



GROWING AREA WN

Sheepscot River

ANNUAL REVIEW for 2009

Report Date: May 3, 2010

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APPROVAL

Division Director:

_____ Date: _____
Print name signature



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Figure 1. Growing Area WN, with Active Water Stations

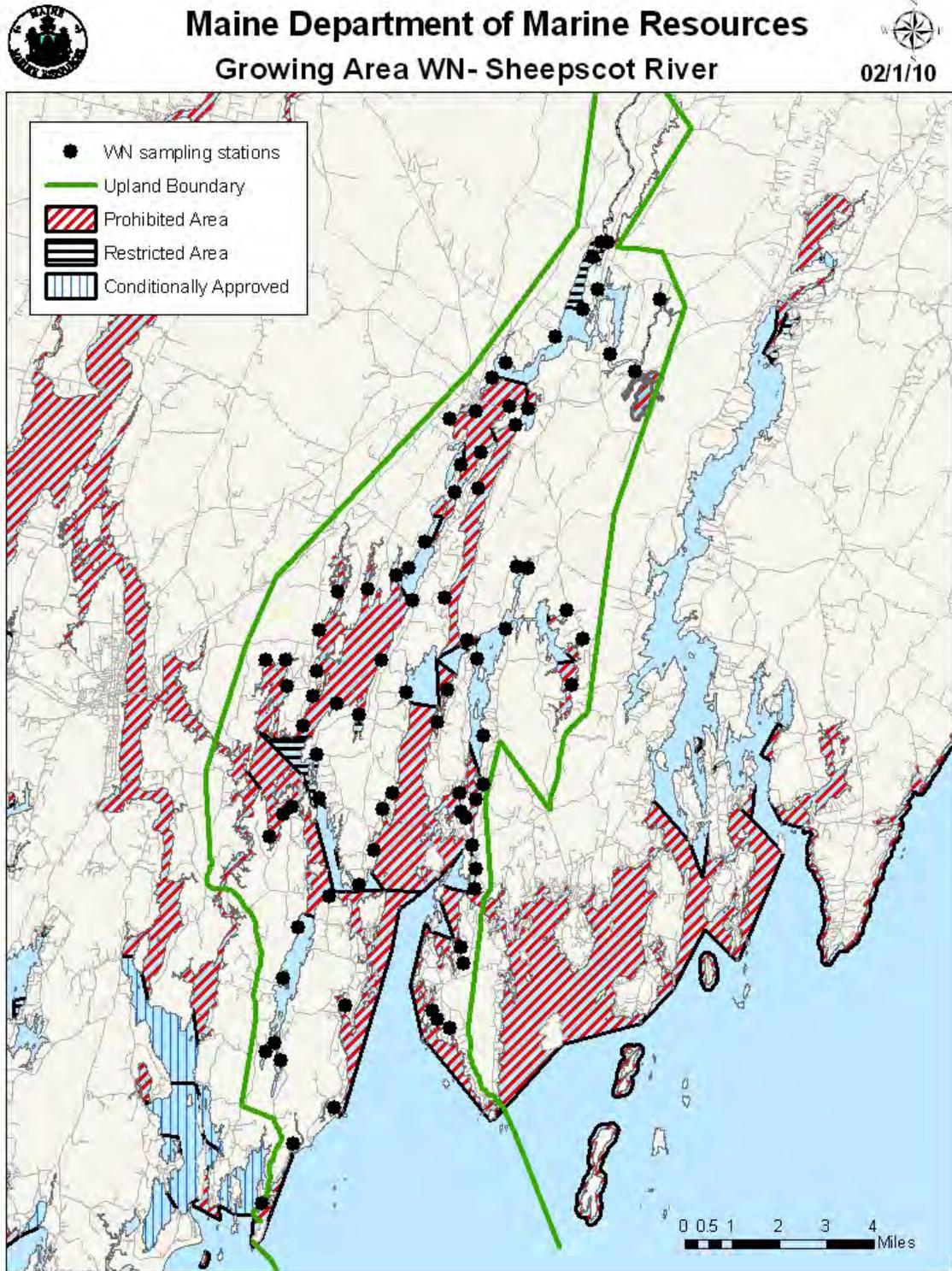




Figure 2. Growing Area WN, Upper Sheepscot River

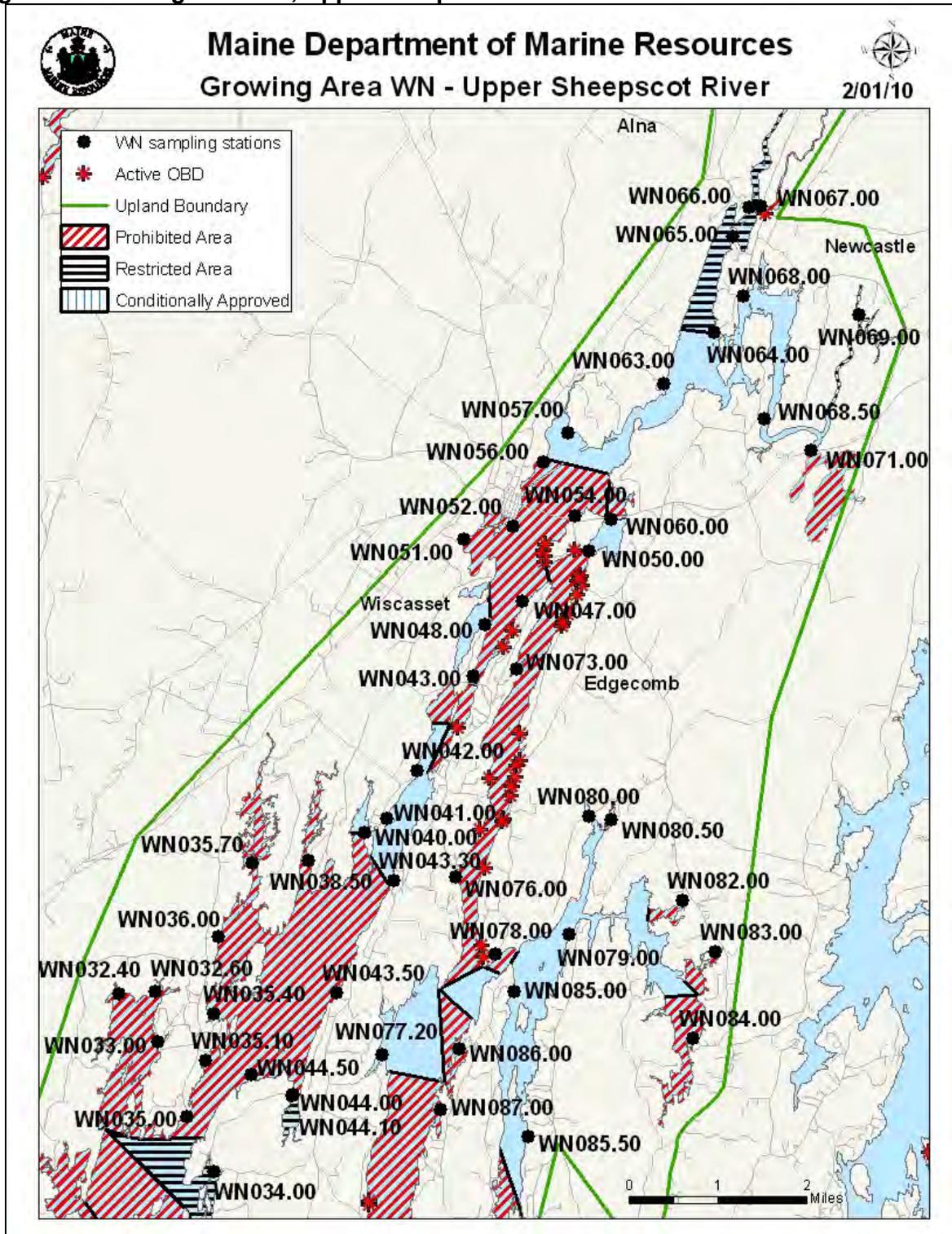
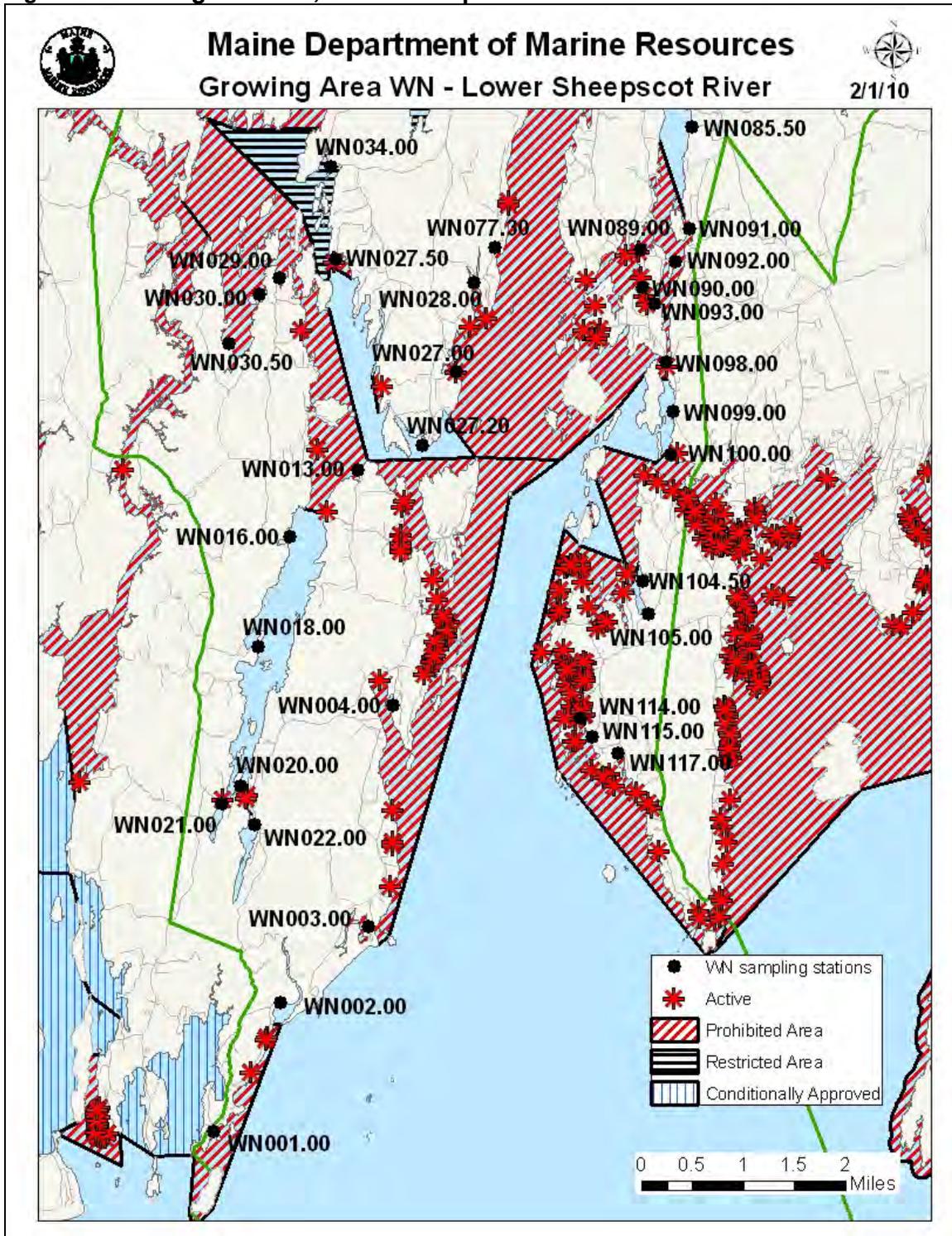




Figure 3. Growing Area WN, Lower Sheepscot River





Executive Summary

This is an annual report for growing area WN written in compliance with the requirements of the 2007 Model Ordinance and the National Shellfish Sanitation Program. The next triennial report for growing area WN is due at the end of 2011; the next sanitary survey report is due in 2020.

During the 2009 review year, no water quality stations were created or deactivated. Five over board discharges (OBDs) were removed; one from each town: Edgecomb, Boothbay and Boothbay Harbor, and two from Southport. Multiple classification changes occurred in area WN in 2009, including downgrades in classification for areas that had poor water quality and known pollution sources, and upgrades in classification for areas that received an updated shoreline survey that did not note any pollution sources. At the end of the 2009 review year, all WN stations were meeting their NSSP standard and no downgrades in classification are required. As a result of this annual review, three areas are being proposed for an upgrade in classification: Griffith Head Lagoon, Georgetown is being recommended for an upgrade from prohibited to approved due to water quality meeting the approved standard; the area between Boothbay and Barter's Island is being proposed for an upgrade in classification from prohibited to approved due to the remediation of five pollution sources, and Montsweag Creek, Woolwich/Wiscasset, is being recommended for an upgrade from prohibited to approved, due to the remediation of two pollution sources and water quality meeting the approved standard.

Growing Area Description

Growing Area WN includes the Sheepscot River estuary, located in Lincoln County, in midcoast Maine (Figure 1). It encompasses the shellfish growing beds located east of a line from the southwest tip of Salter Island, off Indian Point Georgetown; and east of the Rt # 127 bridge connecting Georgetown and Arrowsic over Back River; and east of a line across Upper Hells Gate on the Sasanoa River from Arrowsic to Barley Neck in Woolwich; and south of a line at Head of Tide in Alna; then west of a line drawn from there to the intersection of Lewis Hill Road and US Rt#1, then to the eastern end of Old County Road, Edgecomb: then following Rt #27S to Lakeside Drive, Boothbay: then west of a line drawn across Townsend Gut from Oak Point to Southport Island; then south along Hendricks Hill Road to the southwestern tip of Southport Island. Detailed maps of the growing area are provided in Figures 2 and 3.

