



GROWING AREA WJ
Freeport, Brunswick and Harpswell
ANNUAL REVIEW for 2009
Report Date: February 2, 2011
Amy M. Fitzpatrick

APPROVAL

Bureau Director:

_____ Date: _____
Print name signature



TABLE OF CONTENTS

Executive Summary5
 Growing Area Description6
 Current Classification(s).....7
 Activity during Review Period8
 Current Management Plan(s) for Conditional Area(s).....9
 Current Annual Review of Management Plan(s).....9
 Water Quality Review and Discussion10
 Upward Classification Requests20
 Shoreline Survey Activity26
 Aquaculture/Wet Storage Activity26
 Classification Changes Required.....27
 Summary.....27
 Recommendation for Future Work.....27
 Appendix A. Annual Review of Management Plan- Harraseeket River Wastewater Treatment Plant Conditional Area28
 Appendix B. Annual Review of Management Plan- Harraseeket River Marina Seasonal Area, Area No. 15.....31
 Appendix C. Annual Review of Management Plan- Maquoit Bay Seasonal Area, Area No. 16 34
 Appendix D. Annual Review of Management Plan- Merepoint Neck, Paul’s Marina, Seasonal Conditional Area, Area No. 1636
 Appendix E. Annual Review of Management Plan- Basin Cove Seasonal Area38
 Appendix F. Annual Review of Management Plan- Lower Basin Cove Seasonal Marina Area.40
 Appendix G. Key to Water Quality Table Headers.....42
 Appendix H. Growing Area WJ 2009 Data.....43

LIST OF TABLES

Table 1. Geomean and P90 Scores, Growing Area WJ 2009 11
 Table 2. Harraseeket River WWTP Conditional Area, Open Status based on WWTP, 2009 12
 Table 3. Harraseeket River WWTP and Marina Conditional Area, Open Status (December 1- April 30), 2009..... 13
 Table 4. Maquoit Bay (Brunswick) Conditional Area, Open Status (April 1 – August 30), 2009 13
 Table 5. Merepoint (Brunswick) Marina Conditional Area, Open Status (November 1 – April 14), 2009 13
 Table 6. Upper Basin Cove, Seasonal Conditional Area, Open Status (December 1 – April 30), 2009 14
 Table 7. Lower Basin Cove, Marina Seasonal Conditional Area, Open Status (November 1 – April 14), 2009..... 14
 Table 8. WJ Samples Collected in 2009 15
 Table 9. Ash Point Cove, Harpswell, Geomen and P90 Scores, 2006-200921
 Table 10. Station WJ 67, Seasonal and Rainfall Assessment, 2004- 200922
 Table 11. Station WJ 68, Seasonal and Rainfall Assessment, 2004- 200923

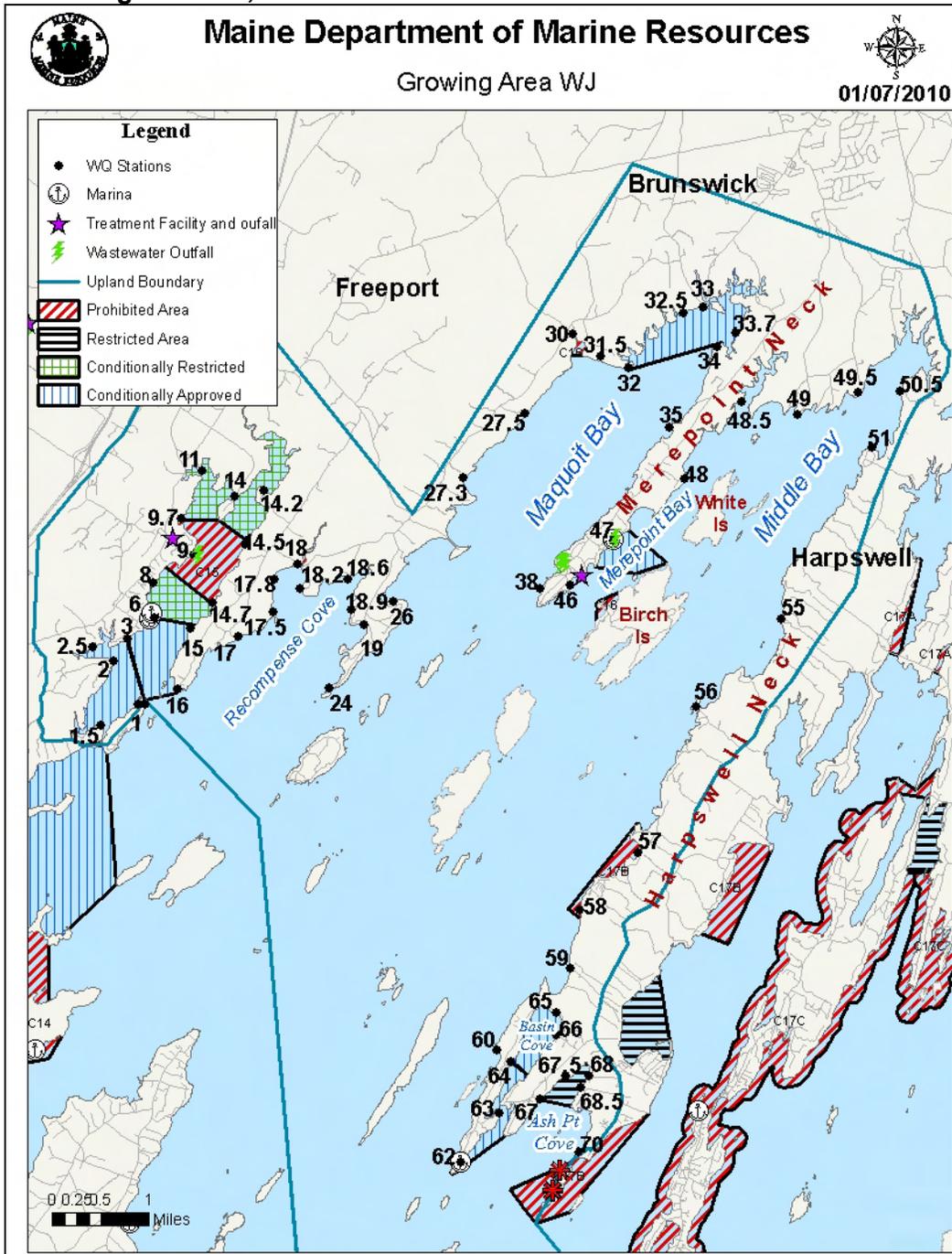


LIST OF FIGURES

Figure 1. Growing Area WJ, with Active Water Stations.....	4
Figure 2. Area WJ P90 Calculations for Approved Stations WJ 16 – WJ 34 (expressed as the percent of the approved standard), 2007-2009.....	18
Figure 3. Area WJ P90 Calculations for Approved Stations WJ 35 – WJ 70 (expressed as the percent of the approved standard), 2007-2009.....	19
Figure 4. Area WJ P90 Calculations for Conditionally Approved Stations (expressed as the percent of the approved standard), Open Status, 2007-2009.....	19
Figure 5. Area WJ P90 Calculations for Conditionally Restricted Stations (expressed as the percent of the approved standard), Open Status, 2007-2009.....	20



Figure 1. Growing Area WJ, with Active Water Stations**



** The wastewater facility and outfall icons located on Maquoit and Merepoint Bays is the Merepoint Colony subsurface waste disposal system which is licensed by the Maine DEP. It is not an outfall and there is no wastewater released into Maquoit or Middle Bays.



Executive Summary

This is an annual report for growing area WJ written in compliance with the requirements of the 2007 Model Ordinance and the National Shellfish Sanitation Program. The next triennial report is due in 2010; the next sanitary survey report is due in 2019.

Growing Area WJ includes the area between Staples Point, Freeport and Potts Point at the end of South Harpswell Neck, Harpswell. The following station changes occurred in 2009: in order to better monitor water quality in Maquoit Bay, sample station WJ 32.5 was reactivated and station WJ 33.7 was created. Stations WJ 2 and 15 in the Harraseeket River were reactivated to monitor water quality in Staples Cove and the boundary between the conditionally approved and conditionally restricted areas and pasture runoff on the eastern shore, respectively. Station WJ 1.5 was created to monitor water quality in Staples Cove. Station WJ 2.5 was created to monitor pasture runoff in Spar Cove in the Harraseeket River. Stations WJ 9.7, 14.5 and 14.7 were created in the Harraseeket River to monitor the boundary of the prohibited area for the wastewater treatment plant. Stations WJ 67.5 and 68.5 were created in Ash Point Cove, Harpswell to better monitor the head of the cove and to possibly serve as boundary stations for the prohibited area. Station WJ 9.5 was deactivated because it was in the prohibited area for the wastewater treatment plant in the Harraseeket River and not necessary. Station WJ 61 was deactivated because there is no resource in the area. No OBDs were removed in area WJ in 2009.

In January 2009, there were amendments to the Area No. 15 legal notice due to changes in the management plan for the Freeport Sewer District manned hours at the plant. The legal notice was amended on August 21, 2009 due to the installation of a standby generator capable of running the entire wastewater treatment plant. On June 19, 2009 Recompense Cove and Little River in Freeport were reclassified from approved to prohibited due to runoff from pastures in the area; on November 14, 2009 it was reclassified from prohibited to approved (Recompense Cove) and restricted (Little River) due to the removal of the pastured animals in the area and the implementations of best management practices at the farm. On December 4, 2009, the lower portion of Harpswell Cove (Brunswick) was reclassified from restricted to approved due to the replacement of a malfunctioning septic system and water quality meeting the approved standard; on the same date the upper portion of Ash Point Cove (Harpswell) was reclassified from prohibited to restricted due to an enforced "do not occupy" order on a property with an identified septic system malfunction and water quality meeting the restricted standard, and the lower portion of Ash Point Cove was reclassified from restricted to approved due to water quality meeting the approved standard and a lack of identified pollution sources. On December 29, 2009, Harpswell Harbor was reclassified from prohibited to restricted due to water quality meeting the restricted standard and the prohibited area was reduced in Harpswell Sound due to water quality meeting the approved standard in a portion of the Harbor.



Growing Area Description

Growing Area WJ includes the shores, flats and waters of the towns of Freeport, Brunswick and Harpswell between Staples Point, at the mouth of the Harraseeket River, Freeport to Potts Point at the end of South Harpswell Neck, Harpswell (Figure 1). A detailed description of the upland boundary can be found in the 2007 Sanitary Survey and in the central files.

The towns of Freeport, Brunswick and Harpswell are all located in Cumberland County. The 2000 census indicated the town of Freeport had a year-round population of 1,813. The daily population change due to commuting is +199%. Freeport is the number one tourist destination in Maine (both natives and out-of-state visitors) with an average tourist population of 3.5 million annually (City-Data.com 2008). Primary sources of employment in Freeport are accommodation and food service, retail, health care and educational services. The town of Brunswick has a year-round population of 21,172 as reported by the 2000 census. The daytime population change due to commuting is +37.2%. The most common sources of employment are management, administrative, office support, retail, post secondary educators and educational services. The 2000 census reports that the town of Harpswell has a year-round population of 5,239. There is no daytime increase in population due to commuting. The most common sources of employment are fishing, forestry, office and administrative support, carpentry and bookkeeping. Harpswell's population dramatically increases in the summer months as reported in the town's comprehensive plan. Combining year-round (50% of residences) and seasonal populations (33% of residences) shows that Harpswell grows to a community of 8,000 during the summer season with a peak population of 10,000 during the summer holiday weekends. Coastal portions of the towns in area WJ are situated on the Harraseeket River, Recompense Cove, Brickyard Cove, Goose Cove, Maquoit Bay and Middle Bay.

The shoreline is typical of this part of Maine, with rockbound points and shoreline separating shallow coves and a harbor (Harraseeket River). The muddy and gravel bottoms in these coves frequently provide excellent habitat for soft shell clams and mussels. Within Area WJ, the coves which support significant populations of soft shell clams are the Harraseeket River, Recompense Cove, Brickyard Cove, Goose Cove, Maquoit Bay, Middle Bay, Middle Bay Cove, Wilson Cove, Curtis Cove and Peter Cove. Fresh water influence comes from upland streams; Concord Gully Brook, Frost Gully Brook, Kelsey Brook, Little River, Bunganuc Brook and Miller Creek, and other small seasonal brooks and streams. The Harraseeket River is not a river but an embayment.

Land use in the study area is dominated by year-round residential properties. Sections of dense shoreline development are punctuated by large tracts of undeveloped land. Some seasonal properties remain but many of the seasonal properties are being converted to year-round use throughout the area. The heaviest development is found in Freeport along the shores of the Harraseeket River, Frost Gully Brook and Concord Gully Brook. More residential neighborhoods are found at the head of Maquoit Bay and Middle Bay. The rest of the area is pastoral farmland with few residential homes, farms and conservation land parcels.

All the waters within growing area WJ are part of Casco Bay. Maquoit Bay, Brunswick and Frost Gully/Concord Gully, Freeport are listed on the EPA Impaired Watershed list for bacteria.



Frost Gully and Concord Gully, Freeport drains into the Harraseeket River and subsequently, Casco Bay. Frost and Concord have been placed on Maine's 303(d) list for impairments due to bacteria, primarily due to unspecified sources of runoff.

The major pollution sources in the growing area are the Freeport Sanitary District Wastewater Treatment Plant, four large farms (dairy, beef, alpaca), eight marinas and four licensed overboard discharges. There are seven limited purpose aquaculture (LPA) sites and two shellfish leases in growing area WJ.

Current Classification(s)

At the end of the 2009 review year, shellfish growing area WJ currently had areas classified as:

Approved (31 stations); WJ 16, 17, 17.5, 17.8, 18, 18.2, 18.6, 18.9, 19, 24, 26, 27.3, 27.5, 31.5, 32, 34, 35, 38, 46, 48, 48.5, 49, 49.5, 50.5, 51, 55, 56, 59, 60, 67 and 70.

Conditionally Approved (16 stations; one boundary station is shared by the two conditional areas in Basin Cove, Harpswell- WJ 64; one boundary station is shared by the two conditional areas in Harraseeket River, Freeport- WJ 3)

Area No. 15, Section C: Harraseeket River, Freeport (WJ 1, 1.5, 2, 2.5, and 3 (boundary with Marina area)) (Due to presence of WWTP plant)

Area No. 15, Section B: Harraseeket River, Freeport (WJ 3 (boundary with year round area), 6, and 15) (Due to presence of WWTP plant and Marina Season)

Area No. 16, Maquoit Bay, Brunswick (WJ 32.5, 33 and 33.7) (Seasonal Variation in Water Quality)

Area No. 16, Merepoint, Brunswick (WJ 47) (Marina Season)

Area No. 17-B, Basin Cove, Harpswell (WJ 64, 65 and 66) (Seasonal Variation in Water Quality)

Area No. 17-B, Lower Basin Cove, Harpswell (WJ 62, 63 and 64) (Marina Season)

Conditionally Restricted (8 stations)

Area No. 15, Section A1: Harraseeket River, Freeport (WJ 9.7, 11, 14, 14.2, and 14.5) (Non-point source pollution and WWTP condition)

Area No. 15, Section A3 Harraseeket River, Freeport (WJ 6 (boundary with CA area), 8, and 14.7) (Non-point source pollution, WWTP condition, and Marina)

Restricted (3 stations)

Area No. 17-B, Ash Point Cove, Harpswell (WJ 67.5, 68 and 68.5) (non-point sources of pollution)

Prohibited (4 stations)

Area No. 15, Harraseeket River, Freeport (WJ 9) (presence of WWTP outfall)



Area No. 16, Maquoit Bay, Brunswick (WJ 30) (OBD presence)
Area No. 17-B, Middle Bay, Harpswell (WJ 57 and 58) (Non-point source pollution; high fecal coliform scores in streams)

Please visit the DMR website to view legal notices:

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

Activity during Review Period

The following classification changes occurred during the review year:

December 29, 2009: Area No. 17-B, Harpswell Neck (Harpswell); amendment reclassified Harpswell Harbor from prohibited to restricted, due to water quality meeting the restricted standard and the completion of a water quality review for the area. This amendment also reduced the size of the prohibited area in Harpswell Sound, due to water quality meeting the approved standard.

