HF	7	O	30	N	4
EB003.00	10/27/10	R	A	O	HE	12	P	28	SW	5.4
EB004.00	4/6/10	R	A	O	E	6	O	22	S	2
EB004.00	4/27/10	R	A	O	HF	8	O	30	N	<2
EB004.00	10/27/10	R	A	O	HE	12	P	16	SW	940
EB004.50	4/6/10	R	A	O	E	5	O	22	S	<2
EB004.50	4/27/10	R	A	O	HF	7	O	30	N	52
EB004.50	10/27/10	R	A	O	HE	12	P	30	SW	8

Table 3 shows the water quality during the open period at station EB 4. With the exception of two dates (May 23, 2005 and April 27, 2010) all the testing scores are less than 14 FC/100 ml. There is no correlation between rainfall and the elevated scores.

Table 3. Station EB 4, Pivot Table for Last 30 Samples from Proposed Open Status Period

24 Rain Total	48 Rain Total	Date	Jan	Feb	Mar	Apr	May	Nov
0	0	2/21/01		2.9				
		4/3/01				2.9		
		2/20/02		2.9				
		5/13/02					2.9	
		5/19/03					2.9	
		2/18/04		2.9				
		3/30/04			2.9			
		1/3/06	3.6					
		3/28/06			2.9			
		1/30/07	2					
		4/10/07				1.9		
		5/22/07					1.9	
		3/24/09			1.9			
		4/6/10				7.3		
		4/27/10				52		
	0.04	5/30/07					2	
	0.2	5/15/06					3.6	



	0.4	4/14/08				1.9		
	0.6	5/21/01					3.6	
	0.8	5/6/08					1.9	
	3.9	11/17/09						1.9
0.2	0.2	2/11/08		1.9				
	0.9	5/12/09					1.9	
0.36	0.36	5/6/09					1.9	
0.41	0.41	3/8/05			3			
0.5	0.5	4/23/03				2.9		
0.64	1.4	4/1/03				2.9		
0.82	1.02	11/30/05						3.6
0.86	0.96	5/15/00					2.9	
0.87	0.87	4/2/02				2.9		
1.12	1.12	5/17/04					3.6	
1.13	1.13	5/4/04					2.9	
1.19	1.19	11/27/07						12
1.46	1.46	5/23/05					15	

Table 4 shows the seasonality of the pollution impact on EB 4. July is consistently the month with scores that exceed the approved standard. The single elevated score on October 14, 2008 supports extending the closed status period to October 31.

Table 4. Rainfall-Seasonal Analysis of EB 4

Date	Tide	Total	Month											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
7/13/04	E	0								43				
8/25/04	LF	0									3.6			
10/19/04	F	0											2.9	
3/8/05	E	0.41			2.9									
5/23/05	HE	1.46						9.1						
7/12/05	H	0.05								75				
8/29/05	E	0.5									2.9			
10/24/05	LF	1											2.9	
11/30/05	E	1.02												3.6
1/3/06	F	0	2.9											
3/28/06	E	0			2.9									
5/15/06	F	0.2						2.9						
7/11/06	HF	0.65								75				
8/28/06	F	0.32									8			
10/17/06	E	0											1.9	
1/30/07	E	0	2											
4/10/07	L	0					1.9							



5/30/07	H	0.04				2						
7/31/07	F	0						13				
9/25/07	E	0								1.9		
11/27/07	F	1.19										2
2/11/08	F	0.2		1.9								
4/14/08	E	0.4				1.9						
6/10/08	E	0						6				
7/23/08	F	0.4							38			
10/14/08	H	0.14										24
10/27/08	HE	0.81										1.9
3/24/09	H	0			1.9							
5/12/09	F	0.9					1.9					
7/8/09	HF	0.68							560			
8/11/09	F	0.16								1.9		
9/22/09	F	0									1.9	
11/17/09	HE	3.9										1.9
4/6/10	E	0				2						
4/27/10	HF	0				1.9						
6/8/10	E	1.57						1.9				
7/13/10	HF	1.37							134			
7/28/10	H	0							6			

Summary

It is DMR policy to review water quality prior to reopening a seasonal area to ensure compliance with approved standards. An historical water sampling review supports the present classification. Water quality was reviewed December 20, 2010 and met approved criteria for the proposed open status period of November 1 to June 30. The area will continue to be sampled on a monthly basis to increase the number of data points. No changes are recommended 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.