The towns in growing area WN are all located in Lincoln County, approximately 50 miles northeast of the nearest major city of Portland, Maine. Coastal portions of the towns in area WN are situated on the Back River, Sasanoa River, Cross River, Robinhood Cove, Little Sasanoa River, Harmon's Harbor, Hockomock Bay, Brookings Bay, Chewonki Creek, Montsweag Bay, Cushman Cove, Polly Clark Cove, Pottle Cove, Hilton Cove, Cod Cove, Squam Creek, McCarty Cove, Greenleaf Cove, Long Cove, Jewell Cove and Fowle Cove. All of these towns and water bodies lie within the Sheepscot River watershed. The river flows through the following towns: Alna, Newcastle, Wiscasset, Edgecomb, Westport, Boothbay, Boothbay Harbor, Southport, Georgetown, Woolwich, and Arrowsic. The growing area's head of tide is located at the Head Tide Dam in Alna; from the head of tide down to Wiscasset is a 5 mile long upper estuary with extensive mud flats and salt marshes. Major streams enter the river here, the Dyer River in Sheepscot Village and the Marsh River and Deer Meadow Brook just above Wiscasset. The



Sheepscot River estuary is connected with the Kennebec River estuary to the west by the Sasanoa River. The Sheepscot River continues south from Wiscasset for about 17.5 miles before it empties into the Atlantic Ocean.

Current Classification(s)

At the end of 2009, growing area WN had areas classified as:

Approved (26 stations) (WN 2, 16, 18, 20, 21, 22, 27.2, 40, 41, 42, 43.3, 48, 57, 60, 63, 68, 68.5, 71, 77.2, 79, 80, 85, 85.5, 99, 104.5, 105)

Restricted

Area 21-A: Upper Sheepscot River (Wiscasset, Alna, Newcastle) (3 stations: WN 64, 65, and 66); due to water quality not meeting the approved standard.

Area 21-A: Deer Meadow Brook (Newcastle): (1 station: WN 69); due to water quality not meeting the approved standard.

Area 21-C: Squam Creek area, Westport Island (1 station: WN 44); due to water quality not meeting the approved standard.

Area 21-E: Westport Island (1 station: WN 34); due to water quality not meeting the approved standard.

Prohibited

Area 21-A: Dyer River (Newcastle): no stations, due to the presence of an OBD.

Area 21-A: Sherman Lake (Newcastle): no stations, due to lack of survey and no water monitoring stations.

Area 21-B: Sheepscot River (Wiscasset, Edgecomb, Westport Island) (9 stations: WN 43, 47, 50, 51, 52, 54, 56 (boundary with Approved area), 73 and 76); due to the presence of OBDs and/or WWTP outfall.

Area 21-C: Back River (Wiscasset, Westport Island), no stations, due to the presence of OBDs.

Area 21-D: northwest shore of Barters Island (1 station WN 86, due to identified pollution sources)

Area 21-D: Cross River (Edgecomb, Boothbay): (1 station, WN 78); due to identified pollution sources.

Area 21-D: Parsons Creek (Edgecomb): (1 station: WN 80.5); due to identified septic system malfunction.

Area 21-D: Sherman Creek (Edgecomb, Boothbay): (1 station, WN 82); due to non-point source pollution.

Area 21-D: Wildcat Creek (Boothbay): (1 station, WN 83); due to non-point source pollution.

Area 21-D: Cross River (Boothbay): (1 station, WN 84); due to non-point source pollution.

Area 21-D: Sheepscot River (Westport Island and Boothbay): (10 stations: WN 27, 28, 77.3, 87, 89, 90, 91, 92, 93, and 98); due to water quality not meeting the approved standard, the presence of OBDs, and/or identified pollution sources.



Area 21-E: Hockomock and Knobble Bays (Woolwich, Arrowsic and Georgetown): (4 stations, WN 13, 29, 30, and 30.5); due to the presence of OBDs and water quality not meeting the approved standards.

Area 21-E: Tarbox Cove (Westport): (1 station, WN 27.5); due to the presence of an OBD.

Area 21-E: Bailey Cove (Westport): no station, due to the presence of an OBD.

Area 21-E: southwest lobe of Robinhood Cove (Georgetown): no station; due to the presence of an OBD.

Area 21-E: southeast lobe of Robinhood Cove (Georgetown): no station; due to the presence of an OBD.

Area 21-F: Sheepscot River (Georgetown): (2 stations, WN 3 and 4); due to the presence of OBDs and identified pollution sources.

Area 21-F: Lower Sheepscot River (Georgetown): (1 station, WN 2); due to presence of OBDs and identified pollution sources.

Area 21-F: Lower Sheepscot River (Southport and Boothbay Harbor); (1 station, WN 100); due to the presence of numerous OBDs.

Area 21-F: Ebencook Harbor (Southport): no station, due to lack of sanitary survey

Area 21-F: Lower Sheepscot River (Southport): (4 stations, WN 112, 114, 115 and 117); due to the presence of numerous OBDs.

The following four stations have less than 30 data points, and are considered "New" stations: WN 35.7, 38.5, 44.1, and 67; these stations do not have a classification assigned to them.

Please visit the DMR website to view Legal Notices:

Area No. 21-A Upper Sheepscot River and Tributaries (Wiscasset, Alna, Newcastle)

Area No. 21-B Sheepscot River (Wiscasset, Westport Island, Edgecomb)

Area No. 21-C Back River and Montsweag Bay (Woolwich, Wiscasset, Westport Island)

Area No. 21-D Sheepscot River (Westport Island, Edgecomb, Boothbay, Boothbay Harbor)

Area No. 21-E Hockomock Bay to Robinhood Cove (Woolwich to Georgetown)

Area No. 21-F Lower Sheepscot River and Sheepscot Bay (Georgetown, Southport)

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

Activity during Review Period

The following classification changes occurred during the review year:

Pollution Area 21-A

No classification changes in 2009.

Pollution Area 21-B

Sept. 4, 2009: Area No. 21-B, Sheepscot River (Wiscasset, Westport Island, Edgecomb), amended on March 18, 2008; amendment reclassifies Cushman Cove (Wiscasset) and the Mason Station salt pond (Wiscasset) from prohibited to approved, due to an updated shoreline



survey, water quality meeting the approved standard and the completion of the sanitary survey report and data analysis for this area.

Dec. 7, 2009: Area No. 21-B, Sheepscot River (Wiscasset, Westport Island, Edgecomb); amendment reclassifies a portion of Cod Cove (Edgecomb), located south of the US Rt 1 bridge, from prohibited to approved, due to the completion of a shoreline survey. The upper portion of Cod Cove remains classified as prohibited due to identified septic system malfunctions.

Pollution Area 21-C

Jan. 12, 2009: Area No. 21-C, Back River and Montsweag Bay (Woolwich, Wiscasset, Westport Island); amendment reclassifies a portion of Back River and Montsweag Bay from approved to restricted due to water quality exceeding approved criteria, due to non-point source pollution.

March 18, 2009: Area No. 21-C, Back River and Montsweag Bay (Woolwich, Wiscasset, Westport Island); this amendment reclassifies a portion of Back River and Montsweag Bay from restricted to prohibited due to the presence of multiple septic system malfunctions.

March 24, 2009: Area No. 21-C, Back River and Montsweag Bay (Woolwich, Wiscasset, Westport Island); amendment reclassifies Squam Creek (Westport Island) from prohibited to restricted, due to water quality meeting the restricted standard.

Pollution Area 21-D

March 18, 2009: Area No. 21-D, Sheepscot River (Westport Island, Edgecomb, Boothbay, Boothbay Harbor); amendment reclassifies Oven's Mouth (Edgecomb and Boothbay) from prohibited to approved, due to the removal of 3 over board discharges, and modifies the northernmost boundary line of the prohibited area between Westport Island and Barter's Island, due to water quality not meeting the approved standard.

June 8, 2009: Area No. 21-D, Sheepscot River (Westport Island, Edgecomb, Boothbay, Boothbay Harbor), amended on March 18, 2009; amendment reduces the size of the prohibited area in Parsons Creek, based on a revised dilution calculation for a septic malfunction.

Oct. 21, 2009: Area No. 21-D, Sheepscot River (Westport Island, Edgecomb, Boothbay, Boothbay Harbor), amended on June 8, 2009. This amendment clarifies the description of closure lines for sections E (Wildcat Creek, Boothbay) and F (Cross River, Boothbay).

Pollution Area 21-E

Jan. 12, 2009: Area No. 21-E, Hockomock Bay to Robinhood Cove (Woolwich to Georgetown); amendment reclassifies the upper portion of Hockomock Bay from approved to restricted due to water quality exceeding approved criteria, because of non-point source pollution.

June 8, 2009: Area No. 21-E, Area No. 21-E, Hockomock Bay to Robinhood Cove (Woolwich to Georgetown); amended on January 12, 2009. This amendment enlarges the prohibited area



surrounding two over board discharges in Robinhood Cove, based on an updated dilution calculation.

Pollution Area 21-F

No classification changes in 2009.

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

There are no conditionally managed areas in growing WN.

Water Quality Review and Discussion

Table 1 lists all active approved, restricted and prohibited stations in Growing Area WN, with their respective Geomean and P90 scores for 2009. Please refer to Appendix A 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 respective NSSP classification standards at the end of 2009. Stations WN 13, 27.5, 43, 50, 56, 64, 98 and 100 are boundary stations between prohibited or restricted areas and approved areas; these stations must meet the approved classification standard. At the end of 2009, all boundary stations met the approved standard. Some prohibited stations met the approved standards at the end of 2009, and are being proposed for an upgrade in classification. These stations include WN 3, 35.7, 36, 89, 90 and 91.

Table 1. Geomean and P90 Scores, Growing Area WN, 2004-2009

Station	Class	Count	MFCnt	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WN001.00	P	30	21	4.8	0.66	320	32.8	35	195	5/22/2005
WN002.00	A	30	21	5.0	0.57	140	27.1	35	195	5/22/2005
WN003.00	P	30	21	4.4	0.47	56	17.9	35	195	5/22/2005
WN004.00	P	30	21	3.4	0.36	23	10.1	35	195	5/22/2005
WN013.00	P-boundary	30	21	4.1	0.51	104	18.9	35	195	5/22/2005
WN016.00	A	30	21	4.3	0.46	84	17.3	35	195	5/22/2005
WN018.00	A	30	20	4.5	0.48	102	18.9	36	199	9/26/2004
WN020.00	A	30	21	4.2	0.42	90	14.9	35	195	5/22/2005



Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WN021.00	A	30	21	4.6	0.43	92	16.6	35	195	5/22/2005
WN022.00	A	30	21	4.9	0.46	92	19.7	35	195	5/22/2005
WN027.00	P	30	20	3.8	0.61	700	23.3	36	199	5/12/2005
WN027.20	A	30	20	3.4	0.4	93	11.4	36	199	5/12/2005
WN027.50	P-boundary	30	20	3.9	0.39	43	12.8	36	199	5/12/2005
WN028.00	P	30	20	5.9	0.7	1500	47.3	36	199	5/12/2005
WN029.00	P	30	22	9.7	0.69	1100	75	35	191	5/22/2005
WN030.00	P	30	21	13	0.72	440	110	35	195	5/22/2005
WN030.50	P	30	22	13.9	0.63	380	89.8	35	191	5/22/2005
WN032.40	P	30	22	7.6	0.58	134	42.9	35	191	10/4/2004
WN032.60	P	30	22	8.4	0.69	1700	64.5	35	191	10/4/2004
WN033.00	P	30	22	7.1	0.47	96	28.8	35	191	10/4/2004
WN034.00	R	30	20	6.5	0.62	1160	41.9	36	199	5/12/2005
WN035.00	P	30	22	8.4	0.62	820	53.8	35	191	10/4/2004
WN035.10	P	30	22	7.6	0.51	280	35	35	191	10/4/2004
WN035.40	P	30	22	7.3	0.62	1700	45.9	35	191	10/4/2004
WN035.70	New	28	26	5.9	0.47	80	23.9	32	170	5/9/2006
WN036.00	P	30	22	7.6	0.5	140	33.3	35	191	10/4/2004
WN038.50	New	29	25	6.7	0.65	1700	45.8	33	177	3/21/2006
WN040.00	A	30	20	5.5	0.61	1100	34.6	36	199	5/5/2005
WN041.00	A	30	20	5.6	0.58	320	31.5	36	199	5/5/2005
WN042.00	A	30	20	3.9	0.41	46	13.3	36	199	5/5/2005
WN043.00	P-boundary	30	21	2.8	0.32	54	7.4	35	195	5/5/2005
WN043.30	A	30	20	5.7	0.55	154	29.1	36	199	5/12/2005
WN043.50	P	30	20	7.5	0.6	240	45.2	36	199	5/12/2005
WN044.00	R	30	21	9.7	0.55	94	49.3	35	195	7/11/2005
WN044.10	New	14	14	9.4	0.63	200	64.3	31	163	9/18/2007
WN044.50	P	30	20	6	0.48	93	25.1	36	199	5/12/2005
WN047.00	P	30	20	3.6	0.37	43	10.9	36	199	5/12/2005
WN048.00	A	30	21	4.5	0.46	93	17.8	35	195	5/5/2005
WN050.00	P-boundary	30	22	2.9	0.25	16	6.1	35	191	2/9/2005
WN051.00	P	30	30	4.9	0.57	260	26.8	31	163	8/22/2006
WN052.00	P	30	30	8.9	0.62	220	56.6	31	163	10/10/2006
WN054.00	P	30	21	2.7	0.22	23	5.3	35	195	2/9/2005
WN056.00	P-boundary	30	20	5.8	0.55	93	29.7	36	199	5/5/2005



Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WN057.00	A	30	20	4.8	0.6	460	28.9	36	199	5/5/2005
WN060.00	A	30	21	2.7	0.26	39	6	35	195	2/9/2005
WN063.00	A	30	20	5.7	0.61	460	34.6	36	199	5/5/2005
WN064.00	R-boundary	30	23	5.4	0.55	240	28.3	34	187	10/3/2005
WN065.00	R	30	22	7	0.48	92	29.1	35	191	2/9/2005
WN066.00	R	30	20	9	0.63	260	58.6	36	199	4/27/2004
WN067.00	New	21	21	11.4	0.66	440	83.7	31	163	10/3/2006
WN068.00	A	30	21	2.9	0.24	15	6.1	35	195	2/9/2005
WN068.50	A	30	21	4.4	0.47	88	18.3	35	195	2/9/2005
WN069.00	R	30	21	18.1	0.66	460	127.7	35	195	2/9/2005
WN071.00	A	30	21	4.6	0.46	90	18.3	35	195	2/9/2005
WN073.00	P	30	20	5.6	0.69	1200	43.9	36	199	5/12/2005
WN076.00	P	30	20	6.1	0.75	1100	57.1	36	199	5/12/2005
WN077.20	A	30	20	3.9	0.52	160	18.5	36	199	5/12/2005
WN077.30	P	30	20	5.2	0.74	1100	47.1	36	199	5/12/2005
WN078.00	P	30	21	2.9	0.25	15	6.3	35	195	2/9/2005
WN079.00	A	30	21	2.4	0.16	7.3	3.9	35	195	2/8/2005
WN080.00	A	30	22	3.1	0.34	40	8.6	35	191	3/8/2005
WN080.50	P	30	22	4.9	0.62	160	31.3	35	191	2/9/2005
WN082.00	P	30	21	6.4	0.62	280	40.8	35	195	12/13/2004
WN083.00	P	30	21	5.7	0.65	440	39.8	35	195	12/13/2004
WN084.00	P	30	22	4.6	0.6	320	28.1	35	191	12/13/2004
WN085.00	A	30	21	2.3	0.15	7.2	3.6	35	195	2/8/2005
WN085.50	A	30	21	3.1	0.35	43	9	35	195	2/8/2005
WN086.00	P	30	21	3.2	0.32	42	8.5	35	195	2/8/2005
WN087.00	P	30	21	5.1	0.68	1700	38.4	35	195	2/8/2005
WN089.00	P	30	21	3.3	0.31	28	8.5	35	195	2/8/2005
WN090.00	P	30	21	4.5	0.47	96	18.3	35	195	2/8/2005
WN091.00	P	30	21	2.9	0.26	15	6.3	35	195	2/8/2005
WN092.00	P	30	22	5.5	0.53	240	26.6	35	191	4/11/2005
WN093.00	P	30	21	3.4	0.32	23	8.8	35	195	2/8/2005
WN098.00	P-boundary	30	21	2.8	0.32	43	7.3	35	195	2/8/2005
WN099.00	A	30	21	3	0.53	1100	14.9	35	195	2/8/2005
WN100.00	P-boundary	30	21	3	0.26	24	6.6	35	195	2/8/2005
WN104.50	A	30	21	2.6	0.25	23	5.6	35	195	2/8/2005
WN105.00	A	30	21	3.8	0.51	380	17.2	35	195	2/8/2005



Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WN114.00	P	30	21	2.9	0.29	23	6.8	35	195	2/8/2005
WN115.00	P	30	21	2.4	0.16	10	3.9	35	195	2/8/2005
WN117.00	P	30	21	4.1	0.48	72	17.3	35	195	2/8/2005

In 2009, all approved, restricted and prohibited stations were sampled at least 6 times following the systematic random sample schedule (SRS). Some stations received an additional sampling effort under adverse conditions. Stations WN 42 and 77.2 serve as flood closure reopening stations for the Sheepscot River.

Table 2. WN Sampling Effort, 2009

Station	Class at time of Collection	Adverse Closed	Extra Closed	Random		Total	Comments
				Closed	Open		
WN001.00	A				1	7	
	P			6			
WN002.00	A			1	5	7	
	P			1			
WN003.00	P			7		7	
WN004.00	P			7		7	
WN013.00	P			7		7	
WN016.00	A			1	6	7	
WN018.00	A			1	6	7	
WN020.00	A			1	6	7	
WN021.00	A			1	6	7	
WN022.00	A			1	6	7	
WN027.00	P			7		7	
WN027.20	A			1	6	7	
WN027.50	P			7		7	
WN028.00	P			7		7	
WN029.00	P			7		7	
WN030.00	P			7		7	
WN030.50	P			7		7	
WN032.40	P			6		7	Reclassified from R to P on 3/18/09
	R				1		
WN032.60	P			6		7	Reclassified from R to P on 3/18/09
	R				1		
WN033.00	P			6		7	Reclassified from R to P on 3/18/09
	R				1		
WN034.00	R			1	6	7	
WN035.00	P			6		7	Reclassified from R to P on 3/18/09
	R				1		
WN035.10	P			6		6	Reclassified from R to P on 3/18/09
	R				1	1	
WN035.40	P			5		6	Reclassified from R to P on 3/18/09
	R				1		



Station	Class at time of Collection	Adverse	Extra	Random		Total	Comments
		Closed	Closed	Closed	Open		
WN035.70	P		4	6		11	Reclassified from R to P on 3/18/09
	R				1		
WN036.00	P			6		7	Reclassified from R to P on 3/18/09
	R				1		
WN038.50	P		5	5		11	Reclassified from R to P on 3/18/09
	R				1		
WN040.00	A			1	6	7	
WN041.00	A			1	6	7	
WN042.00	A	20		1	6	27	Flood station
WN043.00	P			7		7	
WN043.30	A			1	6	7	
WN043.50	P			7		7	
WN044.00	R			1	6	7	
WN044.10	R			1	6	7	
WN044.50	P			7		7	
WN047.00	P			7		7	
WN048.00	A				2	7	Reclassified from P to A on 9/4/09
	P			5			
WN050.00	P			8		8	
WN051.00	P			7		7	
WN052.00	P			7		7	
WN054.00	P			7		7	
WN056.00	P			7		7	
WN057.00	A			1	6	7	
WN060.00	P			7		7	Reclassified from P to A on 12/7/09
WN063.00	A			1	6	7	
WN064.00	R			1	6	7	
WN065.00	R			1	6	7	
WN066.00	R			1	6	7	
WN067.00	P			7		7	
WN068.00	A			1	6	7	
WN068.50	A			1	6	7	
WN069.00	R			1	6	7	
WN071.00	A			1	6	7	
WN073.00	P			7		7	
WN076.00	P			7		7	
WN077.20	A	20		1	6	27	Flood station
WN077.30	P			7		7	
WN078.00	P			7		7	
WN079.00	A	1			5	7	Reclassified from P to A on 3/18/09
	P			1			
WN080.00	A				2	7	Reclassified from P to A on 6/8/09



Station	Class at time of Collection	Adverse	Extra	Random		Total	Comments
		Closed	Closed	Closed	Open		
	P			5			
WN080.50	P			7		7	
WN082.00	P	2		7		9	
WN083.00	P	2		7		9	
WN084.00	P	1		7		8	
WN085.00	A			1	6	7	
WN085.50	A			1	6	7	
WN086.00	P			7		7	
WN087.00	P			7		7	
WN089.00	P			7		7	
WN090.00	P			7		7	
WN091.00	P			7		7	
WN092.00	P			7		7	
WN093.00	P			7		7	
WN098.00	P			7		7	
WN099.00	A			1	6	7	
WN100.00	P			7		7	
WN104.50	A			1	6	7	
WN105.00	A			1	6	7	
WN112.00	P			2		2	
WN114.00	P			7		7	
WN115.00	P			7		7	
WN117.00	P			7		7	

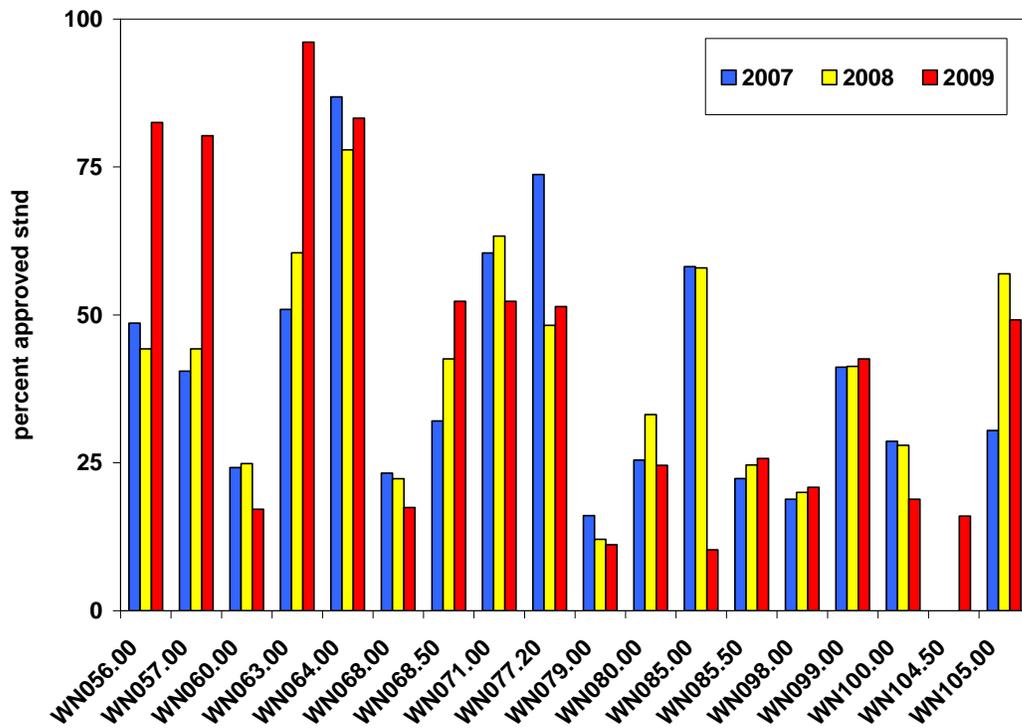
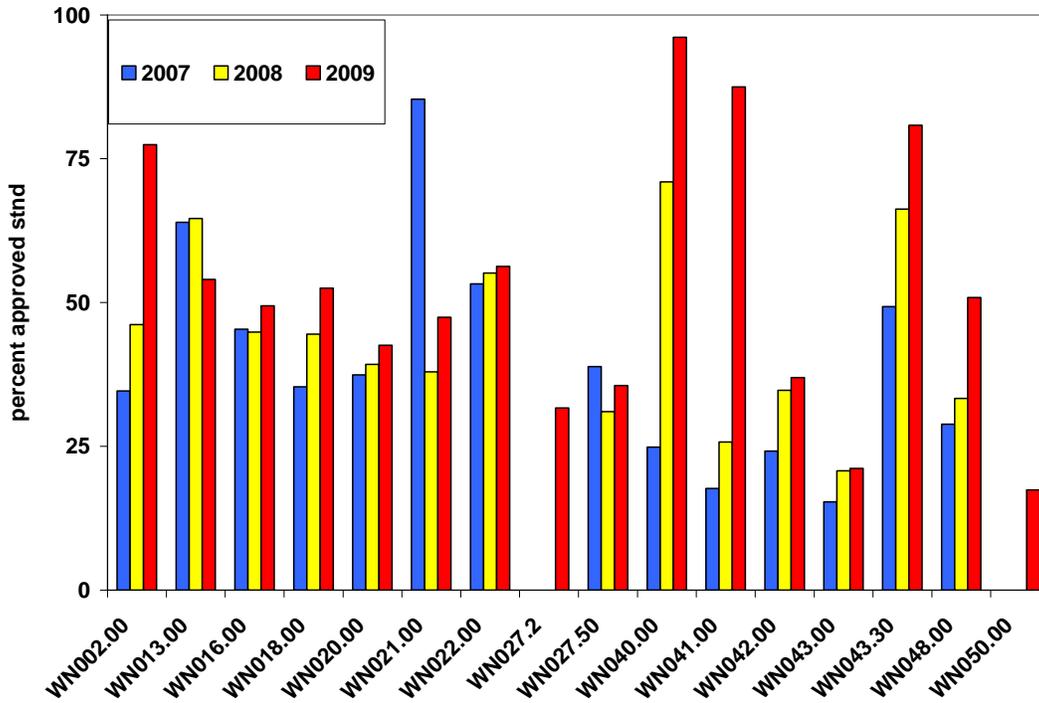
Figure 4 shows the P90 scores, expressed as a percent of the approved standard, for all approved and approved area boundary stations in growing area WN. During the transition from MPN to MF analysis method, the approved standard will decrease every year, until all samples have been analyzed by the MF 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 standard; any station showing the 2009 column on or above 100 percent does not meet its classification standard. At the end of 2009, multiple stations showed upward P90 trends, indicating a decline in water quality. Stations showing a significant increase in P90 scores (increase of 10 percent or more) include WN 2, 18, 40, 41, 43.3, 48, 56, 57, 63, and 68.5. Of these stations, WN 2, 40, 41, 43.3, 56, 57, 63 and 64 are within 25 percent of the approved classification standard limit. Station WN 2 is located at the mouth of Little River, Georgetown; no known pollution sources were identified in the vicinity of this station during the most recent survey (completed in 2006). A follow up survey should be conducted in this area in the next review year, and the results of this survey should be presented and discussed in the next triennial report, due at the completion of 2011. Stations 40 and 41 are located on the property of Maine Yankee, a decommissioned Nuclear Power Plant, situated on the Wiscasset shore. There is no development in the vicinity of these two stations, however waterfowl has been frequently observed in the vicinity of the sampling stations. Station WN 43.3, located on the western shore of Westport Island was surveyed in October 2009; no pollution sources were identified at the time of the survey. A



follow up survey to this area is recommended in summer 2010. Station WN 56 located near the village of Wiscasset serves as a boundary station between a prohibited and an approved area. While the 2008 shoreline survey of this area did not identify any actual domestic pollution sources, it is probable that stormwater run-off from the village of Wiscasset is contributing to fecal pollution loading into this area, especially after moderate to heavy storm events. In 2010, an intermittent stream that flows into this area will be sampled as part of an accelerated sample run for stations in Wiscasset and Woolwich; at the end of the year, stream data will be assessed and a dilution calculation will be completed to assess the size of the prohibited area. Station WN 57, located in Clark Cove, is located in an undeveloped area, however there is a stream that flows into the head of this cove. This stream has never been assessed. Stream samples should be collected over the next two review years, and a complete stream assessment should be presented in the next triennial report. Station WN 63 is located at the head of the Sheepscot River, near the town line dividing Wiscasset and Alna. This area was surveyed in the spring of 2008 and no problems were noted at the time of the survey. The cause of the elevated scores is unknown at this time, and follow up survey work in the vicinity of this station is recommended.



Figure 4. P90 trends for Approved Stations in Growing area WN





Recommendations for Upward Classification

Griffith Head Lagoon (WN 3)

Griffith Head Lagoon, located on Georgetown Island and monitored by station WN 3 is being recommended for an upward classification change, from prohibited to approved. This station is located in Reid State Park, which is wooded and undeveloped, and has no residential properties along its shoreline. The shoreline of this area was surveyed in 2006, and no actual or potential problems were noted. In summer 2009, the park installed a large, new leachfield in the vicinity of this waterbody; this system replaced a smaller leachfield which was located within a closer distance to the shoreline of the lagoon. The new leachfield is located approximately 450 feet from the shoreline.