December 4, 2009 - Area No. 17-A, Upper Harpswell Neck and Long Reach (Brunswick to Harpswell); amendment reclassified the lower portion of Harpswell Cove (Brunswick) from restricted to approved, due to the replacement of a malfunctioning septic system, and water quality returning to the approved standard. The upper portion of Harpswell Cove remains classified as restricted.

December 4, 2009: Area No. 17-B, Harpswell Neck (Harpswell); amendment reclassified upper Ash Point Cove (Harpswell) from "prohibited" to "restricted" due to water quality meeting the restricted standard and a "do not occupy" order on a house with an identified septic system malfunction, and the confirmation by the town Codes Enforcement officer that the property is no longer occupied. This amendment also reclassified lower Ash Point Cove (Harpswell) from "restricted" to "approved" due to water quality meeting the approved standard year round.

November 24, 2009 - Area No 15, Harraseeket River and Little River (Freeport); amendment reclassified Recompense Cove, Freeport, from prohibited to approved, due to the removal of grazing animals and manure piles from the pastureland surrounding the cove.

On August 21, 2009, Area No. 15, Harraseeket River and Little River (Freeport); this area was amended due to an amendment of the Freeport Sewer District Emergency Response Plan. The rule amendment removed the requirement for the Freeport Sewage Treatment Plant to be manned in order for harvesting to occur in the conditionally approved areas in the Harraseeket River, due to upgrades in auxiliary power and SCADA systems at the plant.

On June 19, 2009, Area No. 15, Harraseeket River and Little River (Freeport); amendment reclassified the Little River area and Recompense Cove in Freeport from approved to prohibited due to documented pollution from surrounding farms.



January 7, 2009 - Area No. 15, Harraseeket River and Little River (Freeport); amendment changed the harvest dates in the conditionally approved areas (B. and C.) to Monday through Friday 6am to 6pm except for the 2009 holiday days listed in Sections B. and C.

January 5, 2009 - Area No. 15, Harraseeket River and Little River (Freeport); amendment changed the harvest dates in the conditionally approved areas (B. and C.) to Monday through Friday 7am to 6pm except for the 2009 holiday days listed in Sections B. and C.

In addition to classification amendments, the following event was reported to DMR:

DMR received a call from the Freeport Sewer District on April 14, 2009 regarding a possible fuel spill at a local gas station that entered the stormwater system and there was concern that it would drain into the Harraseeket River. DMR contacted the DMR Spill Response Coordinator and the DEP. The DEP responder contacted DMR and related that the investigation revealed that a few gallons of gas came out of a fuel tank on the evening of April 13, 2009 and did go into a storm drain. It entered the stormwater system and was traced through 5-6 catch basins; there are a total of 10 catch basins before the outfall to the Harraseeket River. The DEP reports that the fuel evaporated before it reached the Harraseeket River. No closure was necessary.

Current Management Plan(s) for Conditional Area(s)

There are six conditionally managed areas in Growing Area WJ:

1. Harraseeket River, Freeport: based on WWTP: Stations WJ 1, 1.5, 2, 2.5, 3, 6, 8, 9.7, 11, 14, 14.2, 14.5, 14.7, and 15.
2. Harraseeket River, Freeport: Marina (closed status May 1 – November 30), Stations WJ 3, 6, 8, 14.7 and 15 (this area is also conditional of WWTP).
3. Maquoit Bay, Brunswick: seasonal variation in water quality (closed status September 1 – March 30), Stations WJ 32.5, 33 and 33.7.
4. Merepoint Neck, Brunswick: Marina (closed status April 15 – October 31), station WJ 47.
5. Upper Basin Cove, Harpswell; seasonal variation in water quality (closed status May 1 – November 30) (WJ 64, 65 and 66)
6. Lower Basin Cove, Harpswell; Marina (closed status April 15 – October 31) (WJ 62, 63 and 64)

Management plans for WJ conditional areas can be found in DMR's central files. The Harraseeket River WWTP management plan requires reporting by the Freeport Sewer District; this plan was last updated on December 31, 2009.

Current Annual Review of Management Plan(s)

Harraseeket River WWTP Conditionally Approved and Conditionally Restricted Areas
In 2009, there were no conditional area closures due to treatment plant malfunctions. A complete management plan review can be found in Appendix A.



Harraseeket River Seasonal Marina Conditionally Approved Area

In 2009, the seasonal marina conditionally approved area in the Harraseeket River, Freeport, closed on May 1 and reopened on December 1. The area was visited on November 16, 2009 when 12-15 boats were documented and re-visited on November 24, 2009 when 8 boats were documented, confirming that there were fewer than 10 boats with heads remaining in the water, and a review of the water quality showed that the area continued to meet approved standards for the open season. It was also visited on April 14, 2009 to confirm there were fewer than 10 boats with heads not yet in the water. A complete management plan review can be found in Appendix B.

Maquoit Bay Seasonal Conditionally Approved Area

In 2009, the seasonal conditional area opened on April 1 and closed on August 30. The seasonal water quality was reviewed prior to reopening and water quality at station WJ33 continued to meet approved standards for the open season. A complete management plan review can be found in Appendix C.

Merepoint Neck- Paul's Seasonal Marina Conditionally Approved Area

In 2009, the seasonal marina conditionally approved area at Merepoint Neck, Brunswick, closed on April 16 and reopened on November 1. The area was visited on November 2, 2009 to confirm there were fewer than 10 boats with heads remaining in the water, and a review of the water quality showed that the area continued to meet approved standards for the open season. It was also visited on April 15, 2009 to confirm there were fewer than 10 boats with heads not yet in the water. A complete management plan review can be found in Appendix D.

Basin Cove Seasonal Conditionally Approved Area

In 2009, the seasonal conditional area closed on May 1 and reopened on December 1. The seasonal water quality was reviewed prior to reopening on November 2, 2009 and water quality at Stations WJ 64, 65 and 66 continued to meet approved standards for the open season. A complete management plan review can be found in Appendix E.

Basin Cove Marina Conditionally Approved Area

In 2009, the Dolphin Marina conditional area, located on the eastern shore of Basin Point and lower portion of Basin Cove, opened on November 1 and Closed on April 15. The area was inspected on November 2, 2009 and documented 6 boats which confirmed that there were fewer than 10 boats with heads remaining in the water, and a review of water quality showed that the area continued to meet approved standards for the open season. The area was inspected prior to closing on April 8, 2009 when one boat was noted in the water. A complete management plan review can be found in Appendix F.

Water Quality Review and Discussion

Table 1 lists all active approved, restricted and prohibited stations in Growing Area WJ, with their respective Geomean and P90 calculations for 2009. Please refer to Appendix G 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 versus MF. The total number of data points used in the calculations is displayed in the Count column and includes both MPN and MF values. The number of data points analyzed by MF is displayed in the MFCNT column. This fluctuating standard will cease when all 30 data points have been analyzed by the MF method. A more detailed explanation of this transition can be found in central files.

All approved and restricted stations met their NSSP classification standard in 2009. Boundary stations with approved areas must meet the approved classification; in 2009, all boundary stations met the approved standard. Station with less than 30 data points in their dataset are considered “New” and were not evaluated against the classification standard of the area in which they are located.

Table 1. Geomean and P90 Scores, Growing Area WJ 2009

Station	Class	Count	MFCnt	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ009.00	P	30	30	4.2	0.63	540	27.3	31	163	8/14/2007
WJ016.00	A	30	24	3	0.34	43	8.3	33	184	11/29/2005
WJ017.00	A	29	29	3.5	0.48	44	14.6	31	162	5/1/2007
WJ017.50	A	29	29	3.7	0.6	840	22.5	31	162	5/1/2007
WJ017.80	A	27	27	5.5	0.54	280	28.1	31	163	5/1/2007
WJ018.00	A	30	30	3.5	0.47	120	14.5	31	163	4/3/2007
WJ018.20	A	29	29	3.5	0.51	280	16.2	31	162	4/3/2007
WJ018.60	A	27	27	3.8	0.54	126	19.3	31	163	5/1/2007
WJ018.90	A	29	29	3.1	0.5	140	13.9	31	162	5/1/2007
WJ019.00	A	30	30	3	0.4	134	10	31	163	4/3/2007
WJ024.00	A	30	20	3.4	0.49	240	14.7	36	199	7/25/2005
WJ026.00	A	30	20	3.1	0.38	150	9.6	36	199	7/25/2005
WJ027.30	A	28	22	2.7	0.32	40	7	34	185	4/11/2006
WJ027.50	A	30	22	3.5	0.56	240	18.7	35	191	8/30/2005
WJ030.00	P	30	22	8.2	0.68	1200	62.2	35	191	8/30/2005
WJ031.50	A	30	22	3.6	0.53	460	17.5	35	191	8/30/2005
WJ032.00	A	30	26	3	0.34	23	8.4	32	176	6/21/2006
WJ034.00	A	30	25	3.4	0.32	16	9	33	180	5/10/2006
WJ035.00	A	30	22	2.8	0.22	10	5.5	35	191	11/8/2005
WJ038.00	A	30	22	2.2	0.12	5.1	3.2	35	191	10/4/2005
WJ046.00	A	30	20	2.2	0.1	4	3.1	36	199	1/4/2005
WJ048.00	A	30	20	2.8	0.29	43	6.6	36	199	1/4/2005
WJ048.50	A	24	22	2.8	0.34	22	7.9	32	171	6/21/2006
WJ049.00	A	30	21	4.2	0.6	240	25.2	35	195	6/7/2005
WJ049.50	A	30	20	3.3	0.42	240	11.7	36	199	5/10/2005



Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ050.50	A	24	20	2.2	0.17	9.1	3.8	33	180	4/11/2006
WJ051.00	A	30	20	3.9	0.39	93	12.6	36	199	6/29/2005
WJ055.00	A	30	21	3.2	0.52	1200	14.9	35	195	8/4/2005
WJ056.00	A	30	21	3.9	0.48	240	16.1	35	195	8/4/2005
WJ057.00	P	30	20	3.3	0.5	460	15.1	36	199	6/29/2005
WJ058.00	P	30	20	7.8	0.72	240	67.7	36	199	6/29/2005
WJ059.00	A	30	20	3.9	0.58	440	22.1	36	199	6/29/2005
WJ060.00	A	30	20	2.7	0.28	32	6.4	36	199	6/29/2005
WJ062.00	CA – Boundary	30	30	3.5	0.47	140	14.3	31	163	1/10/2007
WJ067.00	A	30	30	2.9	0.33	40	8	31	163	9/18/2006
WJ067.50	R	5	5	1.9	0.01	2	2	31	163	9/30/2009
WJ068.00	R	30	30	4.7	0.57	146	25.2	31	163	9/18/2006
WJ068.50	R	5	5	6.1	0.5	24	28.1	31	163	9/30/2009
WJ070.00	A	30	27	2.7	0.31	23	6.9	32	173	4/11/2006

In the Harraseeket River there are conditionally approved areas and conditionally restricted areas. The entire river is conditional on the proper functioning of the wastewater treatment plant (WWTP); a portion of the river is also conditional on the presence of a Marina, and has a seasonal open and closed status. All stations located in the WWTP conditionally approved area, but outside the marina area, met approved standards when the river was in the open status; all station located in the WWTP conditionally restricted area, but outside of the marina area, met restricted standards when in the open status (Table 2). Stations WJ 1.5, 2, 2.5, 9.7, and 14.5, are either new stations created in 2009 or reactivated stations and do not have 30 data points; therefore they were not evaluated against a classification standard.

Table 2. Harraseeket River WWTP Conditional Area, Open Status based on WWTP, 2009

Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ001.00	CA	30	30	2.9	0.32	30	7.5	31	163	7/24/2007
WJ001.50	CA	9	9	4.2	0.35	16	12.4	31	163	4/14/2009
WJ002.00	CA	9	9	2.4	0.22	8	4.7	31	163	4/14/2009
WJ002.50	CA	8	8	4.8	0.56	76	26.8	31	163	4/14/2009
WJ003.00	CA- boundary	30	16	3.3	0.35	93	9.4	38	216	4/23/2003
WJ009.70	CR	9	9	3.2	0.39	22	10.8	31	163	4/14/2009
WJ011.00	CR	30	30	4.3	0.53	82	20.9	31	163	7/24/2007
WJ014.00	CR	30	30	3.6	0.47	92	14.6	31	163	6/10/2007
WJ014.20	CR	30	30	4.3	0.54	106	21.9	31	163	3/5/2007
WJ014.50	CR	9	9	4.7	0.55	92	25.2	31	163	4/14/2009



A portion of the lower Harraseeket river is classified as conditionally approved (WJ 3 and 15) and conditionally restricted (WJ 6, 8 and 14.7) based on the operations of the Freeport WWTP plant and on a marina season, with a closed status from May 1st through November 30th. These conditionally approved and conditionally restricted stations met the approved and restricted standards, respectively, in the open status (Table 3). Station WJ 3 is located on the boundary of the Marina area and the year-round portion of the river. This station meets the approved standards using both the year-round data set in the open status (based on WWTP), and during the marina open season. Stations WJ 14.7 and 15 are new stations created in 2009 or reactivated stations and do not have 30 data points; therefore they were not evaluated against a classification standard.

Table 3. Harraseeket River WWTP and Marina Conditional Area, Open Status (December 1- April 30), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ003.00	CA	30	16	3.3	0.35	93	9.4	38	216	4/23/2003
WJ006.00	CR	30	15	4.1	0.44	43	15.4	38	221	4/23/2003
WJ008.00	CR	30	16	2.7	0.26	43	6	38	216	4/17/2002
WJ014.70	CR - new	2	2	1.9	0.01	2	2	31	163	4/14/2009
WJ015.00	CA - new	12	2	3.5	0.29	23	8.6	45	270	4/10/1995

Maquoit Bay, Brunswick has a seasonal conditionally approved area which is in the open status from April 1 through August 31. The area is monitored by station WJ 33 and new station WJ 32.5 and 33.7. In 2009, station WJ 33 met the approved standard during the open status (Table 4). Station WJ 32.5 and 33.7 do not have 30 data points in their dataset; therefore they were not evaluated against a classification standard.

Table 4. Maquoit Bay (Brunswick) Conditional Area, Open Status (April 1 – August 30), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ032.50	CA	7	2	5.3	0.36	15	16.2	42	252	5/10/2006
WJ033.00	CA	30	15	5.4	0.55	460	27.9	38	221	6/7/2004
WJ033.70	CA	1	1	13		13		31	163	8/17/2009

The marina conditionally approved area on the eastern shore of Merepoint Neck at Paul's Marina is monitored by sample station WJ 47. The conditionally approved area is in the open status from November 1 through April 14. In 2009, the area met approved standards in the open status (Table 5).

Table 5. Merepoint (Brunswick) Marina Conditional Area, Open Status (November 1 – April 14), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ047.00	CA	30	20	2.8	0.35	58	8.1	36	199	12/6/2004



The upper portion of Basin Cove, Harpswell is classified conditionally approved with an open season of December 1 through April 30. The area is monitored by stations WJ64, 65 and 66. All three stations meet approved standards for the open period (Table 6).