Station WM 3, located at the mouth of this lagoon, has met the approved standard for the past 5 review years; there have been no notable changes in water quality over the past five review years (Figure 5). A complete dataset (2004-2009) for this station is presented in Table 3; no consistent rainfall or seasonal effect can be observed over the past 6 years of data collection.

Figure 5. P90 Trends for WN 3, 2005-2009

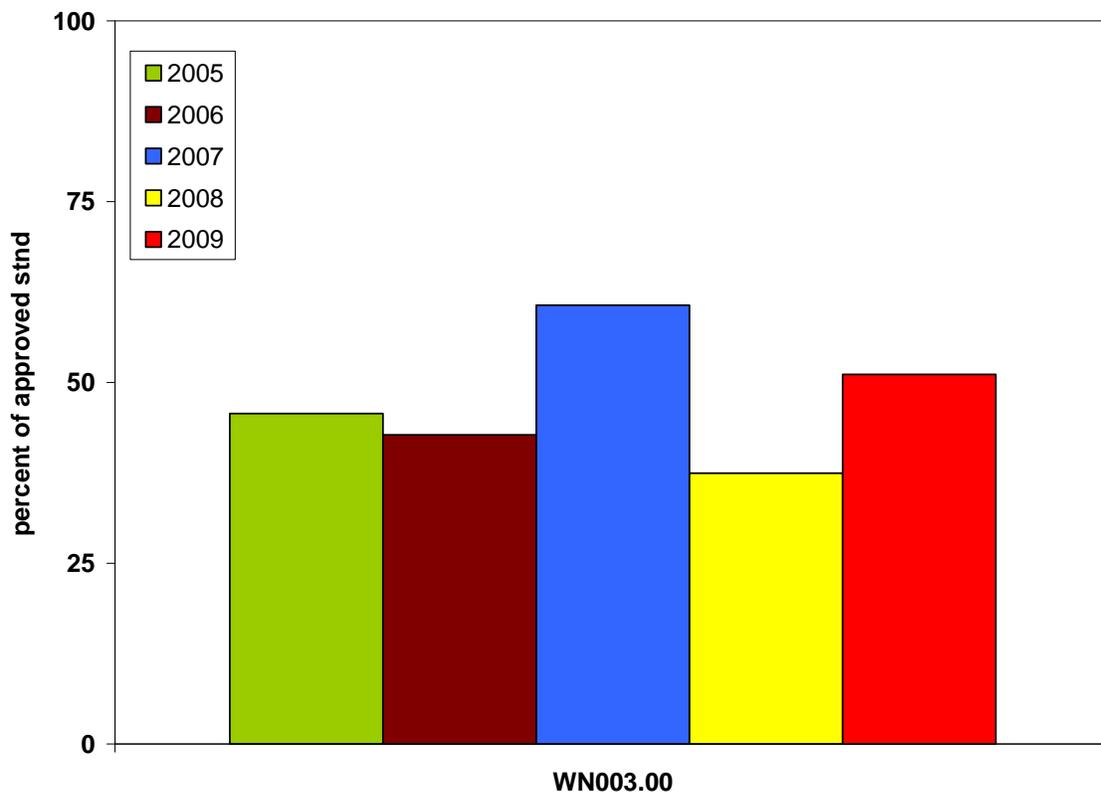




Table 3. WN 3, Fecal Scores by Cumulative Rainfall and Month, 2004-2009

Rainfall 3 Day	Rainfall 4 Day	Date	Salin	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	02-May-04	30	X					<3							
0	0	20-Apr-09	20	X				<2								
0	0.49	06-Nov-05	20	X											9.1	
0	0.36	26-Feb-08	28	W		<2										
0	0.11	15-Jun-08	29	P						2						
0	0	02-Nov-08	28	X											<2	
0	0	20-Sep-09	30	X									2			
0	0.26	18-Oct-09	32	X										<2		
0	0	13-Jun-04	30	X						<3						
0	0	26-Sep-04	30	X									3.6			
0	0	15-Mar-09	29	X			<2									
0	0	26-Jun-05	29	X						23						
0	0	21-Aug-05	30	X								23				
0	0	25-Nov-07	21	X											42	
0	0	13-Oct-08	28	X										3.6		
0	0	26-Mar-06	30	X			<3									
0	0.86	27-Aug-06	26	X								2				
0	0.01	29-Jul-07	26	X							2					
0	0.02	24-Oct-04	27	X										3.6		
0	0.17	21-Mar-04	30	X			<3									
0	0.8	22-May-05	30	P					<3							
0	0.11	21-Jul-05	30	H							9.1					
0	0.26	18-Jul-04	30	X							<3					
0	1.06	21-May-06	28	X					<3							
0	0.37	13-Apr-08	28	X				<2								
0	0.6	16-Sep-07	27	X									<2			
0	0.61	31-Aug-09	30	P								56				
0	0.76	25-Jun-06	28	X						15						



Rainfall 3 Day	Rainfall 4 Day	Date	Salin	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	1.67	29-Apr-07	16	X				24								
0	0.85	10-Aug-08	26	X								13				
0	1.15	14-Jun-09	30	P						2						
0	1.19	19-Nov-06	24	W											8	
0	1.46	03-Jun-07	23	X						<2						
0	1.65	15-Oct-06	30	W										2		
0	2.24	18-Sep-05	30	X									3.6			
0	2.68	18-Mar-07	30	PW			<2									
0	3.35	22-Aug-04	24	P								3.6				



A further rainfall and tidal assessment was completed for station WN 3. In the rainfall assessment, the geometric mean and P90 was re-calculated using data collected after at least 0.5 inches of cumulative rainfall was recorded. Using this dataset, station WN 3 met both the geometric mean and the P90 standard for approved classification (Table 47). The tidal assessment evaluated the samples taken at each tidal stage over the past 6 years, noting the frequency of samples that exceeded the variability standard at each tidal stage (shown as percent of total number of samples collected at that tidal stage). There were only two instances where the scores exceeded the variability standard; one elevated score occurred on a high flood tide, the other elevated score occurred on a flooding tide (Table 5). While no elevated scores were observed at lower tidal stages, only a limited number of samples were available for analysis. This area flats out at low tide, and therefore water samples cannot be collected at such tidal stages.

Table 4. Station WN 3, Geometric Mean and P90 Score, Rainfall >0.5 inches, 2004-2009

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd Std	Restr Std	Min Date
WN003.00	P	15	10	4.7	0.47	56	19.5	36	199	8/22/2004

Table 5. WN 3 Sampling Frequency by Tidal Stage, 2004-2009

Tidal Stage	Number of Samples Collected	% Samples Exceeding Standard
Low	1	0
Low Ebb	1	0
Ebb	1	0
High Ebb	2	0
Low Flood	1	0
Flood	17	6
High Flood	6	17
High	4	0

Based on this data review, the Griffith Head lagoon is being recommended for an upgrade in classification from prohibited to approved. A further recommendation for this area is to collect additional data in December and January, during the 2010 and 2011 field seasons.

Barthers Island/Boothbay (WN 89, 91 and 92)

The area surrounding stations WN 89, 91 and 92, was reclassified from approved to prohibited in 2008, due to an expired shoreline survey. This area remained classified as prohibited in 2009, due to multiple actual pollution sources that were identified during the 2008 shoreline survey. In October 2009, the codes enforcement officer for Boothbay Harbor notified DMR that four of the six identified problems in this area were remediated (Figure 6). Pollution source BOOTH PS 35 is an unoccupied/abandoned property with a gray water discharge. This property should be revisited annually. Pollution source BOOTH PS 19 remains unfixed; the town of Boothbay is working on remediating this problem in 2010. A closure of at least 18.4 acres must remain in place surrounding this pollution source; the acreage for this closure was calculated based on a



dilution calculation (fecal concentration of 1.4×10^6 FC/100ml, flow of 300 gallons per day, and average depth of receiving water of 5 ft).

The stations that monitor this area, currently meet the approved standard (Table 6); even with the malfunctions present, these stations never surpassed the approved standard for classification (Figure 7). Station WM 92 has shown a consistent upward trend over the past five review years. There are no identified domestic pollution sources or streams in the vicinity of this station that could contribute to elevated fecal scores. Table 7 shows all fecal scores for station WM 92, from 2005 through 2009; there has been only one elevated score in this time period (score of 240 FC/100ml on June 28, 2006). Rainfall amounts corresponding to each sample collection date are also noted in this table; rainfall 3 day refers to cumulative rainfall three days before collection date, rainfall 4 day refers to cumulative rainfall three days prior to sample collection, plus rainfall occurring on the day of the sample collection.



Figure 6. Remediated Actual Pollution Sources, Town of Boothbay, 2009

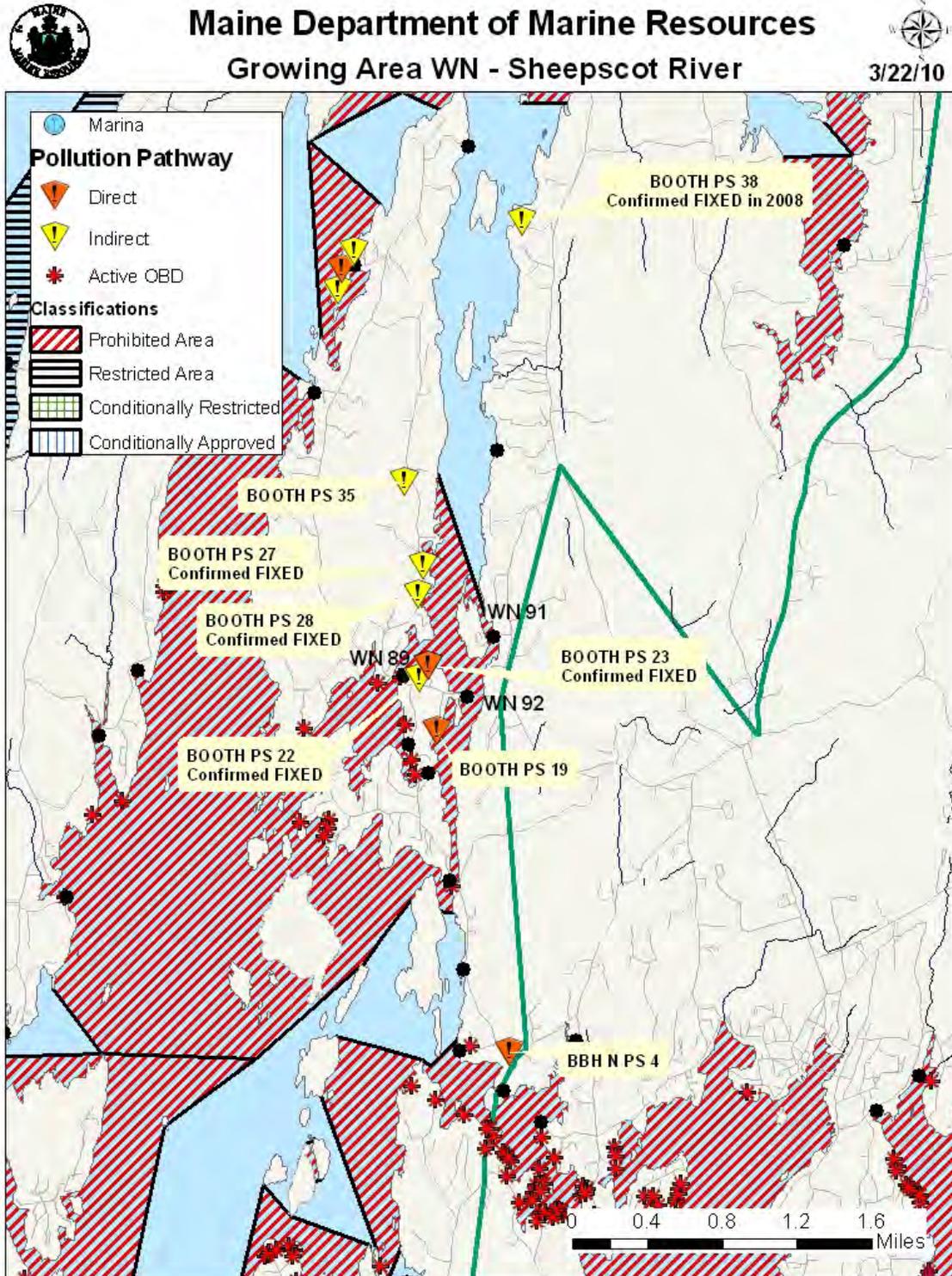




Table 6. Geomean and P90 Scores, WN 89, 91 and 92, 2005-2009

Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WN089.00	P	30	21	3.3	0.31	28	8.5	35	195	2/8/2005
WN091.00	P	30	21	2.9	0.26	15	6.3	35	195	2/8/2005
WN092.00	P	30	22	5.5	0.53	240	26.6	35	191	4/11/2005

Figure 7. P90 Trends for WN 89, 91 and 92, 2005-2009

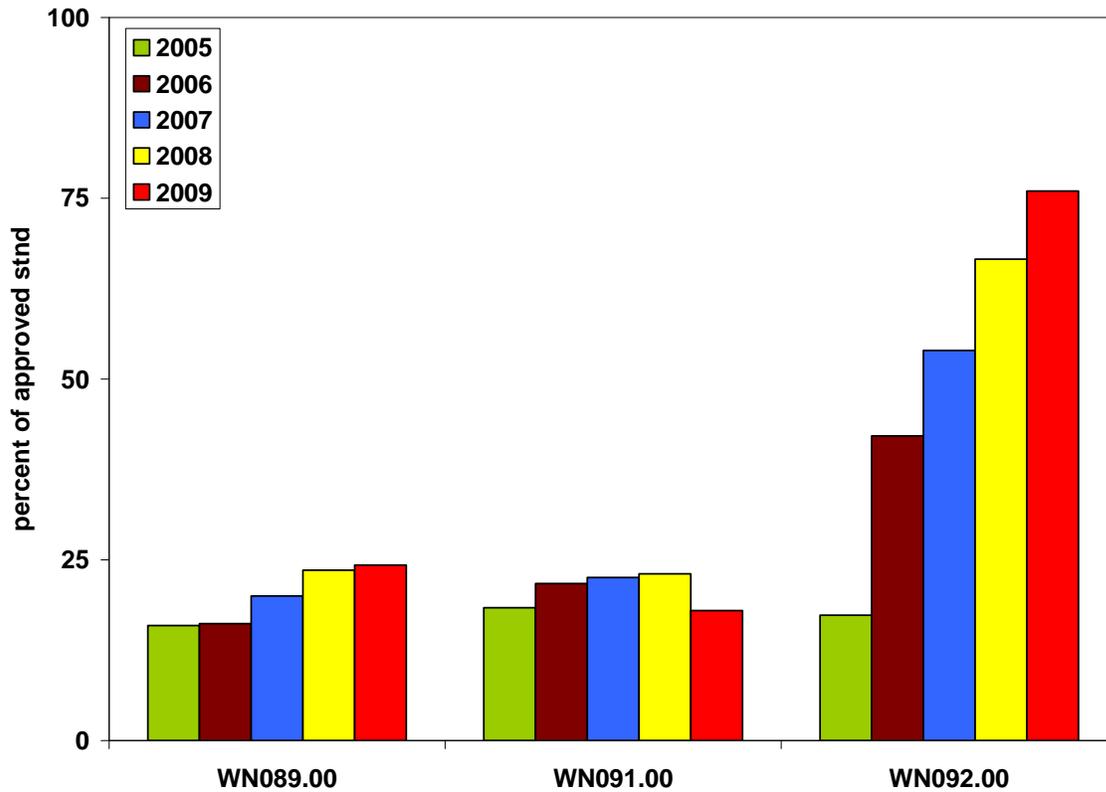


Table 7. Station WN 92, SRS Data 2005-2009 (in chronological order)