Table 6. Upper Basin Cove, Seasonal Conditional Area, Open Status (December 1 – April 30), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ064.00	CA	30	16	3.2	0.39	200	10.2	38	216	4/16/2003
WJ065.00	CA	30	16	3	0.35	43	8.6	38	216	4/16/2003
WJ066.00	CA	30	16	3.3	0.35	43	9.8	38	216	4/16/2003

The lower portion of Basin Cove and the eastern shore of Basin Point (Harpswell) is classified conditionally approved due to the presence of more than 10 boats with heads at Dolphin Marina. The area is monitored by stations WJ62 and 63, with WJ 64 serving as a boundary station between the upper and lower conditionally approved areas. The open season is from November 1 through April 14. Stations WJ62, 63 and 64 met approved standards during the open status (Table 7).

Table 7. Lower Basin Cove, Marina Seasonal Conditional Area, Open Status (November 1 – April 14), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ062.00	CA	30	15	2.9	0.27	23	6.6	38	221	1/7/2004
WJ063.00	CA	30	15	2.9	0.28	43	6.9	38	221	1/7/2004
WJ064.00	CA	30	15	3.2	0.37	200	9.8	38	221	11/19/2003

All approved, restricted and prohibited stations that were active at the beginning of 2009 were sampled at least 6 times following the systematic random sampling (SRS) schedule (Table 8) and Appendix H). At many stations, additional samples were collected under adverse conditions and some stations had additional sampling effort in the open status (extra samples). The classification (noted as Class) noted in Table 8 reflect classification at time of sample collection. The conditionally approved and conditionally restricted stations in the Harraseeket River were sampled monthly in the open status with the exception of WJ 14.2, which was only sampled 10 times. WJ 14.2 was scheduled for SRS sampling on January 6, February 5 and March 3, 2009 but each time the station could not be collected due to the station being covered with ice. The samples were re-scheduled for make up collection on January 13, February 11, February 25 and March 19 but could not be collected due to the area being covered in ice and on March 19 it was missed due to tide. Maquoit Bay is in the open status for five months and was sampled monthly in the open status. The Paul's Marina (Merepoint) seasonal area (station WJ 47) was sampled monthly in the open status. The Upper and Lower Basin Cove seasonal conditional areas were sampled monthly in the open status.



Table 8. WJ Samples Collected in 2009

Station	Class	Extra		Adverse		Random		Grand Total	Notes
		Closed	Open	Closed	Open	Closed	Open		
WJ001.00	CA						12	12	
WJ001.50	CA						9	9	New station April 2009
WJ002.00	CA						9	9	Reactivated in April 2009
WJ002.50	CA						9	9	New station April 2009
WJ003.00	CA					7	5	12	
WJ006.00	CR					7	5	12	
WJ008.00	CR					7	5	12	
WJ009.00	P					12		12	
WJ009.70	CR						9	9	New station April 2009
WJ011.00	CR						12	12	
WJ014.00	CR						12	12	
WJ014.20	CR						10	10	
WJ014.50	CR						9	9	New station April 2009
WJ014.70	CR					7	2	9	New station April 2009
WJ015.00	CA					7	2	9	Reactivated in April 2009
WJ016.00	A						9	9	
WJ017.00	A		1		1		6	8	Reclassified from "P" to "A" on 11/24 due to the removal of animals from farm
WJ017.50	A		1				3	4	
	P			4		3		7	
WJ017.80	A		1				3	4	Reclassified from P to A on 11/24 due to the removal of animals from farm
	P			3	1	3		7	
WJ018.00	R			1			3	4	Reclassified from P to A on 11/24 due to the removal of animals from farm
	P			4		3		7	
WJ018.20	A		1	1			3	5	Reclassified from P to A on 11/24 due to the removal of



Station	Class	Extra		Adverse		Random		Grand Total	Notes
		Closed	Open	Closed	Open	Closed	Open		
	P			4		3		7	animals from farm
WJ018.60	A		1	1			3	5	Reclassified from P to A on 11/24 due to the removal of animals from farm
	P			4		3		7	
WJ018.90	A		1			3	3	7	Reclassified from P to A on 11/24 due to the removal of animals from farm
	P			2				2	
WJ019.00	A		1		1		6	8	
WJ026.00	A						6	6	
WJ027.30	A						6	6	
WJ027.50	A						6	6	
WJ030.00	P					6			
WJ031.50	A			1			6	7	
WJ032.00	A				2		8	10	
WJ032.50	CA					1	1	2	Reactivated in August 2009
WJ033.00	CA			2		3	5	10	
WJ033.70	CA					2	1	3	New station in August 2009
WJ034.00	A			1			8	9	
WJ035.00	A						6	6	
WJ038.00	A						6	6	
WJ046.00	A						6	6	
WJ047.00	CA	1				3	6	10	
WJ048.00	A						6	6	
WJ048.50	A						6	6	
WJ049.00	A						6	6	
WJ049.50	A						6	6	



Station	Class	Extra		Adverse		Random		Grand Total	Notes
		Closed	Open	Closed	Open	Closed	Open		
WJ050.50	A						6	6	
WJ051.00	A						6	6	
WJ055.00	A						6	6	
WJ056.00	A						6	6	
WJ057.00	P					6		6	
WJ058.00	P					6		6	
WJ059.00	A						6	6	
WJ060.00	A						6	6	
WJ062.00	CA					5	5	10	
WJ063.00	CA	2				5	5	12	
WJ064.00	CA	2				4	6	12	
WJ065.00	CA	2				4	6	12	
WJ066.00	CA	2				4	6	12	
WJ067.00	R		3				6	9	Reclassified from R to A on 12/4/09
WJ067.50	P	3				1		5	Created in September 2009; Reclassified from P to A on 12/4/09
	R		1						
WJ068.00	P	3				6		10	Reclassified from P to A on 12/4/09
	R		1						
WJ068.50	P	3				1		5	Created in September 2009; Reclassified from P to A on 12/4/09
	R		1						
WJ070.00	R						7		Reclassified from R to A on 12/4/09

Figures 2, 3, 4 and 5 show the P90 calculation trends over the past three years for all approved, conditionally approved and conditionally restricted stations, respectively, in area WJ; Figures 4 and 5 shows data collected during the open status. During the transition from MPN to MF analysis method, the approved standard will decrease every year, until all samples have been analyzed by the MF method. In order to show the trend of the P90 value over the years, the calculated P90 scores are expressed as a percentage of the approved standard; any station showing the 2009 column on or above the 100 percent line does not meet the standard for approved classification. All approved stations, except WJ 17.8 are well within the approved standard. Station WJ 17.8 is located in Recompense Cove (Freeport) on the shore where a manure pile was draining into the cove after rainfall which is the reason for the high P90



calculation. All conditionally approved stations, except WJ 33 in Maquoit Bay (Brunswick) are well within the approved standard during the open status. Station WJ 33 has been at around 90% of the approved standard for the past two years and showed a slight improvement in 2009. The reason for the improvement is not known and the reason for the degradation in water quality overall is not known; a straight pipe north of the station was identified and remediated in 2006. The conditionally restricted stations in the Harraseeket River (Freeport) have shown an improvement in water quality with declining P90 calculation trends in the past year. The reason why water quality is showing an improvement is not known but may be due, in part, by boat sampling and due to non-point source pollution education efforts in the surrounding area.

Figure 2. Area WJ P90 Calculations for Approved Stations WJ 16 – WJ 34 (expressed as the percent of the approved standard), 2007-2009

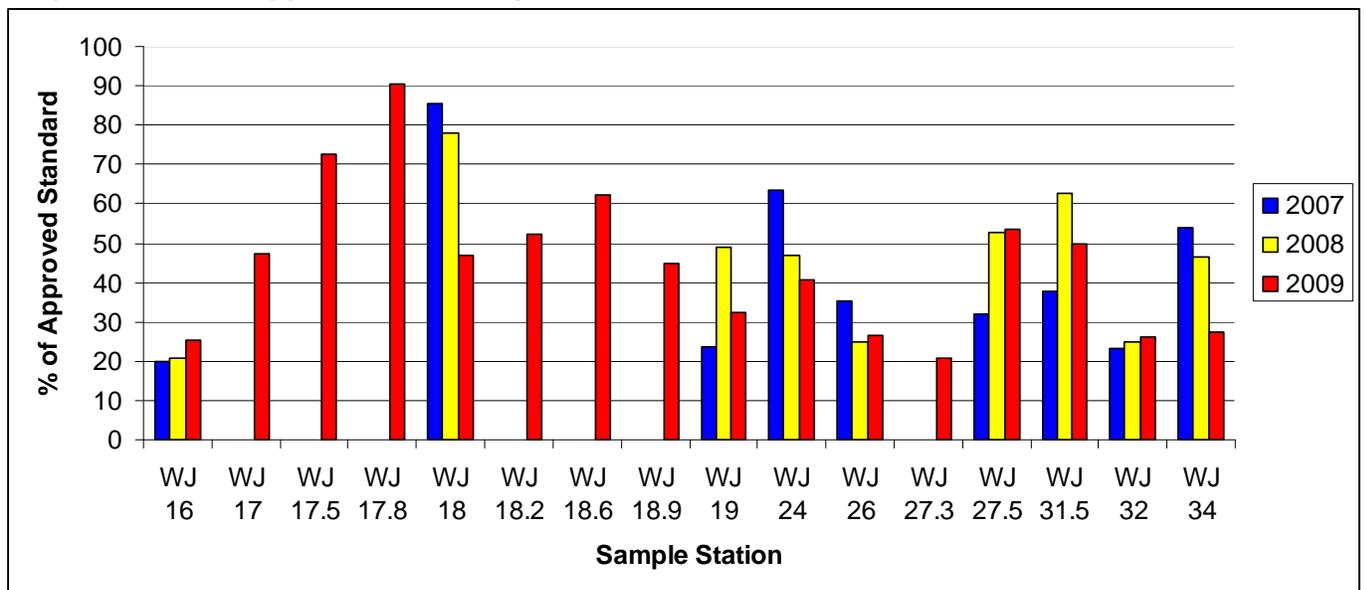




Figure 3. Area WJ P90 Calculations for Approved Stations WJ 35 – WJ 70 (expressed as the percent of the approved standard), 2007-2009

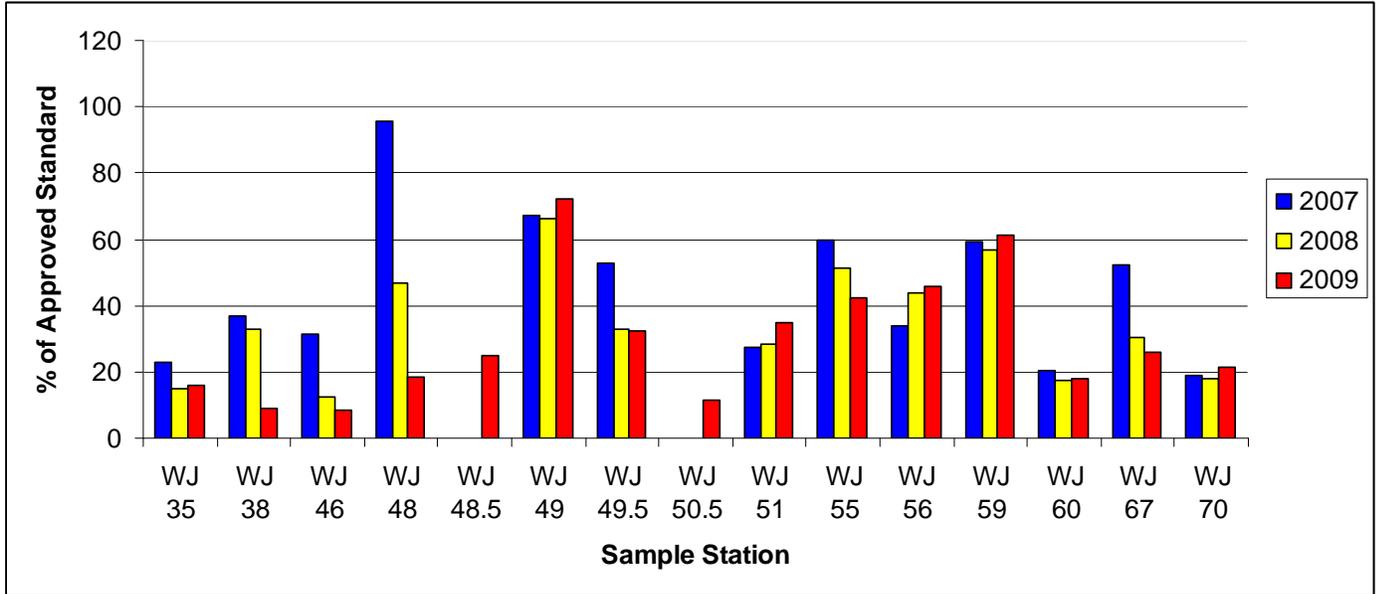


Figure 4. Area WJ P90 Calculations for Conditionally Approved Stations (expressed as the percent of the approved standard), Open Status, 2007-2009

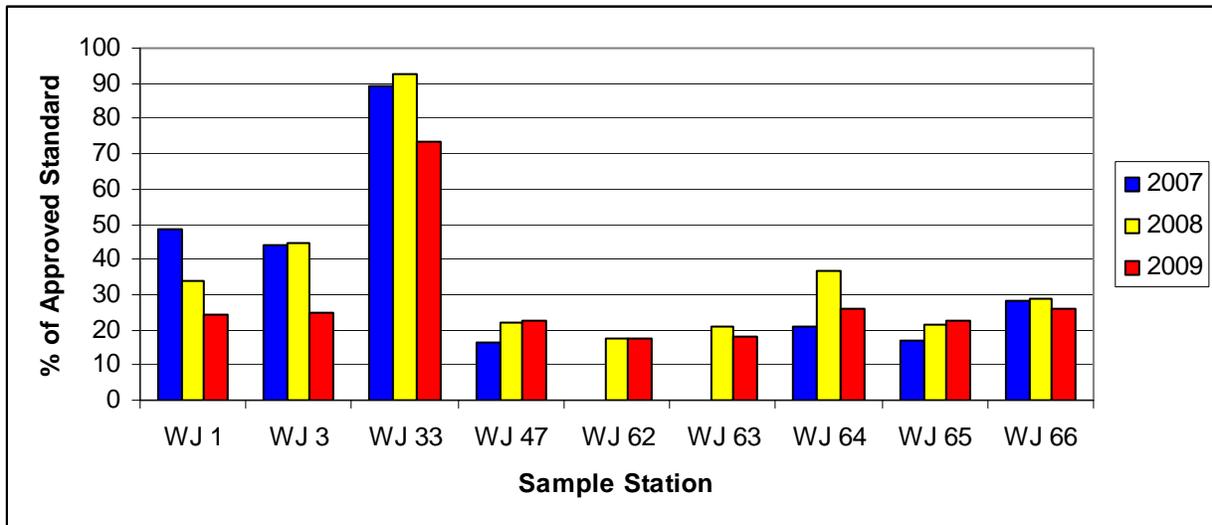
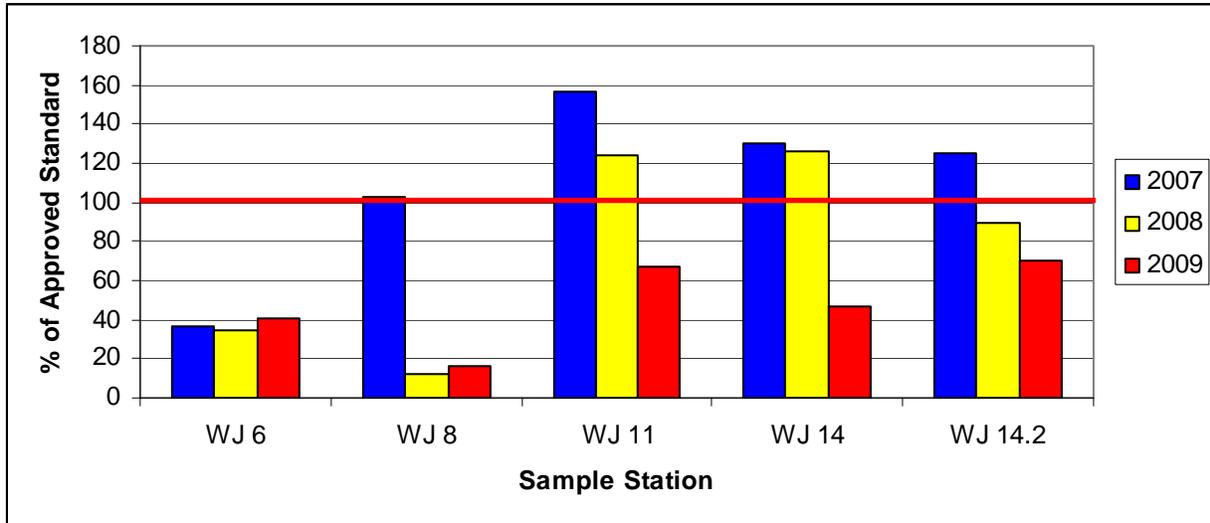




Figure 5. Area WJ P90 Calculations for Conditionally Restricted Stations (expressed as the percent of the approved standard), Open Status, 2007-2009



Upward Classification Requests

Ash Point Cove, Harpswell

This assessment was completed based on data collected through December 1, 2009. This upward classification was reviewed and legal notice was amended on December 4, 2009.

Ash Point Cove, Harpswell was reclassified from conditionally approved to prohibited and restricted on September 29, 2008. The upper portion (north of a line beginning at Bibber Way and continuing northeast to the end of Austin Point Rd.) was reclassified prohibited due to the presence of a malfunctioning septic system and an illegal grey water discharge. The lower portion of Ash Point Cove was reclassified to restricted due to station WJ 67 not meeting the approved standard in the open status.

In 2008, a shoreline survey of Ash Point Cove was completed. Forty-eight properties were surveyed and there were 4 properties that were referred to the Harpswell codes enforcement officer. One property had a malfunctioning septic system; this property was located near a gully that flows to Ash Point Cove. The second identified problem was an illegal sink discharge. The third property noted as having a problem, had an illegal grey water discharge directly to the shore. The fourth noted problem was an illegal washing machine discharge to a culvert which drained near the shore. Due to the presence of these actual direct pollution sources, the area in upper Ash Point Cove was reclassified to prohibited.

At the end of 2009, station WJ 67 was meeting the approved standard for classification; station WJ 68, located at the head of the cove, was also meeting the approved standard (Table 9). In considering an upward classification upgrade for this area, a seasonal and rainfall analysis was completed for stations WJ 67 and 68. For this analysis, all data points collected from 2004 to 2009 at stations WJ 67 and 68 were considered. Tables 10 and 11 show results from all



random, extra and adverse (excluding flood) samples collected between 2004 and 2009; the data points are sorted by month and by cumulative rainfall amounts; scores which exceeded the variability standard are highlighted in yellow. In the table, 'Rain 3 Days' refers to cumulative rainfall occurring three days before sample was collected; 'Rain 4 Days' refers to cumulative rainfall 3 days prior, plus the day of collection. Since 2004, station WJ 67 has received 2 scores which exceeded the variability standard for approved classification; a 460 FC/100ml in January 2005 and a 40 FC/100ml in October 2006. Using the 30 most recent SRS and extra data points through October 31, 2009, this station has a geometric mean of 2.9 and a P90 score of 8. Station WJ 68 had four scores that exceeded the variability standard, occurring between the months of August and December. Two of the elevated scores occurred in the October and December of 2009.

Table 9. Ash Point Cove, Harpswell, Geomen and P90 Scores, 2006-2009

Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ067.00	P	30	30	2.9	0.33	40	8	31	163	9/18/2006
WJ068.00	P	30	30	4.7	0.57	146	25.2	31	163	9/18/2006
WJ070.00	A	30	27	2.7	0.31	23	6.9	32	173	4/11/2006

As a result of this data analysis, it is recommended that the lower portion of Ash Point Cove (Harpswell) be reclassified from restricted to approved due to water quality meeting the approved standard year round. The upper portion of Ash Point Cove is recommended for a reclassification from prohibited to restricted. Two new stations, on either side of station WJ 68 should be created to better monitor water quality in the upper portion of the cove. These stations, along with WJ 68, should be sampled on an accelerated schedule; once the new stations have at least 30 samples in their dataset, the area can be reassessed to see if the boundary of the restricted area can be moved to these new stations, or whether the entire Ash cove can be upgraded to approved.



Table 10. Station WJ 67, Seasonal and Rainfall Assessment, 2004- 2009

Date	Sum 3 day	Sum 4 day	Strat	Sal	Tide	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
07-Jan-04	0	0	R	31	HF	15											
18-Nov-04	0	0	R	27	F											3.6	
09-Feb-05	0	0	R	30	HF		<3										
23-Mar-05	0	0	R	32	H			<3									
11-Apr-06	0	0	R	30	H				<3								
11-Apr-07	0	0	R	30	E				3.6								
24-Sep-07	0	0	R	32	E									15			
07-Jan-08	0	0	R	31	HE	<2											
10-Jun-08	0	0	R	30	LF						<2						
23-Sep-08	0	0	R	31	LE									2			
25-Mar-09	0	0	R	32	HE			<2									
15-Apr-09	0	0	R	31	F				<2								
05-Aug-09	0	0	R	28	HE								2				
21-Sep-09	0	0	R	30	HF									9.1			
07-Dec-05	0	0.01	R	29	E												<3
18-Sep-06	0	0.03	R	31	E									<2			
28-Oct-09	0	0.03	R	32	E										<2		
15-Apr-08	0	0.26	R	30	HE				<2								
19-Nov-08	0	0.31	R	32	F											<2	
12-Mar-08	0.01	0.01	R	30	F			<2									
12-Feb-07	0.01	0.02	R	32	LE		<2										
20-Jun-07	0.01	0.59	R	30	LE						4						
03-Mar-04	0.02	0.02	R	31	HF			3.6									
15-Oct-08	0.03	0.03	R	31	HF										16		
02-Dec-09	0.03	0.03	E	30	H												1.9
10-Jun-09	0.05	0.05	R	30	F						<2						
10-Oct-07	0.08	0.08	R	32	E										3.6		
12-Feb-08	0.08	0.08	R	30	F		<2										
29-Sep-04	0.1	0.1	R	31	F									3.6			



Date	Sum 3 day	Sum 4 day	Strat	Sal	Tide	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14-Oct-09	0.1	0.1	E	32	E										2		
17-Jan-06	0.12	1.78	R	30	HF	<3											
04-Aug-08	0.17	1.57	R	28	F								2				
21-Jun-06	0.26	0.26	R	26	HE						9.1						
30-Sep-09	0.28	0.55	E	30	E									4			
31-Jul-06	0.28	1.37	R	30	L							<3					
07-Apr-04	0.29	0.51	R	31	F				<3								
12-Mar-07	0.3	0.3	R	32	E			<2									
13-Oct-04	0.34	0.34	R	32	HF										<3		
02-May-07	0.34	1.36	R	28	HF					4							
19-Jan-05	0.45	0.49	R	32	HE	460											
17-Aug-06	0.47	0.47	R	31	E								<3				
16-Nov-05	0.52	0.52	R	30	HE											43	
04-Feb-04	0.54	0.54	R	32	HE		3.6										
15-Aug-07	0.68	0.68	R	31	F								3.6				
10-Jan-07	0.75	0.75	R	30	F	<2											
05-Dec-07	0.78	0.78	R	30	E												<2
23-Oct-06	0.93	2.06	R	30	HF										40		
07-Feb-06	0.95	1.57	R	30	E		<3										
08-Dec-04	1.26	1.26	R	30	E												23
27-Apr-05	1.84	2.62	R	25	F				3.6								

Table 11. Station WJ 68, Seasonal and Rainfall Assessment, 2004- 2009

Date	Sum 3 day	Sum 4 day	Strat	Sal	Tide	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
07-Jan-04	0	0	R	30	F	<3											
18-Nov-04	0	0	R	31	F											<3	
31-Jan-05	0	0	R	31	HF	<3											
09-Feb-05	0	0	R	30	H		<3										
23-Mar-05	0	0	R	24	H			9.1									
11-Apr-06	0	0	R	30	HE				<3								
23-Apr-07	0	0	R	23	F				<2								



Date	Sum 3 day	Sum 4 day	Strat	Sal	Tide	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
24-Sep-07	0	0	R	32	F									<2			
07-Jan-08	0	0	R	31	HE	22											
15-Apr-09	0	0	R	31	F				<2								
05-Aug-09	0	0	R	28	HE								22				
21-Sep-09	0	0	R	31	HF									<2			
07-Dec-05	0	0.01	R	31	HE												<3
18-Sep-06	0	0.03	R	31	HE									4			
28-Oct-09	0	0.03	R	32	E										<2		
25-Jun-07	0	0.06	R	30	HE						<2						
15-Apr-08	0	0.26	R	30	E				<2								
19-Nov-08	0	0.31	R	31	F											<2	
16-Dec-09	0	0.45	E	26	HF												146
12-Mar-08	0.01	0.01	R	29	F			<2									
03-Mar-04	0.02	0.02	R	30	F			43									
15-Oct-08	0.03	0.03	R	30	F										<2		
02-Dec-09	0.03	0.03	E	30	H												2
10-Jun-09	0.05	0.05	R	30	HF						<2						
12-Feb-08	0.08	0.08	R	30	F		<2										
29-Sep-04	0.1	0.1	R	31	F									3.6			
14-Oct-09	0.1	0.1	E	30	E										60		
16-Jun-08	0.11	0.11	R	29	HF						3.6						
27-Mar-07	0.11	0.15	R	26	F			15									
17-Jan-06	0.12	1.78	R	30	HF	<3											
03-Mar-09	0.15	0.16	R	30	F			<2									
04-Aug-08	0.17	1.57	R	27	F								18				
21-Jun-06	0.26	0.26	R	26	HE						43						
30-Sep-09	0.28	0.55	E	28	E									25			
07-Apr-04	0.29	0.51	R	31	HF				<3								
13-Oct-04	0.34	0.34	R	32	HF										6.2		
02-May-07	0.34	1.36	R	28	HF					<2							
17-Aug-06	0.47	0.47	R	32	F								240				
16-Nov-05	0.52	0.52	R	29	HE											460	



Date	Sum 3 day	Sum 4 day	Strat	Sal	Tide	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
15-Aug-07	0.68	0.68	R	30	F								27				
10-Jan-07	0.75	0.75	R	12	F	4											
05-Dec-07	0.78	0.78	R	30	E												<2
23-Oct-06	0.93	2.06	R	30	HF										29		
07-Feb-06	0.95	1.57	R	26	E		<3										
29-Oct-07	1.01	1.01	R	30	F										2		
28-Nov-07	1.14	1.14	R	32	HE											2	
08-Dec-04	1.26	1.26	R	31	E												9.1
27-Apr-05	1.84	2.62	R	26	F				3.6								



Shoreline Survey Activity

A drive through survey was conducted by DMR on April 8, 2009 on Harpswell Neck. No new pollution sources were noted during the survey.

DMR attended a meeting with DEP, industry members and Wolfe's Neck Farm representatives to walk pastures and the farm on April 13, 2009. The walk revealed cows being pastured in "buffer" pastures, inadequate buffers between pastures and streams/pastures and shore, cows being able to be in streams no fenced outside of streams and large amounts of manure that was making its way into streams and adjacent shellfish waters.

A drive through survey was conducted by DMR staff on April 15, 2009 for upper Maquoit Bay; no new pollution sources were noted. The DMR conducted a drive through survey on August 11, 2009 of the Recompense Cove, Little River, and Spar Cove area of WJ in Freeport. DMR, DEP and the Dept. of Agriculture met with the Wolfe's Neck Farm manager, the Mitchell Farm operator, and members of Wolfe's Neck Farm Board. DMR provided them an overview of the growing area program and answered questions about stream sampling and the recent history of Recompense Cove classification changes. The drive through survey of Harpswell Neck at Sunset Cove, Ash Point Cove and Basin Cove continued on August 12, 2009 and was conducted by DMR staff; no new pollution sources were noted.

November 2, 2009 – The Executive Director of the Wolfe's Neck Farm Foundation notified the DMR that the spreading of the remaining manure would begin on November 3, 2009. The Department of Agriculture was present to review the setbacks for the three fields being spread with the contractor hired to do the spreading. These pastures were located greater than 500 feet from the shore or from a conduit to the shore, and no closure was necessary.

Aquaculture/Wet Storage Activity

There are nine aquaculture sites in growing area WJ; two leases and seven limited purpose aquaculture licenses (LPAs). In Hog Cove (Harpswell) there are three LPAs with a shellfish raft, trays and racks for American and European oysters. There is a similar LPA set up on the south side of Barnes Island (Harpswell). There are two shellfish leases in Maquoit Bay (Brunswick) for both bottom and suspended culture of all species of shellfish. There are three LPAs (both for American and European oysters) in the Harraseeket River; one LPA is for soft bags and the other two LPAs are for upwellers or flupsy units.

Please visit the DMR website to view details on these leases and LPAs:
<http://www.maine.gov/dmr/aquaculture/leaseinventory/index.htm>

There are three wet storage permits; two at Lookout Point (Harpswell) and one in the Harraseeket River.



Please visit the DMR website to view details on these wet storage permits:
http://www.maine.gov/dmr/rm/public_health/wetstorage_bulktagging_permits.htm

Classification Changes Required

The end of year review of water quality revealed that station WJ 58 exceeded approved criteria with a P90 of 67.7. The prohibited area in Middle Bay on the western shore of Harpswell Neck was expanded south the next approved station on January 22, 2010.

Ash Point Cove, Harpswell had several pollution sources either confirmed as no problem or remediated by the Town of Harpswell CEO. As a result, after a data analysis and review, on December 4, 2009 the upper portion of Ash Point Cove was reclassified from prohibited to restricted due to water quality meeting the restricted standard and a "do not occupy" order on a house with an identified septic system malfunction, and the confirmation by the town Codes Enforcement officer that the property is no longer occupied. The amended legal notice also reclassified lower Ash Point Cove (Harpswell) from restricted to approved due to water quality meeting the approved standard year round.

Summary

Growing area WJ continues to maintain good water quality in areas currently classified as approved. Areas classified conditionally approved and conditionally restricted continue to meet their standards in the open status. At the end of the 2009 review year, all approved stations were meeting their respective NSSP classification standards. One classification change was required and one classification change is recommended at this time. At the end of 2009, station WJ 58 in lower Middle Bay (Harpswell) exceeded the approved standard and the prohibited area was expanded to the next approved station on January 22, 2010. Station WJ 33 has remained at or above 90% of the approved standard for the past two years with a slight improvement in 2009 but it will need to be monitored closely in 2010.

Recommendation for Future Work

1. Complete stream sampling and stream flow measurements, to be presented in the 2011 triennial report.
2. Continue to monitor local farms and pastures in Freeport and maintain communication and collaboration with the farm managers.
3. Initiate accelerated sample collection at stations WJ 32.5 and WJ 33.7 in order to determine if the conditionally approved area can be reduced in size in Maquoit Bay (Brunswick).
4. Collect extra and adverse (rainfall) samples in consideration of reviewing the classification of the Harraseeket River conditionally restricted areas.
5. Re-evaluate the Harraseeket river marina conditional area size as part of the 2011 triennial review.