Rainfall 3 Day	Rainfall 4 Day	Date	Tide	Wind	Salin	Strat	Raw Col Score
0	0	08-Feb-05	E	CL	30	R	<3
0.12	0.12	11-Apr-05	HF	N	30	R	<3
0.05	0.05	21-Jun-05	F	SW	26	R	3.6
0.01	0.12	26-Sep-05	L	S	30	R	23
0.03	0.19	15-Nov-05	H	CL	28	R	<3
0.04	0.05	05-Dec-05	HF	CL	26	R	9.1
0	0	28-Mar-06	HF	CL	31	R	<3
0.2	0.59	28-Jun-06	F	CL	28	R	240
2.3	2.3	25-Jul-06	HF	S	29	R	43



Rainfall 3 Day	Rainfall 4 Day	Date	Tide	Wind	Salin	Strat	Raw Col Score
0.4	0.4	22-Aug-06	H	S	30	R	6
0.45	0.45	03-Oct-06	LE	SW	30	R	20
0.01	0.11	29-Nov-06	LF	CL	28	R	8
0.34	0.34	22-Jan-07	F	CL	30	R	<2
0.37	0.38	14-Mar-07	LE	S	30	R	3.6
0	0	08-May-07	L	SW	27	R	14
0	0	27-Jun-07	E	SW	30	R	4.7
0	0	22-Aug-07	HE	CL	30	R	26
0.64	0.64	22-Oct-07	LE	SW	30	R	2
0.01	0.01	08-Jan-08	E	CL	30	R	<2
0.71	0.74	04-Mar-08	E	CL	28	R	<2
0.06	4.22	29-Apr-08	LE	SE	22	R	26
0.04	0.07	28-May-08	LF	N	29	R	<2
0.31	0.35	24-Jun-08	F	NE	28	R	<2
1.11	1.11	13-Aug-08	E	S	24	R	5.5
0	0	07-Oct-08	LF	NE	28	R	<2
0.01	0.01	18-Feb-09	E	CL	32	R	<2
0	0	27-Apr-09	E	SW	26	R	<2
0.68	0.8	01-Jun-09	HE	CL	28	R	<2
0	0	19-Aug-09	E	SE	28	R	10
0	0	09-Sep-09	HE	CL	29	R	<2
0	0	21-Oct-09	E	CL	31	R	13

Based on the remediation efforts and due to water quality meeting the approved classification standards, the area is being proposed for an upgrade in classification, from prohibited to approved. The area south of the Barters Island bridge should remain classified as prohibited, due to a septic malfunction which has not been confirmed fixed. The size of this remaining prohibited area was confirmed through a dilution calculation, and is of adequate size to protect public health (>18.4 acres).

Montsweag Creek (WN 35.7 and 36)

Montsweag Creek (Woolwich and Wiscasset), north of station WN 36, is being proposed for an upgrade in classification from prohibited to approved. This area was reclassified from approved to restricted and then to prohibited in January and February 2009. At the end of the 2008 review year, multiple stations in Woolwich failed to meet the approved classification standard, and the all of the coastline in Woolwich that was previously classified as approved was downgraded to restricted. In February 2009, a review of survey notes from 2006 revealed multiple actual pollution sources in the area, and the entire coastline was immediately reclassified to prohibited. By August 2009, all of the actual pollution sources in Woolwich were assessed and remediated (malfunctioning systems either replaced or fixed and confirmed to be in working order by the town LPI) (Figure 8). Two actual pollution sources, WOOL PS 6 and



WOOL PS 10 (one direct and one indirect), located on the shore of Montsweag Creek were remediated by August 2009.

In 2006, water quality station WN 35.7 was created to replace station WN 37, which was located approximately 1,200 ft north of the location of the new station WN 35.7. At the end of 2005, WN 37 was deactivated, due to the fact that it was difficult to get at most tidal stages. Prior to its deactivation, station WN 37 was meeting the approved standard, and Montsweag Creek was classified as approved. Data collected at this deactivated station between 2003 and 2005 is presented in Table 8. Cumulative rainfall amounts are also noted in this table; "rain 3 day" refers to the cumulative amount three days prior to sampling, and "rain 4 day" refers to the cumulative amount 3 day prior to sample collection plus rainfall on the day of sample collection. Over the three year span, station WN 37 received only one score that exceeded the approved variability standard; this score occurred during a precipitation event that amounted to 0.35 inches (cumulative total over four day period). At this station, samples were collected only between the months of April and November, therefore no winter-time data is presented.

At the end of the 2008 review year, station WN 35.7, which currently monitors water quality in Montsweag Creek was meeting the approved standard; however it was a new station and had less than 30 samples in its dataset. In 2009, additional sampling was undertaken at this sample site, after the pollution sources on the shore of the creek were remediated. At the end of 2009, this station had a P90 score of 23.9 (based on 28 samples), with a P90 standard of 32; by February 2010, this station had thirty samples in its dataset, and a P90 score of 22.5 (with a standard of 31). Data from 2006 through February 2010 is presented in Table 9; cumulative rainfall amounts are also noted in this table. This station has received two scores that exceeded the P90 standard; both elevated scores occurred prior to the remediation of actual pollution sources that were located on the shores of Montsweag Creek. One of the elevated scores (August 12, 2008) occurred when being collected during heavy rain, resulting in over an inch of precipitation in a 24 hour period; the other elevated score occurred during dry conditions. Since the remediation of the actual pollution sources, no scores have surpassed the variability standard.

At the end of 2008 review year, station WN 36, which monitors water quality just south of the mouth of the Creek had a geometric mean of 8, and P90 score of 38.1, with the approved standard of 38. In 2009, this station showed an improvement in water quality and had a P90 score of 33.5, with a standard of 35. P90 scores over the past five review years are presented in Figure 8. Data collected at this station between 2002 and 2009 is presented in Table 10; cumulative rainfall amounts are also noted in this table. During this period, this station has received four scores that exceeded the P90 standard; all four scores occurred in the summer and fall (between August and November), however no rainfall effect was noted. In order to further assess the effect of wet weather conditions on fecal concentrations at station WN 36, the geometric mean and P90 score was re-calculated, omitting any data collected during dry weather conditions (cumulative rainfall <0.5 inches within 4 days); both the geometric mean (5.7) and P90 score (21.4) met the approved classification standard when the calculation was completed using the wet weather data.



Figure 8. Remediated Actual Pollution Sources in Woolwich

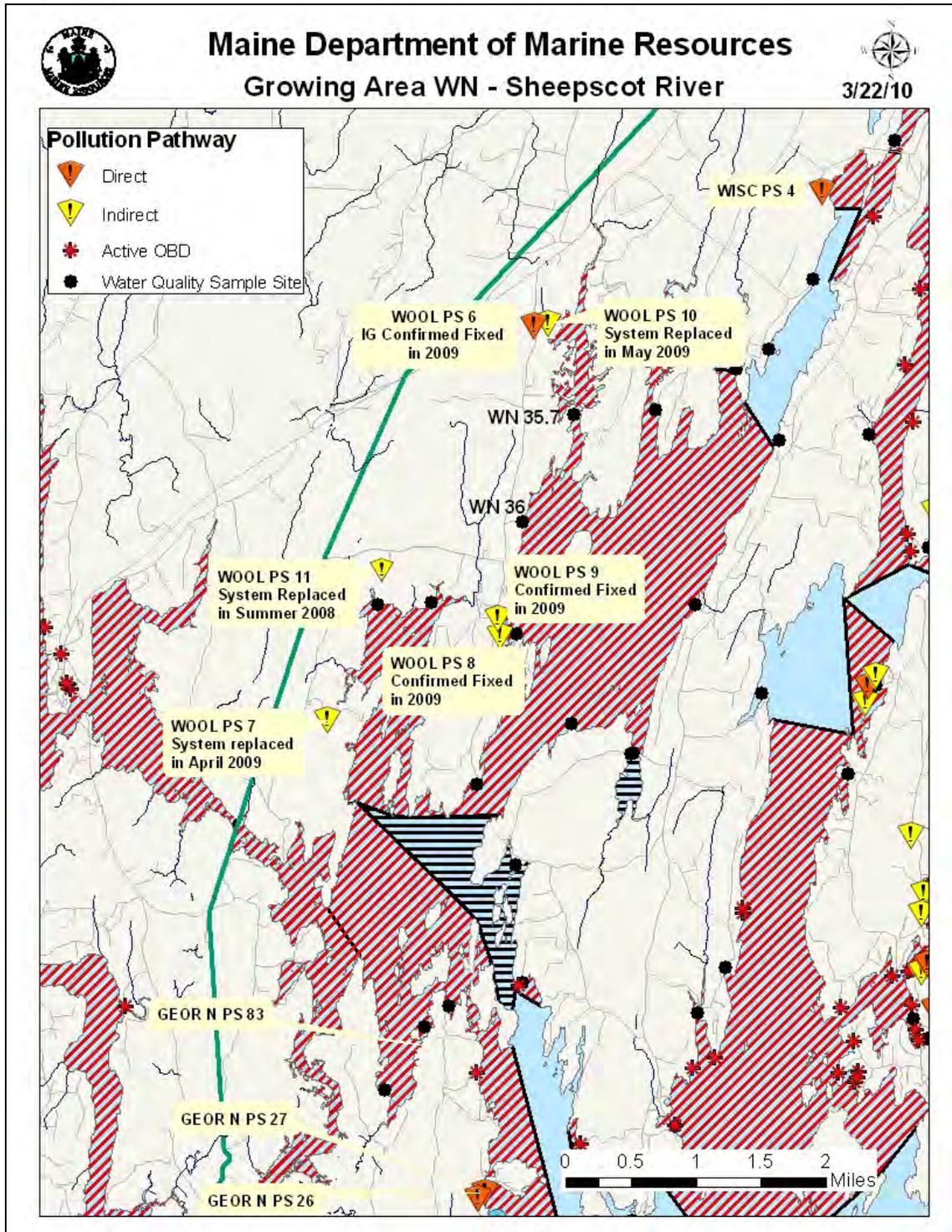




Figure 9. Montsweag Creek Station WN 36, P90 Score Trends, 2005-2009

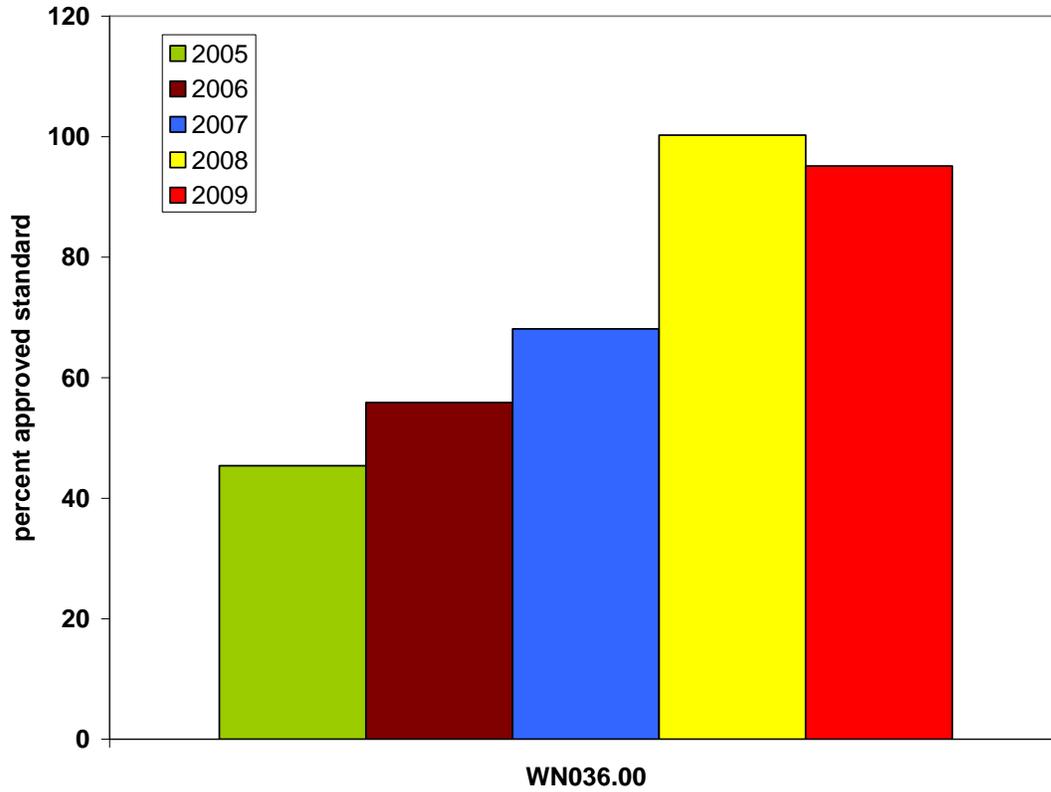




Table 8. WN 37, Inactive Station, Fecal Scores by Rainfall and Collection Month, 2003-2005

Rain 3 Day	Rain 4 Day	Date	Tide	Salin	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	26-Aug-03	HF	30	N								9.1				
0	0	15-Sep-03	HF	25	X									7.3			
0	0	14-Jun-04	HF	22	N						3.2						
0	0	07-Sep-04	E	30	N									<3			
0.02	0.31	06-Jul-04	E	26	P							9.1					
0.05	0.35	03-Nov-03	HE	10	P											93	
0.06	0.06	03-Nov-05	HF	10	P											9.1	
0.08	0.08	30-Jul-03	F	30	X							3.6					
0.08	0.08	05-May-05	HE	8	P					3.2							
0.14	0.14	04-Oct-04	E	20	W										5.1		
0.24	0.24	21-Sep-05	F	30	X									9.1			
0.36	0.4	24-Jun-03	HE	18	P						<3						
0.41	1.03	15-Aug-05	HE	25	P								14				
0.53	0.53	11-Jul-05	E	20	PB							3.6					
0.79	0.79	30-Apr-03	F	18	N				<3								
0.89	0.89	17-May-04	F	17	P					12							

Table 9. WN 35.7, Fecal scores by Rainfall and Collection Month, 2006- February 2010

Rain 3 Day	Rain 4 Day	Date	Tide	Salin	Strat	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	10-Oct-06	HF	24	R	X										4		
0	0	07-May-07	F	12	R	X					2							
0	0	26-Jun-07	E	21	R	X						<2						
0	0	29-Apr-09	H	16	R	X				<2								
0	0	17-Aug-09*	HE	16	R	X								9.1				
0	0	02-Feb-10*	HE	18	R	X		<2										
0	0.01	24-Oct-07	H	22	R	X										8		
0	0.03	12-Apr-07	E	6	R	X				2								
0.02	0.31	23-Jun-08	F	12	R	X						15						



Rain 3 Day	Rain 4 Day	Date	Tide	Salin	Strat	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.03	1.13	12-Aug-08	H	8	R	P								80				
0.04	0.06	28-Apr-08	F	8	R	P				2								
0.08	0.08	09-May-06	H	18	R	N					<3							
0.11	0.11	06-Dec-06	H	16	R	X												48
0.12	0.12	06-Oct-08	F	14	R	X										<2		
0.14	0.14	26-Feb-08	F	14	R	X		2										
0.14	1.21	28-Sep-09*	E	22	R	X									16			
0.16	0.16	02-Dec-09*	H	14	E	X												8
0.22	0.22	21-Aug-07	LE	23	R	X								4				
0.26	0.26	12-Oct-09*	HE	20	E	X										8		
0.3	0.3	12-Sep-06	LF	22	R	N									8			
0.37	0.38	14-Mar-07	E	15	R	X			4									
0.4	0.4	22-Aug-06	E	21	R	X								6				
0.57	0.57	02-Jun-09	E	16	R	X						<2						
0.64	0.64	12-Nov-08	E	16	R	X											16	
0.81	1.06	19-Jan-10*	F	20	E	X	<2											
0.84	0.84	16-Dec-09*	HF	18	E	X												18
1.44	1.48	04-Jan-10*	F	20	E	X	6											
1.53	1.53	26-Oct-09*	LE	14	R	X										27		
1.6	1.6	25-Feb-09	H	18	R	W		<2										
2.17	2.17	31-Aug-09*	H	16	E	X								16				
2.3	2.3	25-Jul-06	HF	17	R	X							<3					

* collected after nearby pollution sources were remediated

Table 10. WN 36, Fecal Scores by Rainfall and Collection Month, 2002-2009

Rain 3 Day	Rain 4 Day	Date	Tide	Salin	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	26-Aug-03	HF	27	N								<3				
0	0	15-Sep-03	HF	25	X									<3			
0	0	14-Jun-04	F	23	N						<3						
0	0	07-Sep-04	E	20	X									9.1			



WN Annual Review
Effective Date 05/03/10

Rain 3 Day	Rain 4 Day	Date	Tide	Salin	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	10-Oct-06	F	24	X										8		
0	0	07-May-07	F	12	X					<2							
0	0	26-Jun-07	E	20	X						2						
0	0	22-Aug-07	HE	21	X								48				
0	0	29-Apr-09	H	15	X				<2								
0	0	17-Aug-09	HE	16	X								8				
0	0	02-Feb-10	H	16	X		<2										
0	0.01	24-Oct-07	H	21	X										7.3		
0	0.03	12-Apr-07	E	12	X				5.5								
0.02	0.31	06-Jul-04	E	25	P							3.6					
0.02	0.31	23-Jun-08	F	12	X						13						
0.03	0.03	22-Oct-02	F	20	W										3.6		
0.03	1.13	12-Aug-08	HE	7	P								88				
0.04	0.06	28-Apr-08	F	8	P				4								
0.05	0.35	03-Nov-03	HE	8	P											93	
0.06	0.06	03-Nov-05	HF	12	P											43	
0.08	0.08	30-Jul-03	F	30	X							9.1					
0.08	0.08	05-May-05	H	6	P					<3							
0.08	0.08	09-May-06	HF	18	X					<3							
0.09	0.3	24-Jun-02	HF	20	P						23						
0.11	0.11	06-Dec-06	H	16	X												16
0.12	0.12	06-Oct-08	F	16	X										2		
0.14	0.14	04-Oct-04	E	20	W										9.1		
0.14	0.14	26-Feb-08	F	14	X		8										
0.14	1.21	28-Sep-09	E	24	X									6			
0.16	0.16	31-Jul-02	E	30	X							3.6					
0.24	0.24	21-Sep-05	F	21	X									23			
0.3	0.3	12-Sep-06	F	25	X									140			
0.36	0.4	24-Jun-03	H	18	P						<3						
0.37	0.38	14-Mar-07	E	16	X			<2									



WN Annual Review
Effective Date 05/03/10

Rain 3 Day	Rain 4 Day	Date	Tide	Salin	Adv	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.4	0.4	22-Aug-06	E	20	X								8				
0.41	1.03	15-Aug-05	HE	20	P								7.3				
0.47	0.47	26-Aug-02	F	28	X								3.6				
0.53	0.53	11-Jul-05	E	18	P							3.6					
0.57	0.57	02-Jun-09	E	16	X						10						
0.61	0.76	30-Apr-02	HF	19	P				<3								
0.64	0.64	12-Nov-08	E	17	X											12	
0.79	0.79	30-Apr-03	F	19	X				<3								
0.89	0.89	17-May-04	F	21	P					3.6							
1.36	1.36	30-Sep-02	E	28	X									3.6			
1.53	1.53	26-Oct-09	F	18	X										14		
1.6	1.6	25-Feb-09	H	18	X		<2										
2.3	2.3	25-Jul-06	F	20	X							3.6					



A tidal assessment was completed for stations WN 35.7 and WN 36. Station WN 35.7 showed a tidal impact at high tide; out of 8 samples collected at this tidal stage, 2 had scores that exceeded the P90 standard. It is likely that high scores occurring at this station were caused by the two actual pollution sources that were located on the shore of Montsweag Creek. Station WN 36 showed a tidal impact at the High Ebb tidal stage, with three elevated samples occurring at this tidal stage; this station was sampled a total of 5 times during the High Ebb tidal stage. One probable explanation for this tidal effect is a transport of fecal pollution associated with the two actual pollution sources from the inner portion to the mouth of Montsweag Creek on an outgoing tide.

Table 11. Tidal Assessment for Montsweag Creek Stations

Station	Tidal Stage	Number of Samples Collected	% Samples Exceeding Standard
WN 35.7	Low	0	-
	Low Ebb	2	0
	Ebb	7	0
	High Ebb	3	0
	Low Flood	1	0
	Flood	7	0
	High Flood	3	0
	High	8	25
WN 36	Low	0	-
	Low Ebb	0	-
	Ebb	13	0
	High Ebb	5	60
	Low Flood	0	-
	Flood	15	7
	High Flood	6	0
	High	7	0

The entire Montsweag Creek shoreline was surveyed in 2006; two actual pollution sources were identified and have since been remediated. The shorelines of the stream that drains into the head of Montsweag Creek were surveyed in October 14, 2009; no pollution sources were noted at the time of the 2009 survey in this area. Water samples were also collected from the stream that drains into the head of the creek on October 14, 2009; run-off conditional were estimated as moderate on the day of stream sample collection. The stream samples were collected along the channel of the stream: the sample collected closest to the mouth of the stream had a score of 2 FC/100 ml; discharge rate of 0.33 ft³/s. An additional sample was collected at the head of Montsweag Creek; this sample had a fecal score of 10 FC /100 ML. While based on the most recent survey and assessment of the Montsweag stream, no pollution sources were identified; it is recommended that the shellfish harvesting area located at the head of Montsweag Creek (20 acres) remain classified as prohibited until a more thorough water quality assessment can be completed on the stream. After additional stream samples are collected, the need for this closure area can be re-evaluated.



Based on the remediation of actual pollution sources in Montsweag Creek, the results of the recent shoreline survey, and this data assessment, Montsweag Creek is proposed for an upgrade in classification, from prohibited to approved. Station WN 36, located at the mouth of the creek, is proposed to serve as a boundary station between the prohibited area and the approved area. The head of Montsweag Creek should remain classified as prohibited, to provide a dilution area for any potential pollution that may be associated with Montsweag stream.

Shoreline Survey Activity

The following areas were surveyed in 2009:

Alna: the shoreline of Alna was surveyed on September 30, 2009, by DEP, DMR and the municipal shellfish warden. A total of 32 properties were inspected and one potential pollution source was found; no actual pollution sources were noted.

Newcastle: the shoreline of Newcastle was surveyed on August 21, 2009 and September 14, 2009 by DEP and DMR staff. A total of 79 properties were inspected and two actual and one potential problems were identified.

Westport Island: the southern and eastern shoreline of Westport Island on October 15, October 16 and October 28, 2009. A total of 132 properties were surveyed; two actual problems and three potential problems were identified.

Edgecomb: the shoreline surrounding Cod Cove was surveyed December 4, 2009 by DMR staff. A total of 36 properties were inspected and two actual and two potential problems were noted.

Woolwich/Wiscasset: The reaches of streams that drain into Montsweag Creek, Brookings Bay and Chewonki Creek were surveyed on October 14, 2009, by DMR and DEP staff and volunteers. No actual pollution sources were identified; stream samples were collected. A drive through survey of Woolwich/Wiscasset was completed on August 9, 2009; no actual pollution sources in areas classified as approved were noted.

A complete review of all potential and actual pollution problems will be presented in the next triennial review of this growing area.

Aquaculture/Wet Storage Activity

There are twelve aquaculture sites in area WN. In the upper Sheepscot River between Cunningham and Lehman Islands there are three aquaculture lease sites. A shellfish lease (SHE LE) is a 2.96 acre bottom lease for American and European oysters; the lease was issued in 2004 and will expire in 2014. A second shellfish lease (SHE LE2) is 1.57



acres bottom lease on the east side of Lehman Island and is for American and European oysters. SHE LE2 was issued in 2007 and will expire in 2017. A third shellfish aquaculture lease (STEV 04 09) is 0.01 acre lease for soft bag cultivation of oysters; this lease expired December 31, 2009.

There is one Limited-Purpose Aquaculture (LPA) site in Chewonki Creek (JAM 3 09). The LPA is a 0.01 acres lease for upweller/FLUPSY units for soft shell clam seed. This LPA expired December 31, 2009.

There is an experimental shellfish lease (SHE SP) issued in the Mason Station salt pond for 1.94 acres of bottom or suspended culture of American/European oysters, soft shelled clams, quahogs, surf/hen clams, razor clams and bay scallops. The lease will expire in 2015.

There are two LPA sites in Oven's Mouth, Edgecomb. PERR 1 09 is a 0.01 acre lease for overwintering cages/soft bag cultivation of oysters, mussels and clams; this lease expired 12/31/09. The second lease site (LEW 1 09) is a 0.01 acre site for overwintering cages/soft bag cultivation and spat collection for oysters and mussels; this lease will expire on December 31, 2009.

There are two experimental shellfish leases (SHE SQW and SHE SQ2) and a LPA (HOP 04) issued for the Squam Creek salt pond on Westport Island. SHE SQ2 is for 0.569 acres of bottom/suspended culture of American/European oysters, soft shelled clams, quahogs, surf/hen clams, razor clams and bay scallops and will expire in 2013. SHE SQW is for 1.492 acres of bottom/suspended culture of American/European oysters, soft shelled clams, quahogs and surf/hen clams and will expire in 2013.

There are two LPA sites of the northwestern shore of Southport Island. Lease sites CHA1 09 and CHA 2 09 are both 0.01 acre lease sites for upweller/FLUPSY units, overwintering cages and soft bag cultivation of oysters. Both lease sites expired on December 31, 2009.

Additional information on these lease sites/LPAs can be found at the DMR website:
<http://www.maine.gov/dmr/aquaculture/leaseinventory/sheepscotriver.htm>

There are no shellfish wet storage permits issued for area WN.

Classification Changes

At the end of the 2009 review year, all WN stations were meeting their NSSP standard and no downgrades in classification are required. As a result of this annual review, three areas are being proposed for an upgrade in classification: Griffith Head Lagoon, Georgetown is being recommended for an upgrade from prohibited to approved due to water quality meeting the approved standard; the area between Boothbay and Barter's Island is being proposed for an upgrade in classification from prohibited to approved due to the remediation of five pollution sources, and Montsweag Creek, Woolwich/Wiscasset,



is being recommended for an upgrade from prohibited to approved, due to the remediation of two pollution sources and water quality meeting the approved standard.

Summary

At the end of the current review period, all water quality stations in growing area WN were meeting their classification standard; no downgrades in classification were required. Due to the remediation of multiple potential and actual pollution sources and water quality meeting the approved classification standard, three areas are being proposed for an upgrade in classification. All stations were sampled the required number of times, as outlined by the NSSP model ordinance; all areas have a current shoreline survey. Over the course of the review year, multiple potential and actual pollution sources, located in the towns of Woolwich, Boothbay and Georgetown were re-assessed by the town and remediated.