Appendix A. Annual Review of Management Plan- Harraseeket River Wastewater Treatment Plant Conditional Area

Scope

The Harraseeket River is classified conditionally approved and conditionally restricted based on the proper functioning of the Freeport Sewage Treatment Plant (hereinafter “The District” and “the Plant”). Insufficiently treated effluent from the plant outfall pipe, pump stations, or broken sewer lines along the river, or conduit (stream or ditch) to the river, may possibly contaminate shellfish in the river. Water quality in the conditionally approved and conditionally restricted areas is monitored by stations WJ 1, 1.5, 2, 2.5, 3, 6, 8, 9.7,11,14,14.2, 14.7, and 15, and must be sampled monthly in the open status. Stations WJ 3, 6, 8, 14.7 and 15 fall into the boundaries of a marina conditional area, and are in closed status from May 1 to November 30.

Compliance with Management Plan

In 2009, there were no closures due to treatment plant malfunctions.

Adequacy of Reporting and Cooperation of Involved Persons

In the event that a conditional area closure must be implemented, the management plan for this conditional area requires immediate reporting by the Freeport Sewer District. To date, the cooperation between all involved parties was excellent.

Compliance with Approved Growing Area Criteria

The conditionally approved and conditionally restricted stations met the appropriate standards for their classification during the open status in 2009 (Tables 12 and 13).

Table 1. Harraseeket River WWTP Conditional Area, Open Status, 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ001.00	CA	30	30	2.9	0.32	30	7.5	31	163	7/24/2007
WJ001.50	CA	9	9	4.2	0.35	16	12.4	31	163	4/14/2009
WJ002.00	CA	9	9	2.4	0.22	8	4.7	31	163	4/14/2009
WJ002.50	CA	8	8	4.8	0.56	76	26.8	31	163	4/14/2009
WJ003.00	CA – boundary	30	16	3.3	0.35	93	9.4	38	216	4/23/2003
WJ009.70	CR	9	9	3.2	0.39	22	10.8	31	163	4/14/2009
WJ011.00	CR	30	30	4.3	0.53	82	20.9	31	163	7/24/2007
WJ014.00	CR	30	30	3.6	0.47	92	14.6	31	163	6/10/2007
WJ014.20	CR	30	30	4.3	0.54	106	21.9	31	163	3/5/2007
WJ014.50	CR	9	9	4.7	0.55	92	25.2	31	163	4/14/2009



Table 2. Harraseeket River WWTP and Marina Conditional Area, Open Status (December 1- April 30), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ003.00	CA	30	16	3.3	0.35	93	9.4	38	216	4/23/2003
WJ006.00	CR	30	15	4.1	0.44	43	15.4	38	221	4/23/2003
WJ008.00	CR	30	16	2.7	0.26	43	6	38	216	4/17/2002
WJ014.70	CR - new	2	2	1.9	0.01	2	2	31	163	4/14/2009
WJ015.00	CA	12	2	3.5	0.29	23	8.6	45	270	4/10/1995

Field Inspection of Critical Pollution Sources

A potential for pollution in the Harraseeket River area comes from the improper functioning of the Freeport Wastewater Treatment Plant whose outfall pipe is located in the middle of the Harraseeket River. The plant is reviewed each year and continues to function properly.

Water Sampling Compliance History

In 2009, all stations were sampled monthly in the open status, except for station WJ 14.2 which was sampled only 10 times. The sample collection was attempted during SRS and make-up runs, but was missed due to iced in conditions in January, February and March. One make up sample collection for station WJ 14.2 was missed due to tide in March 2009.

The sampling effort for the WWTP conditional area in 2009 is reflected in Table 3. All stations that were active at the beginning of 2009 were sampled 12 times or monthly with the exception of WJ 14.2 which was sampled 10 times in 2009. WJ 14.2 was scheduled for SRS sampling on January 6, February 5 and March 3, 2009 but each time the station could not be collected due to the station being covered with ice. The samples were re-scheduled for make up collection on January 13, February 11, February 25 and March 19 but could not be collected due to the area being covered in ice and on March 19 it was missed due to tide.

Table 3. Harraseeket River Wastewater Treatment Plant Conditional Area Samples Collected in 2009

Station	Class	Extra		Adverse		Random		Grand Total	Notes
		Closed	Open	Closed	Open	Closed	Open		
WJ001.00	CA						12	12	
WJ001.50	CA						9	9	New station April 2009
WJ002.00	CA						9	9	Reactivated in April 2009
WJ002.50	CA						9	9	New station April 2009
WJ003.00	CA					7	5	12	Boundary station



Station	Class	Extra		Adverse		Random		Grand Total	Notes
		Closed	Open	Closed	Open	Closed	Open		
WJ006.00	CR					7	5	12	
WJ008.00	CR					7	5	12	
WJ009.70	CR						9	9	New station April 2009
WJ011.00	CR						12	12	
WJ014.00	CR						12	12	
WJ014.20	CR						10	10	
WJ014.50	CR						9	9	New station April 2009
WJ014.70	CR					7	2	9	New station April 2009
WJ015.00	CA					7	2	9	Reactivated in April 2009

Analysis and Recommendations

DMR and Freeport Wastewater Treatment Plant Staff shall evaluate the Harraseeket River Management Plan on a triennial basis. At the time of the triennial review, the parties involved in the proper management of the Harraseeket River conditional area shall sign and date the management plan in order to indicate their acceptance of the conditions stated therein. If, during the annual management plan review, it is evident that the management plan or emergency response plan needs to be revisited between the department and the sewer district then the department will make an appointment with the district to meet and review and adjust the plan(s) accordingly. The management plan must be evaluated and signed in 2010.



Appendix B. Annual Review of Management Plan- Harraseeket River Marina Seasonal Area, Area No. 15

Scope

A portion of Growing Area WJ, Harraseeket River, is classified as conditionally approved and conditionally restricted based in the presence of marinas in this section of the growing area; the areas are closed for shellfish harvesting from May 1 to November 30. Specifically, the classification is based on the presence or absence of 10 or more boats moored at the Harraseeket Yacht Club, Strout's Point Wharf, Brewer's Marina and South Freeport town docks, which may discharge waste into the Harraseeket River. Strouts Marina, Brewers Marina and the Freeport Yacht Club operate at the town docks. The Freeport harbormaster oversees all slips and mooring operations. The conditionally approved area, monitored by station WJ 6 (CR) was classified conditionally approved in August 2002. Station WJ 6 is the boundary station between the conditionally approved and conditionally restricted area and must meet approved standards during the open status. Station WJ 3 is on the boundary of the seasonal and WWTP conditional areas and therefore must meet the approved standard year round. Station WJ 15 is also part of this seasonal area and was reactivated in April 2009. DMR evaluated the Harraseeket River data, made observations of the marinas, and interviewed the marina owners with regard to usage in June 2008, and made the assessment that fewer than 10 boats are in the area from November 15 through May 1. Water quality meets approved standards from December 1 through April 30. In December 2008, a new seasonal restricted area, monitored by station WJ 8 and WJ 14.7, was implemented. This area has the same closed status period as the marina area.

These marina conditional areas fall into the boundary of the WWTP conditional area; therefore they close anytime that there is a malfunction or bypass at the Freeport sewage treatment plant.

Compliance with Management Plan

In 2009, the seasonal conditional area closed on May 1 and reopened on December 1. The area was visited by DMR on November 16, 2009, and there were fewer than 10 boats with heads in the area. It was also visited on April 14, 2009 to confirm there were fewer than 10 boats with heads in the water. The seasonal closure is enforced by the DMR Marine Patrol and the local Shellfish Warden. Cooperation between the involved parties has been excellent.

Adequacy of Reporting and Cooperation of Involved Persons

This management plan requires seasonal checks on boat activity at the marina. These checks are performed prior to the reopening of the area and at the time of closure by DMR staff. No third party reporting is required by the management plan.

Compliance with Approved Growing Area Criteria

The annual review of the conditionally approved and conditionally restricted stations shows that water quality met approved or restricted standards during the open period (Table 1).



Table 1. Harraseeket River WWTP and Marina Conditional Area, Open Status (December 1- April 30), 2009

Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ003.00	CA-boundary	30	16	3.3	0.35	93	9.4	38	216	4/23/2003
WJ006.00	CR	30	15	4.1	0.44	43	15.4	38	221	4/23/2003
WJ008.00	CR	30	16	2.7	0.26	43	6	38	216	4/17/2002
WJ014.70	CR - new	2	2	1.9	0.01	2	2	31	163	4/14/2009
WJ015.00	CA	12	2	3.5	0.29	23	8.6	45	270	4/10/1995

Field Inspection of Critical Pollution Sources

The potential for pollution in the South Freeport area comes from boats with heads that are moored in the river. Visual observations are made of the Harraseeket River at the end of April and in the middle of November to ensure that there are fewer than 10 boats with heads in South Freeport.

Water Sampling Compliance History

Stations WJ 3, WJ 6 and WJ 8 were collected at least five (monthly) times in the open status of December 1 to April 30. Station WJ 14.7 was a new station activated in April 2009 and was only collected two times in the open status (7 times in the closed status). Station WJ 15 was reactivated in April 2009 and was only sampled twice in the open status and seven times in the closed status. The sampling effort for the WWTP and marina conditional area in 2009 is reflected in Table 2. All conditionally approved and conditionally restricted stations that were active at the beginning of 2009 were sampled monthly.

Table 2. Harraseeket River WWTP and Marina Conditional Area Samples Collected in 2009

Station	Class	Extra		Adverse		Random		Grand Total	Notes
		Closed	Open	Closed	Open	Closed	Open		
WJ003.00	CA					7	5	12	
WJ006.00	CR					7	5	12	
WJ008.00	CR					7	5	12	
WJ014.70	CR					7	2	9	New station April 2009
WJ015.00	CA					7	2	9	Reactivated in April 2009

Analysis and Recommendations

The Harraseeket River is, by town ordinance, a No Discharge Zone (NDZ). The NDZ is enforced by the town harbormaster. A reporting mechanism should be developed between the town



harbormaster and the DMR, in order to obtain information regarding the number of inspections and level of compliance with the NDZ. The marinas must be evaluated, the management plan updated and conditional area re-evaluated for the 2010 triennial report.



Appendix C. Annual Review of Management Plan- Maquoit Bay Seasonal Area, Area No. 16

Scope

Maquoit Bay is a conditionally approved area based on seasonal variation in water quality, with an open status from April 1 through August 31 (five months) (Figure 1). Maquoit Bay conditional area, monitored by stations, 32.5, 33 and 33.7, was reclassified from restricted to conditionally approved based on seasonal variation in water quality on July 10, 2007 with the remaining portion reclassified from conditionally approved to approved year round. In 2009, sample station WJ 32.5 was reactivated and 33.7 was created to better monitor water quality in Maquoit Bay.

Figure 1. Area WJ Maquoit Bay Conditional Area





Compliance with Management Plan

In 2009, Maquoit Bay opened as scheduled, on April 1, and closed on August 31. The seasonal closure is enforced by the DMR Marine Patrol and the local Shellfish Warden. Cooperation between the involved parties has been excellent.

Adequacy of Reporting and Cooperation of Involved Persons

This management plan does not require reporting by non DMR staff, but does require a data analysis prior to the reopening of the seasonal conditional area. In 2009, the data analysis was performed after the opening date; this management plan violation will be addressed and corrected in 2010 and in the future.

Compliance with Approved Growing Area Criteria

The annual review of the water quality shows that stations WJ 33 met approved standards during the open status time period (Table 1). Stations WJ 32.5 and 33.7 have less than 30 data points in their datasets, and therefore were not evaluated against the classification standard.

Table 1. Maquoit Bay (Brunswick) Conditional Area, Open Status (April 1 – August 30), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ032.50	CA	7	2	5.3	0.36	15	16.2	42	252	5/10/2006
WJ033.00	CA	30	15	5.4	0.55	460	27.9	38	221	6/7/2004
WJ033.70	CA	1	1	13		13		31	163	8/17/2009

Field Inspection of Critical Pollution Sources

The potential for pollution in Maquoit Bay is non-point (wildlife-migratory birds) in origin during the fall and winter months. Visual observations are made throughout the year during the course of random sampling and shoreline surveying.

Water Sampling Compliance History

In 2009, sample station WJ 33 was sampled a total of eight times following SRS strategy, with five times in the open.

Analysis and Recommendations

It is DMR policy to review water quality prior to reopening a seasonal area to ensure compliance with approved standards. Overall water quality has remained steady for the past three years. The data analysis was performed after the opening which will be addressed in 2010 and in the future.



Appendix D. Annual Review of Management Plan- Merepoint Neck, Paul's Marina, Seasonal Conditional Area, Area No. 16

Scope

A portion of Growing Area WJ, Paul's Marina at Merepoint Neck, is classified as conditionally approved based on the presence or absence of 10 or more boats with heads at the marina, which may discharge into Middle Bay. Paul's Marina, monitored by station WJ 47, and was classified conditionally approved in January 1995. DMR evaluated the data, made observations of the marina, interviewed the marina owner with regard to usage in June 2008, and made the assessment that fewer than 10 boats are in the cove from October 15 through April 15. Water quality met approved standards from November 1 through April 15.

Compliance with Management Plan

In 2009, the seasonal conditional area closed on April 15 and reopened on November 1. The area was visited by DMR on November 2, 2009 and there were fewer than 10 boats with heads in the area. It was also visited on April 15, 2009 to confirm there were fewer than 10 boats with heads in the water. The inspection for open status was completed too late in 2009 and needs to be scheduled to be completed prior to November 1 in future review years. The seasonal closure is enforced by DMR Marine Patrol and the local Shellfish Warden. Cooperation between the involved parties has been excellent.

Adequacy of Reporting and Cooperation of Involved Persons

This management plan requires seasonal checks on boat activity at the marina. These checks are performed prior to the reopening of the area and at the time of closure to ensure the proper open shellfish season. In 2009, the area was visited on November 2nd to confirm there were fewer than 10 boats with heads remaining in the water, and a review of the water quality showed that the area continued to meet approved standards for the open season. It was also visited on April 15, 2009 to confirm there were fewer than 10 boats with heads not yet in the water. The fall marina inspection after the onset of the open status; this inspection must be completed in October, prior to the re-opening of the area for shellfish harvesting.

Compliance with Approved Growing Area Criteria

At Paul's Marina, the conditionally approved station WJ 47 met approved standards during the open season. The geometric mean on the most recent 30 samples collected during the open season was 2.8 and the P90 score was 8.1, with an approved standard of 36.

Field inspection of critical pollution sources

The potential for pollution at Paul's Marina comes from boats with heads that are moored at the marina. Visual observations are made of the area at the end of October and prior to the closure on April 15 to ensure that there are fewer than 10 boats with heads in the area.



Water sampling compliance history

Station WJ 47 was collected 7 times when in the open status. It was sampled a total of 10 times in 2009 with 2 in the closed status and one extra sample collected during the closed status.

Analysis-Recommendations

It is the DMR policy to observe marina areas before closing and reopening to ensure compliance with the management plan. Paul's Marina was observed November 2nd for the reopening on November 1. The area opened on April 15 and the inspection occurred on April 15th. No boats were present at the time of either seasonal inspection, however, it was noted that the fall marina check must be completed prior to November 1st in order to be in compliance with the management plan. The Growing Area Program Manager has created a tracking and scheduling mechanism for marine inspections that will be in place for the 2010 season.



Appendix E. Annual Review of Management Plan- Basin Cove Seasonal Area

Scope

Basin Cove is located in at the northwest peninsula on Harpswell Neck, Harpswell in Growing Area WJ. Currently, upper Basin Cove is a conditionally approved area based on seasonal variation in water quality, with an open status from December 1 through April 30. Upper Basin Cove, monitored by Stations WJ 64, 65 and 66, was classified conditionally approved based on seasonal variation in water quality December 2000. On September 27, 2007, a review of the data in the open status revealed that the open season of October 1 through April 30 had to be shortened to December 1 though April 30 (Figure 1).

Figure 1. Basin Cove, with current classification





Compliance with Management Plan

In 2009, the seasonal conditional area closed on May 1 and reopened on December 1. The seasonal water quality was reviewed at stations WJ 64, 65 and 66 prior to re-opening and continues to meet approved standards for the open status. The seasonal closures are enforced by Maine Marine Patrol and the local shellfish warden. Cooperation between the involved parties has been excellent.

Adequacy of Reporting and Cooperation of Involved Persons

This management plan does not require reporting, but does require a data analysis prior to the reopening of the seasonal conditional area on December 1st. The seasonal data check was performed on November 2, 2009.

Compliance with Approved Growing Area Criteria

A portion of Basin Cove, Harpswell is classified conditionally approved with an open season of December 1 through April 30. The area is monitored by stations WJ64, 65 and 66. All three stations meet approved standards during open status (Table 1). A shoreline survey was conducted in the Basin Cove area in 2008 and no actual or potential pollution sources were identified.

Table 1. Upper Basin Cove, Seasonal Conditional Area, Open Status (December 1 – April 30), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ064.00	CA	30	16	3.2	0.39	200	10.2	38	216	4/16/2003
WJ065.00	CA	30	16	3	0.35	43	8.6	38	216	4/16/2003
WJ066.00	CA	30	16	3.3	0.35	43	9.8	38	216	4/16/2003

Water Sampling Compliance History

The Basin Cove seasonal conditional areas stations, WJ 64, 65 and 66 were sampled 6 times (monthly) in the open status. The total sample effort for 2009 includes monthly sampling (12 times total); in addition to the 6 times in the open status, they were sampled 4 times in the closed status and 2 times as ‘extra’ in the closed status.

Analysis and Recommendations

The recommendation is to review the compliance with the approved standard for the open status for stations WJ64, 65 and 66 prior to the seasonal opening on December 1st annually. Additionally, the conditional area management plan must be completed for the 2010 triennial review.

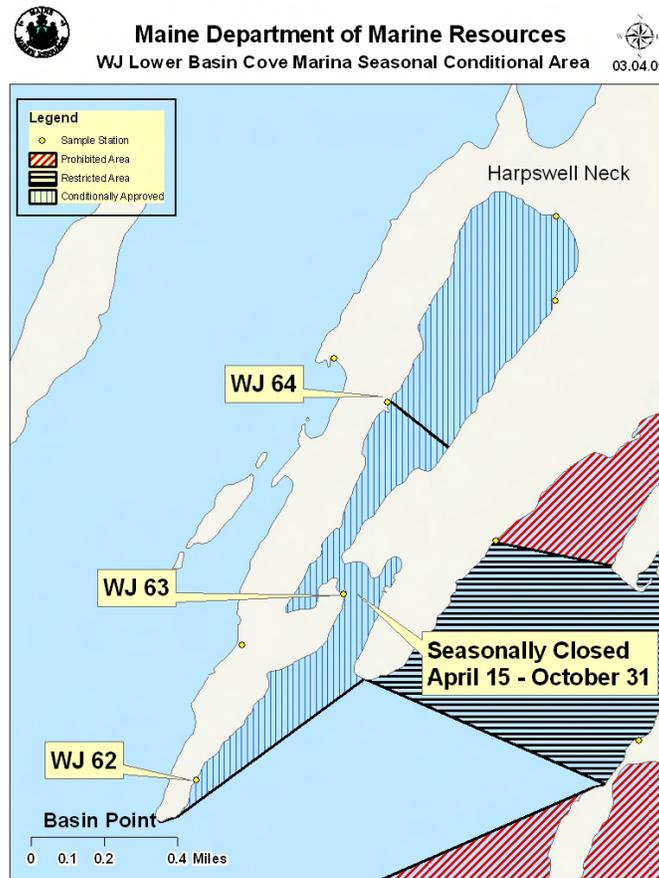


Appendix F. Annual Review of Management Plan- Lower Basin Cove Seasonal Marina Area

Scope

The Lower Basin Cove seasonal conditional area is located in Harpswell, Maine and is a new conditional area since the rule amendment on September 29, 2008. This seasonal conditional area is based on the presence of a marina, and is closed to shellfish harvest from April 15 through October 31, due to the presence of boats at the Dolphin Marina. Monitoring stations WJ 62, 63 and 64 are located within this conditional area, and monitor water quality both in the open and closed status. Typically, water quality data meets approved standards year-round; however the area is classified as conditionally approved because of the potential pollution from boats at the marina during the times of operation late spring through mid-fall. The marina seasonal area is located on the lower western side of Harpswell Neck and is described in section C. of the legal notice for Area No. 17-B (Figure 1).

Figure 1. Lower Basin Cove Seasonal Conditional Area - Marina





Compliance with management plan

Per management plan, in 2009, this conditional area closed to shellfish harvest on April 15th and reopened on November 1st. Prior to re-opening, a data check was completed to verify that the area was meeting NSSP approved water quality standards in the open status. DMR is also required to complete a visual check prior to the area seasonal closure and seasonal re-opening, to confirm the presence/absence of 10 or more boats with heads, which are capable of discharging waste to the conditional area. In 2009, a seasonal opening check was conducted on November 2nd; while less than 10 boats were present at the time of this seasonal inspection, it was noted that the fall marina check must be completed prior to November 1, 2010 in order to be in compliance with the management plan. The pre-closure inspection was completed on April 8, 2009 which documented 1 boat in the water which confirmed that there were fewer than 10 boats with heads in the water at the time of the seasonal closure.

The seasonal closures are enforced by Maine Marine Patrol and the local shellfish warden. Cooperation between the involved parties has been excellent.

Adequacy of reporting and cooperation of involved persons

This management plan does not require reporting by non-DMR personnel.

Compliance with approved growing area criteria

All stations in this conditional area met their NSSP standard during the open status (Table 1).

Table 1. Lower Basin Cove, Marina Seasonal Conditional Area, Open Status (November 1 – April 15), 2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WJ062.00	CA	30	15	2.9	0.27	23	6.6	38	221	1/7/2004
WJ063.00	CA	30	15	2.9	0.28	43	6.9	38	221	1/7/2004
WJ064.00	CA	30	15	3.2	0.37	200	9.8	38	221	11/19/2003

Water Sampling Compliance History

In 2009 the sampling effort for station WJ 62 was a total of 10 times with 5 in the open status and 5 in the closed status. Sample station WJ 63 was sampled a total of 12 times; 5 in the open status, 5 in the closed status and 2 'extra' samples in the closed status. Station WJ 64 was sampled a total of 12 times with 6 in the open status, 4 in the closed status and 2 'extra' samples in the closed status.

Analysis and Recommendations

It is a recommendation that the fall pre-opening inspection be conducted prior to the November 1st opening date to maintain compliance with the NSSP. Additionally, the marina, conditional area management plan and an evaluation of the size of the current closure must be completed for the 2010 triennial review.



Appendix G. 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 H. Growing Area WJ 2009 Data

Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
WJ001.00	01/05/09	TKF	F	W	1	30	R	X	O	CA	<2.0
	02/10/09	TKF	HF	CL	-1	30	R	X	O	CA	2
	03/03/09	EXT	F	NW	-1	30	R	X	O	CA	<2.0
	04/14/09	TKF	HF	S	6	30	R	X	O	CA	<2.0
	05/05/09	TKF	F	N	10	28	R	W	O	CA	<2.0
	06/15/09	TKF	HE	CL	14	28	R	PW	O	CA	11
	07/06/09	TKF	F	SW	17	26	R	P	O	CA	4
	08/03/09	TKF	H	S	20	28	R	X	O	CA	<2.0
	09/14/09	TKF	H	NW	15	30	R	PW	O	CA	2
	10/05/09	TKF	H	SW	15	30	R	PW	O	CA	6
	11/02/09	EXT	F	NE	9	30	R	X	O	CA	2
12/01/09	TKF	F	CL	6	29	R	PW	O	CA	3.6	
WJ001.50	04/14/09	TKF	HF	S	9	30	R	W	O	CA	<2.0
	05/05/09	TKF	F	N	10	28	R	W	O	CA	<2.0
	06/15/09	TKF	HE	CL	14	26	R	P	O	CA	16
	07/06/09	TKF	HF	SW	18	24	R	PWH	O	CA	6
	08/03/09	TKF	H	S	20	28	R	X	O	CA	2
	09/14/09	TKF	H	NW	16	30	R	PW	O	CA	10
	10/05/09	TKF	H	SW	15	30	R	PW	O	CA	8
	11/02/09	EXT	HF	NE	9	30	R	X	O	CA	4
12/01/09	TKF	F	CL	4	28	R	PW	O	CA	2	
WJ002.00	04/14/09	TKF	HF	S	6	30	R	X	O	CA	<2.0
	05/05/09	TKF	F	N	10	28	R	W	O	CA	<2.0
	06/15/09	TKF	HE	CL	14	28	R	P	O	CA	4
	07/06/09	TKF	HF	E	16	26	R	PW	O	CA	<2.0
	08/03/09	TKF	H	S	19	28	R	X	O	CA	<2.0
	09/14/09	TKF	H	CL	16	30	R	P	O	CA	<2.0
	10/05/09	TKF	H	SW	15	31	R	P	O	CA	8
	11/02/09	EXT	HF	NE	10	31	R	X	O	CA	<2.0
12/01/09	TKF	HF	CL	7	30	R	PW	O	CA	<2.0	
WJ002.50	04/14/09	TKF	HF	CL	9	30	R	W	O	CA	<2.0
	05/05/09	TKF	F	N	10	28	R	W	O	CA	<2.0
	06/15/09	TKF	HE	CL	14	26	R	PW	O	CA	76
	07/06/09	TKF	HF	E	18	24	R	PW	O	CA	2
	08/03/09	TKF	HF	S	19	27	R	X	O	CA	4
	09/14/09	TKF	H	W	16	30	R	P	O	CA	10
	10/05/09	TKF	H	W	15	30	R	P	O	CA	8



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
WJ003.00	11/02/09	EXT	H	NE	9	30	R	X	O	CA	<2.0
	12/01/09	TKF	HF	CL	6	29	R	PW	O	CA	<2.0
	01/05/09	TKF	F	CL	1	32	R	X	O	CA	<2.0
	02/10/09	TKF	HF	CL	-1	30	R	X	O	CA	<2.0
	03/03/09	EXT	F	CL	1	30	R	X	O	CA	<2.0
	04/14/09	TKF	H	S	6	30	R	X	O	CA	<2.0
	05/05/09	TKF	F	N	10	29	R	W	C	CA	<2.0
	06/15/09	TKF	HE	CL	14	28	R	P	C	CA	10
	07/06/09	TKF	HF	SE	17	26	R	P	C	CA	6
	08/03/09	TKF	HF	S	19	28	R	H	C	CA	<2.0
	09/14/09	TKF	H	W	15	30	R	P	C	CA	<2.0
	10/05/09	TKF	HF	W	14	30	R	P	C	CA	20
11/02/09	EXT	H	NE	10	31	R	X	C	CA	<2.0	
12/01/09	TKF	HF	W	7	30	R	P	O	CA	<2.0	
WJ006.00	01/05/09	TKF	F	CL	0	31	R	X	O	CR	<2.0
	02/04/09	TKF	E	N	-2	32	R	M	O	CR	<2.0
	03/03/09	EXT	F	CL	0	31	R	X	O	CR	2
	04/14/09	TKF	F	N	5	30	R	M	O	CR	<2.0
	05/05/09	TKF	F	N	9	29	R	WM	C	CR	<2.0
	06/15/09	TKF	E	S	15	25	R	PM	C	CR	116
	07/06/09	TKF	H	S	16	26	R	PM	C	CR	<2.0
	08/01/09	TKF	HF	CL	18	28	R	M	C	CR	10
	09/14/09	TKF	HE	CL	17	30	R	P	C	CR	<2.0
	10/05/09	TKF	H	SW	15	30	R	PW	C	CR	6
	11/02/09	EXT	H	NE	10	30	R	X	C	CR	<2.0
	12/01/09	TKF	H	CL	6	30	R	P	O	CR	2
WJ008.00	01/05/09	TKF	F	CL	0	31	R	W	O	CR	<2.0
	02/24/09	TKF	H	N	-1	30	R	P	O	CR	<2.0
	03/03/09	EXT	F	CL	4	30	R	X	O	CR	<2.0
	04/14/09	TKF	H	SW	6	30	R	W	O	CR	<2.0
	05/05/09	TKF	HF	N	10	28	R	X	C	CR	2
	06/15/09	TKF	HE	CL	15	28	R	P	C	CR	11
	07/06/09	TKF	HF	S	19	24	R	P	C	CR	10
	08/03/09	TKF	F	CL	18	27	R	X	C	CR	<2.0
	09/14/09	TKF	HE	CL	17	30	R	P	C	CR	10
	10/05/09	TKF	HF	NW	15	30	R	PW	C	CR	4
	11/02/09	EXT	H	NE	10	30	R	X	C	CR	7.3
	12/01/09	TKF	H	CL	6	29	R	PW	O	CR	<2.0
WJ009.00	01/05/09	TKF	F	CL	0	30	R	X	C	P	<2.0



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	02/24/09	TKF	HE	N	2	30	R	P	C	P	<2.0
	03/15/09	TKF	HF	SW	3	28	R	W	C	P	<2.0
	04/14/09	TKF	H	S	6	30	R	W	C	P	<2.0
	05/05/09	TKF	HF	NE	10	28	R	X	C	P	<2.0
	06/15/09	TKF	E	CL	15	16	R	P	C	P	340
	07/06/09	TKF	HF	S	19	25	R	P	C	P	5.5
	08/03/09	TKF	F	CL	19	27	R	X	C	P	8
	09/14/09	TKF	HE	W	17	30	R	P	C	P	<2.0
	10/05/09	TKF	HF	N	15	29	R	PW	C	P	20
	11/02/09	EXT	H	NE	9	31	R	X	C	P	4
	12/01/09	TKF	HF	CL	5	28	R	PW	C	P	2
WJ009.70	04/14/09	TKF	H	S	9	29	R	W	O	CR	<2.0
	05/05/09	TKF	HF	NE	11	28	R	X	O	CR	<2.0
	06/15/09	TKF	H	CL	15	27	R	P	O	CR	2
	07/06/09	TKF	H	SE	19	24	R	P	O	CR	4
	08/03/09	TKF	F	S	19	25	R	X	O	CR	2
	09/14/09	TKF	HE	CL	16	30	R	P	O	CR	10
	10/05/09	TKF	HF	N	15	30	R	P	O	CR	22
	11/02/09	EXT	H	NE	9	30	R	X	O	CR	<2.0
	12/01/09	TKF	HF	CL	6	28	R	P	O	CR	<2.0
WJ011.00	01/05/09	TKF	F	CL	0	30	R	X	O	CR	<2.0
	02/24/09	TKF	HE	N	-2	25	R	P	O	CR	<2.0
	03/15/09	TKF	HF	S	5	22	R	W	O	CR	<2.0
	04/14/09	TKF	H	S	9	25	R	W	O	CR	<2.0
	05/05/09	TKF	HF	CL	11	28	R	X	O	CR	2
	06/15/09	TKF	H	CL	15	24	R	P	O	CR	44
	07/06/09	TKF	H	S	18	24	R	P	O	CR	24
	08/03/09	TKF	F	S	19	23	R	X	O	CR	22
	09/14/09	TKF	HE	NW	16	30	R	P	O	CR	33
	10/05/09	TKF	HF	N	15	27	R	P	O	CR	82
	11/02/09	EXT	H	NE	9	30	R	X	O	CR	<2.0
	12/01/09	TKF	HF	CL	5	26	R	PW	O	CR	2
WJ014.00	01/05/09	TKF	HF	CL	-1	30	R	X	O	CR	<2.0
	02/24/09	TKF	H	CL	-1	28	R	P	O	CR	<2.0
	03/15/09	TKF	HF	S	4	27	R	X	O	CR	<2.0
	04/14/09	TKF	H	S	7	29	R	W	O	CR	<2.0
	05/05/09	TKF	HF	CL	11	29	R	X	O	CR	<2.0
	06/15/09	TKF	H	CL	15	22	R	P	O	CR	48
	07/06/09	TKF	H	S	19	22	R	P	O	CR	10