Recommendation for Future Work

The following work is recommended for the upcoming field season:

- 1) Accelerated sample collection in Woolwich, including Brookings Bay and Chewonki Creek (stations WN 32.4, 32.6, 33, 34, 35, 35.1, 35.4, 36, 38.5). Stream sample collection for major streams that drain into this area is also recommended, to be collected on the same dates as accelerated samples. This work has already been scheduled to be completed by a volunteer in 2010.
- 2) Extra sample collection at Wildcat Creek, Cross River, and Sherman Creek, especially after rain fall and between the months of October and April (stations WN 82, 83, and 84). Stream samples that drain in the vicinity of these stations should be collected on the same dates.
- 3) Extra sample collection on Squam Creek, Westport Island (Stations WN 34, 44 and 44.5, and 43.5). Samples should be collected after rainfall; extra effort should be allotted for the time period between October and May.
- 4) Boat activity should be monitored for Harmon's Harbor, Georgetown (WN 4).
- 5) Collect additional data in December and January, during the 2010 and 2011 field seasons in Griffith Head lagoon, Georgetown.
- 6) Collect samples from stream flowing into Clark Cove, Wiscasset.



Appendix A. 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.

Min Date= The date of collection for the least recent sample used for classification



Appendix B. Growing Area WN 2009 Data

Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
WN001.00	3/15/2009	CCA	HF	SW	8	30	R		O	A	<2
	4/20/2009	CCA	HE	SE	5	28	R		O	A	<2
	6/14/2009	CCA	F	SE	14	26	R	P	O	A	2
	8/31/2009	CCA	H	NW	15	30	R	P	O	A	<2
	9/20/2009	CCA	HF	SW	16	32	R		O	A	<2
	10/18/2009	JHZ	F	N	8	32	R		C	P	<2
WN002.00	3/15/2009	CCA	HF	SW	8	26	R		C	P	2
	4/20/2009	CCA	HE	SE	5	28	R		C	P	<2
	6/14/2009	CCA	F	SE	14	26	R	P	C	P	108
	8/31/2009	CCA	H	NW	16	30	R	P	C	P	<2
	9/20/2009	CCA	HF	SW	15	32	R		C	P	<2
	10/18/2009	JHZ	F	N	7	22	R		O	A	140
WN003.00	3/15/2009	CCA	H	SW	9	29	R		C	P	<2
	4/20/2009	CCA	E	SE	5	20	R		C	P	<2
	6/14/2009	JHZ	F	CL	13	30	R	P	C	P	2
	8/31/2009	JHZ	F	CL	15	30	R	P	C	P	56
	9/20/2009	JHZ	F	SW	14	30	R		C	P	2
	10/18/2009	CCA	F	NE	8	32	R		C	P	<2
WN004.00	3/15/2009	CCA	H	SW	9	23	R		C	P	<2
	4/20/2009	CCA	E	SE	5	20	R		C	P	<2
	6/14/2009	JHZ	F	S	14	28	R	P	C	P	<2
	8/31/2009	JHZ	F	CL	15	30	R	P	C	P	4
	9/20/2009	JHZ	F	SW	13	32	R		C	P	<2
	10/18/2009	CCA	F	NE	8	32	R		C	P	<2
WN013.00	3/15/2009	CCA	H	SW	9	22	R		C	P	<2
	4/20/2009	CCA	E	SE	6	21	R		C	P	<2
	6/14/2009	JHZ	F	S	13	23	R	P	C	P	2
	8/31/2009	JHZ	F	CL	16	25	R	P	C	P	6
	9/20/2009	JHZ	F	SW	13	30	R		C	P	<2
	10/18/2009	CCA	F	NE	10	28	R		C	P	2
WN016.00	3/15/2009	CCA	H	SW	10	22	R		O	A	2
	4/20/2009	CCA	E	SE	7	20	R		O	A	<2
	6/14/2009	JHZ	F	CL	14	24	R	P	O	A	3.6
	8/31/2009	JHZ	HF	NW	17	23	R	P	O	A	4
	9/20/2009	JHZ	E	SW	15	28	R		O	A	<2
	10/18/2009	CCA	F	NE	9	28	R		O	A	2
WN018.00	3/15/2009	CCA	H	SW	9	22	R		O	A	<2
	4/20/2009	CCA	E	SE	6	21	R		O	A	<2
	6/14/2009	JHZ	F	CL	15	24	R	P	O	A	2
	8/31/2009	JHZ	F	CL	17	24	R	P	O	A	4
	9/20/2009	JHZ	HE	SW	16	28	R		O	A	54



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	10/18/2009	CCA	F	NE	9	26	R		O	A	<2
WN020.00	3/15/2009	CCA	HF	SW	10	22	R		O	A	<2
	4/20/2009	CCA	E	SE	5	22	R		O	A	<2
	6/14/2009	JHZ	F	CL	16	25	R	P	O	A	6
	8/31/2009	JHZ	F	CL	18	24	R	P	O	A	10
	9/20/2009	JHZ	HF	SW	16	28	R		O	A	4
	10/18/2009	CCA	F	NE	9	26	R		O	A	<2
WN021.00	3/15/2009	CCA	HF	SW	9	22	R		O	A	<2
	4/20/2009	CCA	E	SE	6	22	R		O	A	<2
	6/14/2009	JHZ	F	CL	16	20	R	P	O	A	13
	8/31/2009	JHZ	F	CL	18	22	R	P	O	A	10
	9/20/2009	JHZ	HF	SW	14	28	R		O	A	4
	10/18/2009	CCA	F	NE	10	26	R		O	A	<2
WN022.00	3/15/2009	CCA	H	SW	9	23	R		O	A	<2
	4/20/2009	CCA	E	SE	5	22	R		O	A	<2
	6/14/2009	JHZ	F	CL	16	25	R	P	O	A	4
	8/31/2009	JHZ	F	CL	18	24	R	P	O	A	5.5
	9/20/2009	JHZ	HF	SW	14	28	R		O	A	4
	10/18/2009	CCA	F	NE	9	26	R		O	A	2
WN027.00	3/16/2009	EXT	F	CL	3	24	R		C	P	<2
	4/21/2009	JDO	HE	SE	4	24	R	P	C	P	<2
	6/2/2009	JDO	E	W	9	27	R		C	P	<2
	8/11/2009	JDO	F	S	15	26	R		C	P	<2
	9/23/2009	MLP	F	CL	14	29	R		C	P	<2
	10/26/2009	JDO	E	N	7	26	R		C	P	2
WN027.20	3/16/2009	EXT	F	SW	3	24	R		O	A	<2
	4/21/2009	JDO	HE	SE	4	24	R	PW	O	A	<2
	6/2/2009	JDO	E	W	10	26	R		O	A	<2
	8/1/2009	JDO	E	S	15	26	R		O	A	2
	9/23/2009	MLP	F	SW	14	29	R		O	A	<2
	10/26/2009	JDO	E	N	7	30	R		O	A	4
WN027.50	4/21/2009	JDO	HE	SE	5	18	R	P	C	P	16
	6/2/2009	JDO	E	W	10	24	R		C	P	<2
	8/11/2009	JDO	F	SW	17	20	R		C	P	<2
	9/23/2009	MLP	F	S	15	27	R		C	P	2
	10/26/2009	JDO	E	N	8	26	R		C	P	2
	12/7/2009	EXT	F	CL	8	18	R		C	P	16
WN028.00	3/16/2009	EXT	HF	SW	5	22	R		C	P	<2
	4/21/2009	JDO	E	SE	5	23	R	P	C	P	<2
	6/2/2009	JDO	E	W	10	27	R		C	P	<2
	8/11/2009	JDO	F	S	15	26	R		C	P	<2
	9/23/2009	MLP	F	S	18	30	R		C	P	20



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	10/26/2009	JDO	E	N	8	27	R		C	P	4
WN029.00	3/15/2009	CCA	H	SW	10	5	R		C	P	<2
	4/20/2009	CCA	E	SE	6	21	R		C	P	<2
	6/14/2009	JHZ	HF	CL	16	15	R	P	C	P	7.3
	8/31/2009	JHZ	H	NW	19	15	R	P	C	P	4
	9/20/2009	JHZ	E	SW	17	19	R		C	P	2
	10/18/2009	CCA	HF	NE	10	26	R		C	P	6
WN030.00	3/15/2009	CCA	H	SW	9	5	R		C	P	<2
	4/20/2009	CCA	E	SE	6	21	R		C	P	2
	6/14/2009	JHZ	HF	CL	17	8	R	P	C	P	8
	8/31/2009	JHZ	HF	NW	20	8	R	P	C	P	18
	9/20/2009	JHZ	E	SW	17	15	R		C	P	<2
	10/18/2009	CCA	HF	NE	9	26	R		C	P	<2
WN030.50	3/15/2009	CCA	HE	SW	10	5	R		C	P	4
	4/20/2009	CCA	E	SE	5	20	R		C	P	4
	6/14/2009	JHZ	F	CL	17	6	R	P	C	P	6.3
	8/31/2009	JHZ	HF	NW	20	6	R	P	C	P	20
	9/20/2009	JHZ	HE	SW	17	14	R		C	P	8.1
	10/18/2009	CCA	HF	NE	9	26	R		C	P	<2
WN032.40	2/25/2009	MLP	F	CL	0	19	R		O	R	<2
	4/29/2009	MLP	F	NW	10	16	R		C	P	<2
	6/2/2009	EXT	H	CL	16	14	R		C	P	8
	8/17/2009	AB	H	CL	19	18	R		C	P	54
	9/28/2009	FP	HE	CL	15	16	R		C	P	134
	10/26/2009	EXT	E	CL	9	12	R		C	P	10
WN032.60	2/25/2009	MLP	F	CL	0	18	R		O	R	<2
	4/29/2009	MLP	F	NW	10	15	R		C	P	<2
	6/2/2009	EXT	HE	CL	16	12	R		C	P	<2
	8/17/2009	AB	H	CL	19	15	R		C	P	14
	9/28/2009	FP	HE	CL	15	18	R		C	P	120
	10/26/2009	EXT	E	CL	9	12	R		C	P	50
WN033.00	2/25/2009	MLP	F	CL	0	16	R		O	R	2
	4/29/2009	MLP	HF	NW	10	14	R		C	P	2
	6/2/2009	EXT	HE	CL	17	12	R		C	P	4
	8/17/2009	AB	H	CL	18	15	R		C	P	12
	9/28/2009	FP	E	NW	13	18	R		C	P	6
	10/26/2009	EXT	E	N	8	8	R		C	P	16
WN034.00	3/16/2009	EXT	F	CL	4	20	R		O	R	<2
	4/21/2009	JDO	H	SE	5	26	R	PW	O	R	2
	6/2/2009	JDO	HE	W	10	24	R		O	R	<2
	8/11/2009	JDO	F	CL	17	22	R		O	R	<2
	9/23/2009	MLP	F	S	15	27	R		O	R	<2



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	10/26/2009	JDO	E	N	4	14	R		O	R	6
WN035.00	2/25/2009	MLP	HF	CL	1	18	R		O	R	<2
	4/29/2009	MLP	HF	CL	12	15	R		C	P	<2
	6/2/2009	EXT	HE	CL	16	18	R		C	P	2
	8/24/2009	EXT	F	CL	24	17	R		C	P	108
	9/28/2009	FP	E	NW	14	22	R		C	P	74
	10/26/2009	EXT	E	N	9	12	R		C	P	14
WN035.10	2/25/2009	MLP	HF	CL	1	16	R		O	R	<2
	4/29/2009	MLP	HF	CL	16	12	R		C	P	2
	6/2/2009	EXT	HE	CL	17	14	R		C	P	2
	8/17/2009	AB	H	CL	19	15	R		C	P	11
	9/28/2009	FP	E	CL	15	22	R		C	P	33
	10/26/2009	EXT	LE	N	10	17	R		C	P	8
WN035.40	2/25/2009	MLP	HF	CL	1	16	R		O	R	<2
	4/29/2009	MLP	HF	NW	13	12	R		C	P	2
	6/2/2009	EXT	HE	N	18	16	R		C	P	11
	8/17/2009	AB	HE	CL	19	15	R		C	P	13
	9/28/2009	FP	E	CL	15	23	R		C	P	46
	10/26/2009	EXT	F	CL	10	16	R		C	P	<2
WN035.70	2/25/2009	MLP	H	CL	1	18	R	W	O	R	<2
	4/29/2009	MLP	H	NW	12	16	R		C	P	<2
	6/2/2009	EXT	E	CL	17	16	R		C	P	<2
	8/17/2009	AB	HE	N	20	16	R		C	P	9.1
	8/31/2009	DKF	H	CL	17	16	E		C	P	16
	9/28/2009	FP	E	CL	15	22	R		C	P	16
	10/12/2009	DKF	HE	CL	9	20	E		C	P	8
	10/26/2009	EXT	LE	N	9	14	R		C	P	27
	12/2/2009	DKF	H	CL	5	14	E		C	P	8
	12/16/2009	DKF	HF	NW	0	18	E		C	P	18
WN036.00	2/25/2009	MLP	H	S	1	18	R		O	R	<2
	4/29/2009	MLP	H	NW	12	15	R		C	P	<2
	6/2/2009	EXT	E	CL	17	16	R		C	P	10
	8/17/2009	AB	HE	CL	19	16	R		C	P	8
	9/28/2009	FP	E	SW	15	24	R		C	P	6
	10/26/2009	EXT	F	CL	11	18	R		C	P	14
WN038.50	2/25/2009	MLP	HE	CL	2	20	R		O	R	<2
	4/29/2009	MLP	F	NW	14	18	R		C	P	<2
	6/2/2009	EXT	E	N	17	18	R		C	P	10
	8/17/2009	AB	E	CL	20	16	R		C	P	26
	8/31/2009	DKF	H	CL	16	16	E		C	P	28
	9/28/2009	FP	E	CL	15	22	R		C	P	60
	10/12/2009	DKF	E	CL	9	21	E		C	P	<2