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	08/03/09	TKF	F	S	20	25	R	X	O	CR	8
	09/14/09	TKF	HE	CL	16	30	R	P	O	CR	6
	10/05/09	TKF	HF	NW	15	29	R	P	O	CR	31
	11/02/09	EXT	HE	NE	11	31	R	X	O	CR	2
	12/01/09	TKF	HF	CL	6	27	R	PW	O	CR	2
WJ014.20	03/15/09	TKF	HF	CL	5	24	R	W	O	CR	<2.0
	04/14/09	TKF	H	CL	8	28	R	W	O	CR	<2.0
	05/05/09	TKF	HF	NE	11	27	R	X	O	CR	4
	06/15/09	TKF	H	CL	15	20	R	P	O	CR	106
	07/06/09	TKF	H	CL	20	22	R	P	O	CR	8
	08/03/09	TKF	F	S	20	25	R	X	O	CR	12
	09/14/09	TKF	H	CL	17	30	R	P	O	CR	12
	10/05/09	TKF	HF	NW	15	28	R	PW	O	CR	98
	11/02/09	EXT	HE	CL	11	29	R	X	O	CR	2
	12/01/09	TKF	HF	CL	5	26	R	PW	O	CR	4
WJ014.50	04/14/09	TKF	H	S	6	28	R	W	O	CR	<2.0
	05/05/09	TKF	HF	NE	11	28	R	X	O	CR	<2.0
	06/15/09	TKF	H	CL	15	28	R	P	O	CR	6
	07/06/09	TKF	H	CL	18	26	R	P	O	CR	11
	08/03/09	TKF	HF	S	20	26	R	X	O	CR	4
	09/14/09	TKF	H	NW	17	30	R	P	O	CR	4
	10/05/09	TKF	HF	NW	15	28	R	P	O	CR	92
	11/02/09	EXT	HE	CL	10	31	R	X	O	CR	<2.0
	12/01/09	TKF	HF	W	4	26	R	PW	O	CR	2
WJ014.70	04/14/09	TKF	H	S	6	30	R	W	O	CR	<2.0
	05/05/09	TKF	HF	NE	10	28	R	X	C	CR	2
	06/15/09	TKF	H	CL	15	28	R	P	C	CR	<2.0
	07/06/09	TKF	H	S	16	26	R	P	C	CR	<2.0
	08/03/09	TKF	HF	S	19	26	R	X	C	CR	7.3
	09/14/09	TKF	H	NW	16	30	R	P	C	CR	8
	10/05/09	TKF	HF	NW	14	29	R	P	C	CR	52
	11/02/09	EXT	HE	CL	10	31	R	X	C	CR	<2.0
	12/01/09	TKF	HF	W	4	28	R	P	O	CR	2
WJ015.00	04/14/09	TKF	H	S	6	30	R	X	O	CA	<2.0
	05/05/09	TKF	H	NE	10	28	R	X	C	CA	<2.0
	06/15/09	TKF	H	CL	15	28	R	P	C	CA	8
	07/06/09	TKF	H	SW	17	26	R	P	C	CA	2
	08/03/09	TKF	HF	S	19	27	R	X	C	CA	2
	09/14/09	TKF	H	NW	16	30	R	P	C	CA	<2.0



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	10/05/09	TKF	HF	N	15	30	R	P	C	CA	18
	11/02/09	EXT	E	CL	10	31	R	X	C	CA	<2.0
	12/01/09	TKF	HF	W	6	28	R	P	O	CA	<2.0
WJ016.00	03/03/09	EXT	HF	CL	1	31	R	X	O	A	<2.0
	04/14/09	TKF	F	CL	6	30	R	X	O	A	<2.0
	06/15/09	TKF	E	S	15	28	R	P	O	A	4
	07/06/09	TKF	F	CL	17	26	R	P	O	A	6
	08/03/09	TKF	H	S	18	28	R	X	O	A	4
	09/14/09	TKF	H	W	15	30	R	P	O	A	2
	10/05/09	TKF	H	SW	14	30	R	P	O	A	<2.0
	11/02/09	EXT	E	NE	11	32	R	X	O	A	2
	12/01/09	TKF	F	W	7	29	R	P	O	A	2
WJ017.00	01/05/09	TKF	F	CL	2	32	E	X	O	A	44
	03/03/09	EXT	HF	CL	0	31	R	X	O	A	<2.0
	04/14/09	TKF	HF	S	6	30	R	W	O	A	<2.0
	06/15/09	TKF	HE	S	15	28	R	PW	O	A	24
	08/03/09	TKF	H	S	19	28	R	X	O	A	4
	09/14/09	TKF	H	CL	16	30	R	P	O	A	2
	10/05/09	TKF	HF	NW	15	31	A	P	O	A	4
	11/02/09	EXT	E	NE	11	32	R	X	O	A	<2.0
WJ017.50	01/05/09	TKF	F	CL	0	32	E	X	O	A	2
	03/03/09	EXT	H	CL	1	30	R	X	O	A	<2.0
	04/14/09	TKF	HF	S	6	30	R	W	O	A	<2.0
	06/15/09	TKF	HE	S	15	22	R	P	O	A	840
	08/03/09	TKF	H	S	19	28	R	X	C	P	2
	08/31/09	LSM	E	CL	20	30	A	X	C	P	2
	09/01/09	EXT	HE	S	20	28	A	X	C	P	<2.0
	09/14/09	TKF	H	CL	16	30	R	PW	C	P	<2.0
	10/05/09	TKF	HF	NW	14	30	A	PW	C	P	<2.0
	10/14/09	LSM	H	CL	10	31	A	P	C	P	9.1
	11/02/09	EXT	E	NE	11	32	R	X	C	P	2
WJ017.80	01/05/09	TKF	F	W	0	32	E	X	O	A	20
	03/15/09	TKF	HF	S	5	28	R	W	O	A	<2.0
	04/14/09	TKF	HF	S	8	30	R	W	O	A	<2.0
	06/15/09	TKF	HE	CL	15	24	R	PW	O	A	280
	06/15/09	EXT	LF	CL		0	A	X	O	A	>1600
	08/03/09	TKF	H	S	20	28	R	X	C	P	5.5
	09/01/09	EXT	HE	CL	20	28	A	X	C	P	64
	09/14/09	TKF	H	CL	17	30	R	PW	C	P	2.8



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	10/05/09	TKF	HF	NW	15	30	A	PW	C	P	6
	10/14/09	LSM	H	CL	11	31	A	P	C	P	7.3
	11/02/09	EXT	E	NE	12	30	R	X	C	P	9.1
WJ018.00	03/03/09	EXT	H	CL	-1	26	R	X	O	R	<2.0
	04/14/09	TKF	HF	S	7	29	R	W	O	R	<2.0
	06/15/09	TKF	HE	CL	15	26	R	P	O	R	120
	06/15/09	EXT	F	CL		0	A	X	O	R	940
	08/03/09	TKF	H	S	21	27	R	X	C	P	15
	08/31/09	LSM	E	CL	20	20	A	X	C	P	42
	09/01/09	EXT	E	S	21	30	A	X	C	P	<2.0
	09/14/09	TKF	H	N	17	31	R	PW	C	P	4
	10/05/09	TKF	F	N	14	29	A	PW	C	P	16
	10/14/09	LSM	HE	CL	10	30	A	P	C	P	16
	11/02/09	EXT	E	NE	12	32	R	X	C	P	<2.0
WJ018.20	01/05/09	TKF	F	W		32	E	X	O	A	<2.0
	03/15/09	TKF	HF	S	5	29	R	W	O	A	<2.0
	04/14/09	TKF	F	S	6	30	R	W	O	A	<2.0
	06/15/09	TKF	HE	CL	15	26	R	PW	O	A	280
	06/15/09	EXT	F	CL		26	A	X	O	A	60
	08/03/09	TKF	HE	S	21	28	R	X	C	P	<2.0
	08/31/09	LSM	E	N	22	30	A	X	C	P	2
	09/01/09	EXT	E	S	18	30	A	X	C	P	2
	09/14/09	TKF	H	N	15	31	R	PW	C	P	4
	10/05/09	TKF	F	N	14	30	A	PW	C	P	6
	10/14/09	LSM	HE	NE	10	30	A	P	C	P	12
	11/02/09	EXT	E	CL	11	32	R	X	C	P	8
WJ018.60	03/15/09	TKF	F	SW	5	28	R	X	O	A	<2.0
	04/14/09	TKF	F	S	8	30	R	W	O	A	<2.0
	06/15/09	TKF	E	CL	15	28	R	P	O	A	126
	08/03/09	TKF	HE	S	20	28	R	X	C	P	6
	08/31/09	LSM	E	N	20	28	A	X	C	P	15
	09/01/09	EXT	E	S	20	30	A	X	C	P	2
	09/14/09	TKF	HF	CL	16	31	R	PW	C	P	8
	10/05/09	TKF	F	N	15	30	A	PW	C	P	4
	10/14/09	LSM	HE	NE	10	31	A	P	C	P	11
	11/02/09	EXT	E	CL	11	32	R	X	C	P	5.5
WJ018.90	01/05/09	TKF	F	CL	-1	32	E	X	O	A	<2.0
	03/15/09	TKF	F	SW	4	28	R	X	O	A	<2.0
	04/14/09	TKF	F	S	7	29	R	X	O	A	<2.0



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	06/15/09	TKF	E	CL	15	28	R	PW	O	A	140
	08/03/09	TKF	HE	S	21	28	R	X	C	P	<2.0
	09/01/09	EXT	E	S	21	30	A	X	C	P	<2.0
	09/14/09	TKF	HF	NW	16	31	R	PW	C	P	4
	10/05/09	TKF	F	N	14	30	A	PW	C	P	<2.0
	11/02/09	EXT	E	CL	11	32	R	X	C	P	<2.0
WJ019.00	01/05/09	TKF	F	CL	-1	32	E	X	O	A	<2.0
	03/15/09	TKF	F	SW	7	29	R	W	O	A	<2.0
	04/14/09	TKF	F	S	8	30	R	W	O	A	<2.0
	06/15/09	TKF	E	CL	15	29	R	PW	O	A	10
	08/03/09	TKF	HE	S	20	28	R	X	O	A	<2.0
	09/14/09	TKF	HF	CL	17	31	R	PW	O	A	4
	10/05/09	TKF	F	N	14	30	A	PW	O	A	8
	12/01/09	TKF	F	CL	5	29	R	P	O	A	2
WJ024.00	03/03/09	EXT	HE	NW	-1	31	R	X	O	A	<2.0
	04/14/09	TKF	F	S	5	30	R	X	O	A	<2.0
	06/15/09	TKF	E	CL	15	30	R	PW	O	A	2
	08/03/09	TKF	HE	S	20	29	R	X	O	A	<2.0
	09/14/09	TKF	HF	W	15	31	R	P	O	A	<2.0
	11/02/09	EXT	E	CL	11	31	R	X	O	A	<2.0
WJ026.00	03/15/09	TKF	F	CL	2	30	R	W	O	A	<2.0
	04/14/09	TKF	F	NW	10	30	R	X	O	A	<2.0
	06/15/09	TKF	E	CL	15	30	R	P	O	A	2
	08/03/09	TKF	HE	S	20	29	R	X	O	A	7.3
	09/14/09	TKF	HF	W	16	31	R	PW	O	A	4
	11/02/09	EXT	E	CL	9	32	R	X	O	A	<2.0
WJ027.30	03/30/09	MLP	F	CL	5	26	R	P	O	A	<2.0
	04/14/09	MCMU	E	CL	9	30	R	X	O	A	<2.0
	06/09/09	MCMU	HF		14	30	R	P	O	A	<2.0
	08/17/09	DD	E	CL	24	28	R	X	O	A	<2.0
	09/22/09	MCMU	F	SW	19	30	R	X	O	A	<2.0
	12/01/09	DD	E	CL	5	30	R	P	O	A	2
WJ027.50	03/18/09	DD	F	SW	5	21	R	X	O	A	<2.0
	04/14/09	MCMU	E	CL	7	30	R	X	O	A	<2.0
	06/09/09	MCMU	HF		14	30	R	P	O	A	<2.0
	08/17/09	DD	HE	CL	22	30	R	X	O	A	<2.0
	09/22/09	MCMU	F	SW	16	30	R	X	O	A	<2.0
	12/01/09	DD	E	CL	5	29	R	P	O	A	<2.0
WJ030.00	03/18/09	DD	F			2	R	X	C	P	4



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	04/14/09	MCMU	HE	CL	7	0	R	W	C	P	<2.0
	06/09/09	MCMU	HF		14	10	R	P	C	P	22
	08/17/09	DD	HE	CL	24	21	R	X	C	P	44
	09/22/09	MCMU	F	CL	17	30	R	X	C	P	<2.0
	12/01/09	DD	E	CL	4	12	R	P	C	P	29
WJ031.50	03/30/09	MLP	F	NW	5	28	R	PW	O	A	3.6
	04/14/09	MCMU	E	S	8	28	R	X	O	A	6
	06/09/09	MCMU	HF		15	29	R	P	O	A	<2.0
	08/17/09	DD	HE	CL	25	30	R	X	O	A	2
	09/01/09	EXT	E	CL	22	30	A	X	O	A	2
	09/22/09	MCMU	F	SW	18	30	R	X	O	A	2
	12/01/09	DD	E	CL	4	28	R	P	O	A	<2.0
WJ032.00	03/30/09	MLP	F	N	4	28	R	PW	O	A	13
	04/14/09	MCMU	E	S	9	30	R	W	O	A	2
	05/06/09	EXT	HF	CL	12	28	R	P	O	A	2
	06/09/09	MCMU	H		15	30	R	PN	O	A	<2.0
	07/08/09	DD	HF	E	17	24	R	PW	O	A	22
	08/17/09	DD	HE	CL	23	28	R	X	O	A	4
	08/31/09	LSM	HE	N	20	28	A	X	O	A	2
	09/01/09	EXT	E	CL	22	30	A	X	O	A	<2.0
	09/22/09	MCMU	F	SW	16	30	R	X	O	A	2
	12/01/09	DD	E	CL	4	28	R	P	O	A	<2.0
WJ033.00	03/30/09	MLP	F	N	5	28	R	P	C	CA	<2.0
	04/14/09	MCMU	HE	SW	12	28	R	X	O	CA	2
	05/06/09	EXT	HF	CL	12	28	R	P	O	CA	2
	06/09/09	MCMU	H		15	28	R	P	O	CA	4
	07/08/09	DD	F	CL	17	22	R	PW	O	CA	100
	08/17/09	DD	HE	CL	24	28	R	X	O	CA	14
	08/31/09	LSM	E	N	20	30	A	X	C	CA	40
	09/01/09	EXT	E	CL	22	28	A	X	C	CA	9.1
	09/22/09	MCMU	F	SW	19	28	R	W	C	CA	<2.0
	12/01/09	DD	E	W	3	28	R	P	C	CA	<2.0
WJ034.00	03/30/09	MLP	F	N	5	20	R	P	O	A	16
	04/14/09	MCMU	HE	S	11	28	R	X	O	A	2
	05/06/09	EXT	H	CL	12	26	R	P	O	A	4
	06/09/09	MCMU	H		15	30	R	PW	O	A	12
	07/08/09	DD	F	E	18	26	R	P	O	A	12
	08/17/09	DD	H	CL	24	28	R	X	O	A	3.6
	08/31/09	LSM	E	N	20	25	A	X	O	A	10



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
WJ035.00	09/22/09	MCMU	F	SW	18	30	R	X	O	A	<2.0
	12/01/09	DD	E	W	3	27	R	P	O	A	4
	03/18/09	DD	F	SW	5	30	R	X	O	A	<2.0
	04/14/09	MCMU	H	S	9	28	R	X	O	A	<2.0
	06/09/09	MCMU	H		15	29	R	P	O	A	<2.0
	08/17/09	DD	H	CL	24	28	R	X	O	A	2
	09/22/09	MCMU	F	SW	16	30	R	X	O	A	<2.0
WJ038.00	12/01/09	DD	E	W	3	28	R	P	O	A	4
	03/18/09	DD	F	SW	4	32	R	X	O	A	<2.0
	04/14/09	MCMU	HF	S	6	30	R	X	O	A	<2.0
	06/09/09	MCMU	H		13	30	R	P	O	A	<2.0
	08/17/09	DD	H	CL	21	28	R	X	O	A	<2.0
	09/22/09	MCMU	F	SW	16	30	R	X	O	A	<2.0
WJ046.00	12/01/09	DD	E	W	3	29	R	P	O	A	<2.0
	03/18/09	DD	F	SW	5	31	R	X	O	A	<2.0
	04/14/09	MCMU	HF	S	7	30	R	X	O	A	<2.0
	06/09/09	MCMU	H		13	30	R	P	O	A	<2.0
	08/04/09	DD	H	CL	20	28	R	X	O	A	<2.0
	09/22/09	MCMU	F	SW	16	30	R	X	O	A	2
WJ047.00	12/01/09	DD	E	W	3	30	R	P	O	A	2
	01/13/09	DD	H	SE	-2	32	R	X	O	CA	<2.0
	02/11/09	DD	F	CL	-5	28	R	X	O	CA	<2.0
	03/18/09	DD	F	S	4	32	R	X	O	CA	<2.0
	04/14/09	MCMU	HF	S	5	30	R	M	O	CA	<2.0
	05/11/09	MCMU	H	NW	10	29	E	M	C	CA	<2.0
	06/09/09	MCMU	H		13	30	R	PM	C	CA	2
	08/04/09	DD	H	CL	20	28	R	X	C	CA	<2.0
	09/22/09	MCMU	F	SW	16	30	R	M	C	CA	<2.0
	12/15/09	MCMU	H	CL	4	30	R	P	O	CA	<2.0
WJ048.00	03/18/09	DD	F	S	4	31	R	X	O	A	8
	04/14/09	MCMU	F	SE	6	30	R	W	O	A	<2.0
	06/09/09	MCMU	H		14	29	R	P	O	A	<2.0
	08/04/09	DD	H	CL	20	28	R	X	O	A	2
	09/22/09	MCMU	F	SW	16	30	R	X	O	A	<2.0
	12/01/09	DD	HE	W	5	29	R	P	O	A	<2.0
WJ048.50	03/30/09	MLP	HF	CL	5	29	R	PW	O	A	<2.0
	04/14/09	MCMU	F	SE	9	30	R	W	O	A	<2.0
	06/09/09	MCMU	HE		14	30	R	P	O	A	22



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	08/04/09	DD	H	CL	22	28	R	X	O	A	2
	09/22/09	MCMU	HF	SW	17	30	R	X	O	A	2
	12/01/09	DD	HE	W	5	28	R	P	O	A	2
WJ049.00	03/18/09	DD	F	SE		30	R	X	O	A	4
	04/14/09	MCMU	F	SE	7	30	R	X	O	A	<2.0
	06/09/09	MCMU	HE		14	30	R	P	O	A	<2.0
	08/04/09	DD	HF	CL	22	28	R	X	O	A	<2.0
	09/22/09	MCMU	F	SW	17	30	R	X	O	A	<2.0
	12/01/09	DD	HE	W	5	30	R	P	O	A	2
WJ049.50	03/25/09	MLP	E	NE	6	31	R	X	O	A	<2.0
	04/14/09	MCMU	F	SE	6	30	R	X	O	A	<2.0
	06/09/09	MCMU	HE		14	30	R	P	O	A	2
	08/04/09	DD	HF	CL	22	28	R	X	O	A	6
	09/22/09	MCMU	F	SW	17	30	R	X	O	A	2
	12/01/09	DD	HE	W	5	29	R	P	O	A	<2.0
WJ050.50	03/18/09	DD	F	SE		29	R	X	O	A	<2.0
	04/14/09	MCMU	F	SE	6	30	R	X	O	A	<2.0
	06/09/09	MCMU	HE		14	30	R	PN	O	A	<2.0
	08/04/09	DD	HF	CL	22	28	R	X	O	A	<2.0
	09/22/09	MCMU	F	SW	17	31	R	X	O	A	6
	12/01/09	DD	HE	W		28	R	P	O	A	<2.0
WJ051.00	03/25/09	MLP	E	N	3	29	R	X	O	A	<2.0
	04/15/09	SCF	HE	CL	10	29	R	X	O	A	<2.0
	06/10/09	GBR	F	CL	13	30	R	X	O	A	14
	08/05/09	GBR	HF	CL	23	28	R	X	O	A	2
	09/21/09	GBR	F	CL	16	30	R	X	O	A	6
	10/28/09	GBR	HE	CL	8	28	R	X	O	A	3.6
WJ055.00	03/25/09	MLP	E	N	5	32	R	X	O	A	<2.0
	04/15/09	SCF	HE	CL	10	29	R	X	O	A	<2.0
	06/10/09	GBR	F	CL	11	30	R	X	O	A	<2.0
	08/05/09	GBR	HF	CL	22	28	R	X	O	A	6
	09/21/09	GBR	F	CL	16	30	R	X	O	A	<2.0
	10/28/09	GBR	HE	CL	9	32	R	X	O	A	<2.0
WJ056.00	03/03/09	SCF	L	NE	0	31	R	X	O	A	<2.0
	04/15/09	SCF	F	NE	10	29	R	X	O	A	<2.0
	06/10/09	GBR	F	CL	11	30	R	X	O	A	2
	08/05/09	GBR	HF	CL	21	29	R	X	O	A	6
	09/21/09	GBR	F	CL	16	30	R	X	O	A	<2.0
	10/28/09	GBR	E	CL	9	32	R	X	O	A	<2.0



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
WJ057.00	03/25/09	MLP	E	CL	4	30	R	X	C	P	<2.0
	04/15/09	SCF	F	CL	9	30	R	X	C	P	<2.0
	06/10/09	GBR	F	CL	12	30	R	X	C	P	<2.0
	08/05/09	GBR	HF	CL	20	30	R	X	C	P	<2.0
	09/21/09	GBR	F	CL	17	30	R	X	C	P	<2.0
	10/28/09	GBR	E	CL	8	32	R	X	C	P	<2.0
WJ058.00	04/15/09	SCF	F	CL	9	30	R	W	C	P	<2.0
	06/10/09	GBR	F	CL	10	30	R	X	C	P	<2.0
	07/20/09	GBR	L		21	26	R	X	C	P	<2.0
	08/05/09	GBR	H	CL	22	26	R	X	C	P	120
	09/21/09	GBR	F	CL	18	28	R	X	C	P	67
	10/28/09	GBR	E	CL	10	32	R	X	C	P	<2.0
WJ059.00	03/25/09	MLP	E	N	5	31	R	X	O	A	<2.0
	04/15/09	SCF	F	CL	9	30	R	X	O	A	<2.0
	06/10/09	GBR	F	CL	10	30	R	X	O	A	<2.0
	08/05/09	GBR	H	CL	20	28	R	X	O	A	4
	09/21/09	GBR	HF	CL	17	30	R	X	O	A	<2.0
	10/28/09	GBR	E	CL	9	32	R	X	O	A	2
WJ060.00	03/25/09	MLP	E	CL	5	32	R	W	O	A	<2.0
	04/15/09	SCF	F	CL	11	30	R	X	O	A	<2.0
	06/10/09	GBR	F	CL	11	30	R	X	O	A	<2.0
	08/05/09	GBR	H	CL	22	26	R	X	O	A	2
	09/21/09	GBR	HF	CL	18	30	R	X	O	A	<2.0
	10/28/09	GBR	E	CL	10	32	R	X	O	A	<2.0
WJ062.00	01/06/09	SCF	LE	CL	5	32	R	X	O	CA	<2.0
	02/11/09	GBR	HE	CL	5	32	R	X	O	CA	<2.0
	03/03/09	SCF	LF	CL	2	31	R	X	O	CA	<2.0
	04/15/09	SCF	F	NW	9	30	R	X	C	CA	<2.0
	06/10/09	GBR	F	CL	12	29	R	X	C	CA	<2.0
	08/05/09	GBR	H	CL	19	28	R	X	C	CA	<2.0
	09/21/09	GBR	HF	CL	15	30	R	X	C	CA	<2.0
	10/28/09	GBR	E	CL	10	32	R	X	C	CA	6
	12/02/09	GBR	HF	SE	7	30	R	X	O	CA	<2.0
	12/16/09	GBR	F	SE	4	30	R	X	O	CA	<2.0
WJ063.00	01/06/09	SCF	LE	CL	4	32	R	X	O	CA	<2.0
	02/11/09	GBR	HE	CL	4	32	R	X	O	CA	<2.0
	03/03/09	SCF	F	CL	2	31	R	X	O	CA	<2.0
	04/15/09	SCF	F	CL	10	32	R	W	C	CA	<2.0
	06/10/09	GBR	F	CL	11	30	R	X	C	CA	<2.0



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	08/05/09	GBR	H	CL	18	28	R	X	C	CA	2
	09/21/09	GBR	HF	CL	14	31	R	X	C	CA	6
	09/30/09	GBR	E	CL	15	31	E	W	C	CA	100
	10/14/09	GBR	HE	CL	12	32	E	X	C	CA	<2.0
	10/28/09	GBR	E	CL	10	32	R	X	C	CA	<2.0
	12/02/09	GBR	H	SE	8	30	R	X	O	CA	<2.0
	12/16/09	GBR	F	SE	5	30	R	X	O	CA	4
WJ064.00	01/06/09	SCF	LE	CL	4	32	R	W	O	CA	2
	02/11/09	GBR	HE	CL	5	31	R	X	O	CA	<2.0
	03/25/09	MLP	HE	CL	5	32	R	W	O	CA	<2.0
	04/15/09	SCF	F	CL	10	31	R	X	O	CA	<2.0
	06/10/09	GBR	F	CL	11	30	R	X	C	CA	<2.0
	08/05/09	GBR	H	CL	21	28	R	X	C	CA	<2.0
	09/21/09	GBR	HF	CL	15	31	R	X	C	CA	2
	09/30/09	GBR	E	CL	16	30	E	X	C	CA	<2.0
	10/14/09	GBR	HE	CL	12	32	E	X	C	CA	7.3
	10/28/09	GBR	E	CL	10	32	R	X	C	CA	<2.0
	12/02/09	GBR	H	CL	7	30	R	X	O	CA	4
	12/16/09	GBR	F	SE	4	30	R	X	O	CA	6
WJ065.00	01/12/09	EXT	E	CL	-1	31	R	X	O	CA	<2.0
	03/03/09	SCF	F	CL	2	31	R	X	O	CA	<2.0
	03/25/09	MLP	HE	CL	3	32	R	X	O	CA	<2.0
	04/15/09	SCF	F	CL	10	30	R	X	O	CA	<2.0
	06/10/09	GBR	F	CL	13	30	R	X	C	CA	<2.0
	08/05/09	GBR	HE	CL	25	25	R	X	C	CA	18
	09/21/09	GBR	HF	CL	18	30	R	X	C	CA	<2.0
	09/30/09	GBR	E	CL	17	26	E	X	C	CA	56
	10/14/09	GBR	HE	CL	10	32	E	X	C	CA	2
	10/28/09	GBR	E	CL	10	32	R	X	C	CA	<2.0
	12/02/09	GBR	H	CL	5	28	R	X	O	CA	2
	12/16/09	GBR	F	SE	5	30	R	X	O	CA	2
WJ066.00	01/12/09	EXT	E	CL	0	31	R	X	O	CA	<2.0
	02/11/09	GBR	HE	CL	3	32	R	X	O	CA	<2.0
	03/25/09	MLP	HE	N	4	32	R	X	O	CA	<2.0
	04/15/09	SCF	F	CL	10	30	R	X	O	CA	<2.0
	06/10/09	GBR	F	CL	12	29	R	X	C	CA	<2.0
	08/05/09	GBR	HE	CL	21	28	R	X	C	CA	40
	09/21/09	GBR	HF	CL	16	30	R	X	C	CA	<2.0
	09/30/09	GBR	E	CL	17	28	E	X	C	CA	12



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	10/14/09	GBR	E	CL	9	32	E	X	C	CA	<2.0
	10/28/09	GBR	E	CL	9	32	R	X	C	CA	<2.0
	12/02/09	GBR	H	CL	6	28	R	X	O	CA	4
	12/16/09	GBR	F	SE	5	30	R	X	O	CA	4
WJ067.00	03/25/09	MLP	HE	E	5	32	R	X	O	R	<2.0
	04/15/09	SCF	F	CL	10	31	R	X	O	R	<2.0
	06/10/09	GBR	F	CL	12	30	R	X	O	R	<2.0
	08/05/09	GBR	HE	CL	23	28	R	X	O	R	2
	09/21/09	GBR	HF	CL	17	30	R	X	O	R	9.1
	09/30/09	GBR	E	CL	16	30	E	X	O	R	4
	10/14/09	GBR	E	CL	11	32	E	X	O	R	2
	10/28/09	GBR	E	CL	9	32	R	X	O	R	<2.0
	12/02/09	GBR	H	SE	7	30	E	X	O	R	<2.0
WJ067.50	09/30/09	GBR	E	CL	18	30	E	X	C	P	2
	10/14/09	GBR	E	CL	11	30	E	X	C	P	2
	10/28/09	GBR	E	CL	9	32	R	X	C	P	<2.0
	12/02/09	GBR	H	SE	7	30	E	X	C	P	<2.0
	12/16/09	GBR	F	SE	3	28	E	X	O	R	2
WJ068.00	03/03/09	SCF	F	NE	2	30	R	X	C	P	<2.0
	04/15/09	SCF	F	CL	11	31	R	X	C	P	<2.0
	06/10/09	GBR	HF	CL	13	30	R	X	C	P	<2.0
	08/05/09	GBR	HE	CL	23	28	R	X	C	P	22
	09/21/09	GBR	HF	CL	17	31	R	X	C	P	<2.0
	09/30/09	GBR	E	CL	17	28	E	X	C	P	25
	10/14/09	GBR	E	CL	9	30	E	X	C	P	60
	10/28/09	GBR	E	CL	9	32	R	X	C	P	<2.0
	12/02/09	GBR	H	SE	5	30	E	X	C	P	2
	12/16/09	GBR	HF	SE	-3	26	E	X	O	R	146
WJ068.50	09/30/09	GBR	E	CL	17	30	E	X	C	P	24
	10/14/09	GBR	E	CL	8	32	E	X	C	P	16
	10/28/09	GBR	E	CL	9	32	R	X	C	P	<2.0
	12/02/09	GBR	H	SE	5	30	E	X	C	P	2
	12/16/09	GBR	HF	SE	-1	28	E	X	O	R	6
WJ070.00	03/03/09	SCF	F	NE	2	31	R	X	O	R	<2.0
	04/15/09	SCF	HF	CL	11	30	R	X	O	R	<2.0
	06/10/09	GBR	HF	CL	12	30	R	X	O	R	2
	08/05/09	GBR	HE	CL	20	28	R	X	O	R	<2.0
	09/21/09	GBR	H	CL	16	30	R	X	O	R	12
	10/28/09	GBR	E	CL	8	32	R	X	O	R	<2.0



Station	Date	Collect	Tide	Wind	Temp	Sal	Strat	Adv	Status	Class	Col
	12/02/09	GBR	HE	SE	7	31	E	X	O	R	2