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	10/26/2009	EXT	E	CL	8	21	R		C	P	16
	12/2/2009	DKF	H	CL	5	14	E		C	P	13
	12/16/2009	DKF	HF	NW	0	18	E		C	P	20
WN040.00	2/25/2009	MLP	HE	S	2	21	R		O	A	<2
	4/29/2009	MLP	H	NW	12	19	R		O	A	<2
	6/2/2009	EXT	E	CL	17	18	R		O	A	<2
	8/17/2009	AB	E	CL	22	20	R		O	A	18
	9/28/2009	FP	LE	SW	15	22	R		O	A	33
	10/26/2009	EXT	E	CL	7	22	R		O	A	6
WN041.00	2/25/2009	MLP	HE	S	2	26	R	W	O	A	<2
	4/29/2009	MLP	HE	NW	9	23	R		O	A	320
	6/2/2009	EXT	E	NE	18	18	R		O	A	82
	8/17/2009	AB	E	CL	20	22	R	W	O	A	84
	9/28/2009	FP	LE	SW	14	24	R	W	O	A	3.6
	10/26/2009	EXT	E	CL	8	17	R		O	A	12
WN042.00	2/25/2009	MLP	E	SW	1	25	R		O	A	<2
	4/29/2009	MLP	F	W	9	19	R		O	A	<2
	6/2/2009	EXT	E	CL	18	20	R		O	A	4
	8/17/2009	AB	E	CL	18	20	R		O	A	<2
	9/28/2009	FP	LE	SW	15	24	R		O	A	3.6
	10/26/2009	EXT	E	N	10	22	R		O	A	3.6
WN043.00	2/25/2009	MLP	E	SW	2	28	R		C	P	<2
	4/29/2009	MLP	HE	NW	8	26	R		C	P	<2
	6/2/2009	EXT	H	CL	14	25	R		C	P	<2
	8/17/2009	AB	E	S	16	25	R		C	P	<2
	9/28/2009	FP	LE	SW	15	27	R		C	P	2
	10/26/2009	EXT	L	N	10	24	R		C	P	6
WN043.30	3/16/2009	EXT	F	CL	3	16	R		O	A	<2
	4/21/2009	JDO	E	SE	7	14	R	P	O	A	48
	6/2/2009	JDO	H	CL	12	20	R		O	A	<2
	8/11/2009	JDO	F	SW	20	16	R		O	A	<2
	9/23/2009	MLP	F	SW	18	26	R		O	A	4
	10/26/2009	JDO	E	NW	7	14	R		O	A	<2
WN043.50	3/16/2009	EXT	F	CL	3	8	R		C	P	<2
	4/21/2009	JDO	H	SE	7	17	R	P	C	P	<2
	6/2/2009	JDO	HF	CL	13	14	R		C	P	2
	8/11/2009	JDO	F	SW	20	14	R		C	P	6
	9/23/2009	MLP	F	SW	18	24	R		C	P	2
	10/26/2009	JDO	HE	N	7	12	R		C	P	8
WN044.00	3/16/2009	EXT	F	CL	3	11	R		O	R	<2
	4/21/2009	JDO	H	SE	8	12	R	P	O	R	4
	6/2/2009	JDO	HE	CL	13	14	R		O	R	13



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	8/11/2009	JDO	H	SW	23	16	R		O	R	8
	9/23/2009	MLP	F	S	18	21	R		O	R	12
	10/26/2009	JDO	E	N	8	15	R		O	R	6
WN044.10	3/16/2009	EXT	F	CL	5	6	R		O	R	2
	4/21/2009	JDO	H	SE	8	9	R	P	O	R	12
	6/2/2009	JDO	HE	CL	14	14	R		O	R	4
	8/11/2009	JDO	H	SW	21	14	R		O	R	6
	9/23/2009	MLP	F	S	18	21	R		O	R	29
	10/26/2009	JDO	E	N	8	18	R		O	R	48
WN044.50	3/16/2009	EXT	F	CL	4	6	R		C	P	<2
	4/21/2009	JDO	H	SE	7	14	R	P	C	P	<2
	6/2/2009	JDO	HE	W	11	16	R		C	P	<2
	8/11/2009	JDO	F	SW	19	12	R		C	P	6
	9/23/2009	MLP	F	SW	18	21	R		C	P	2
	10/26/2009	JDO	E	N	4	12	R		C	P	16
WN047.00	3/16/2009	EXT	F	CL	3	18	R		C	P	<2
	4/21/2009	JDO	E	SE	6	22	R	P	C	P	<2
	6/2/2009	JDO	HE	CL	10	26	R		C	P	<2
	8/11/2009	JDO	HF	SW	16	24	R	M	C	P	2
	9/23/2009	MLP	F	S	16	30	R		C	P	<2
	10/26/2009	JDO	LE	NW		26	R		C	P	2.8
WN048.00	2/25/2009	MLP	E	CL	2	25	R		C	P	<2
	4/29/2009	MLP	HE	NW	11	22	R		C	P	<2
	6/2/2009	EXT	H	CL	15	22	R		C	P	2
	8/17/2009	AB	E	CL	18	24	R		C	P	25
	10/26/2009	EXT	L	N	9	24	R		O	A	18
	12/2/2009	EXT	HE	CL	8	23	R		O	A	14
WN050.00	2/18/2009	EXT	F	SW	3	26	R		C	P	<2
	3/16/2009	EXT	H	SW	5	21	R		C	P	<2
	4/27/2009	EXT	H	SW	12	20	R		C	P	<2
	6/1/2009	EXT	E	W	12	25	R		C	P	<2
	8/19/2009	MLP	HF	CL	19	27	R		C	P	9.1
	9/9/2009	EXT	HF	CL	19	28	R		C	P	<2
10/21/2009	LSM	HF	N	11	29	R		C	P	<2	
WN051.00	2/25/2009	MLP	E	SW	3	28	R		C	P	<2
	4/29/2009	MLP	F	NW	12	20	R		C	P	<2
	6/8/2009	MLP	F	NE	16	24	R		C	P	<2
	8/17/2009	AB	E	CL	19	22	R		C	P	<2
	9/28/2009	FP	HE	SW	14	29	R		C	P	22
	10/26/2009	EXT	E	CL	10	28	R		C	P	2
WN052.00	2/25/2009	MLP	E	CL	2	26	R		C	P	22
	4/29/2009	MLP	F	NW	9	22	R		C	P	<2



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	6/2/2009	EXT	H	CL	14	26	R		C	P	<2
	8/17/2009	AB	H	CL	14	26	R		C	P	4
	9/28/2009	FP	L	SW	15	28	R		C	P	18
	10/26/2009	EXT	LF	CL	10	24	R		C	P	42
WN054.00	2/18/2009	EXT	E	CL	0	26	R		C	P	<2
	4/27/2009	EXT	H	CL	9	22	R		C	P	<2
	6/1/2009	EXT	E	W	13	26	R		C	P	<2
	8/19/2009	MLP	HF	CL	19	24	R		C	P	2
	9/9/2009	EXT	HF	CL	20	25	R		C	P	2
	10/21/2009	LSM	HF	N	11	28	R		C	P	<2
WN056.00	4/29/2009	MLP	HE	NW	11	20	R		C	P	2
	6/2/2009	EXT	HF	CL	15	20	R		C	P	4
	8/24/2009	EXT	F	CL	28	24	R		C	P	28
	9/28/2009	FP	HE	CL	14	26	R		C	P	62
	10/26/2009	EXT	HE	CL	8	22	R		C	P	68
	12/2/2009	EXT	F	CL	5	15	R		C	P	3.5
WN057.00	2/25/2009	MLP	E	SW	2	24	R		O	A	<2
	4/29/2009	MLP	F	NW	10	18	R		O	A	<2
	6/2/2009	EXT	E	CL	16	21	R		O	A	2
	8/24/2009	EXT	F	CL	29	24	R		O	A	160
	9/28/2009	FP	H	CL	13	28	R		O	A	18
	10/26/2009	EXT	E	CL	8	22	R		O	A	22
WN060.00	2/18/2009	EXT	E	CL	-1	25	R		C	P	<2
	4/27/2009	EXT	HF	SW	11	17	R		C	P	<2
	6/1/2009	EXT	E	SW	15	24	R		C	P	4
	8/19/2009	MLP	F	CL	24	24	R		C	P	6
	9/9/2009	EXT	HF	CL	21	24	R		C	P	<2
	10/21/2009	LSM	HF	N	11	27	R		C	P	<2
WN063.00	2/25/2009	MLP	E	SW	2	20	R		O	A	<2
	4/29/2009	MLP	F	NW	10	15	R		O	A	2
	6/2/2009	EXT	E	NE	18	18	R		O	A	18
	8/24/2009	EXT	F	CL	25	22	R		O	A	11
	9/28/2009	FP	H	CL	14	26	R		O	A	2
	10/26/2009	EXT	E	CL	8	14	R		O	A	156
WN064.00	2/18/2009	EXT	E	CL	-1	21	R		O	R	<2
	4/27/2009	EXT	F	SW	11	15	R		O	R	<2
	6/1/2009	EXT	HE	SW	14	18	R		O	R	15
	8/19/2009	MLP	F	CL	21	21	R		O	R	40
	9/9/2009	EXT	F	CL	21	23	R		O	R	2
	10/21/2009	LSM	HE	CL	10	13	R		O	R	15
WN065.00	2/18/2009	EXT	E	CL	-1	20	R		O	R	<2
	4/27/2009	EXT	F	CL	12	0	R		O	R	4



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	6/1/2009	EXT	HE	SW	14	12	R		O	R	22
	8/19/2009	MLP	F	CL	24	9	R		O	R	92
	9/9/2009	EXT	F	CL	22	14	R		O	R	10
	10/21/2009	LSM	H	CL	10	13	R		O	R	12
WN066.00	2/25/2009	MLP	E	SW	1	6	R		O	R	2
	4/29/2009	MLP	F	NW	15	0	R		O	R	6
	6/2/2009	EXT	E	NE	19	4	R		O	R	16
	8/17/2009	AB	LE	CL	24	8	R		O	R	70
	9/28/2009	FP	HF	CL	14	24	R		O	R	22
	10/26/2009	EXT	E	CL	9	7	R		O	R	260
WN067.00	2/25/2009	MLP	E	SW	0	10	R	W	C	P	2
	4/29/2009	MLP	F	NW	15	0	R	W	C	P	20
	6/2/2009	EXT	E	CL	20	7	R	W	C	P	36
	8/17/09	AB	LE	CL	24	8	R		C	P	98
	9/28/2009	FP	HF	CL	14	24	R		C	P	10
	10/26/2009	EXT	E	CL	9	10	R		C	P	220
WN068.00	2/18/2009	EXT	E	CL	-1	23	R		O	A	<2
	4/27/2009	EXT	F	SW	11	14	R		O	A	2
	6/1/2009	EXT	HE	CL	14	21	R		O	A	6
	8/19/2009	MLP	F	CL	23	22	R		O	A	6
	9/9/2009	EXT	F	CL	21	24	R		O	A	<2
	10/21/2009	LSM	H	CL	10	26	R		O	A	<2
WN068.50	2/18/2009	EXT	E	CL	0	19	R		O	A	<2
	4/27/2009	EXT	F	S	12	8	R		O	A	4
	6/1/2009	EXT	E	CL	16	18	R		O	A	4
	8/19/2009	MLP	F	CL	25	20	R		O	A	42
	9/9/2009	EXT	HF	CL	22	22	R		O	A	7.3
	10/21/2009	LSM	HF	N	12	24	R		O	A	2
WN069.00	2/18/2009	EXT	E	CL	-2	1	R		O	R	11
	4/27/2009	EXT	F	S	11	0	R		O	R	11
	6/1/2009	EXT	E	SW	14	0	R		O	R	48
	8/19/2009	MLP	F	CL	24	14	R		O	R	180
	9/9/2009	EXT	F	CL	23	13	R		O	R	15
	10/21/2009	LSM	H	CL	11	5	R		O	R	156
WN071.00	2/18/2009	EXT	HE	CL	-1	18	R		O	A	<2
	4/27/2009	EXT	F	SW	12	2	R		O	A	4
	6/1/2009	EXT	HE	SW	14	18	R		O	A	8
	8/19/2009	MLP	F	CL	26	18	R		O	A	76
	9/9/2009	EXT	F	E	22	17	R		O	A	3.6
	10/21/2009	LSM	H	CL	10	23	R		O	A	4
WN073.00	3/16/2009	EXT	HF	SW	5	21	R		C	P	<2
	4/21/2009	JDO	E	SE	6	19	R	P	C	P	33



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	6/2/2009	JDO	H	CL	10	25	R		C	P	<2
	8/11/2009	JDO	HF	CL	20	24	R		C	P	<2
	9/23/2009	MLP	F	S	17	31	R		C	P	2
	12/7/2009	EXT	F	CL	7	20	R		C	P	4
WN076.00	3/16/2009	EXT	HF	SW	3	24	R		C	P	<2
	4/21/2009	JDO	E	SE	5	24	R	P	C	P	36
	6/2/2009	JDO	H	CL	9	28	R		C	P	4
	8/11/2009	JDO	F	SW	15	28	R		C	P	2
	9/23/2009	MLP	F	S	15	31	R		C	P	<2
	10/26/2009	JDO	E	NW	7	25	R		C	P	<2
WN077.20	3/16/2009	EXT	HF	CL	4	26	R		O	A	<2
	4/21/2009	JDO	E	SE	5	25	R	P	O	A	<2
	6/2/2009	JDO	HE	CL	9	27	R		O	A	<2
	8/11/2009	JDO	F	SW	16	26	R		O	A	<2
	9/23/2009	MLP	F	S	15	31	R		O	A	<2
	10/26/2009	JDO	E	NW	9	30	R		O	A	<2
WN077.30	3/16/2009	EXT	HF	SW	5	25	R		C	P	<2
	4/21/2009	JDO	E	SE	5	22	R	P	C	P	260
	6/2/2009	JDO	E	W	10	26	R		C	P	<2
	8/11/2009	JDO	F	S	15	27	R		C	P	2
	9/23/2009	MLP	F	S	16	31	R		C	P	<2
	10/26/2009	JDO	E	NW	10	30	R		C	P	80
WN078.00	2/18/2009	EXT	E	CL	3	31	R		C	P	<2
	4/27/2009	EXT	H	SW	10	24	R		C	P	<2
	6/1/2009	EXT	E	SW	13	28	R		C	P	<2
	8/19/2009	MLP	HF	CL	18	28	R		C	P	6
	9/9/2009	EXT	HF	CL	17	30	R		C	P	<2
	10/21/2009	LSM	HF	CL	11	31	R		C	P	<2
WN079.00	2/18/2009	EXT	F	SW	3	33	R		C	P	<2
	4/27/2009	EXT	HE	SW	10	28	R		O	A	<2
	6/1/2009	EXT	E	NW	13	28	R		O	A	<2
	8/19/2009	MLP	E	SE	17	29	R		O	A	2
	9/9/2009	EXT	HE	NE	17	29	R		O	A	<2
	10/21/2009	LSM	HE	CL	10	31	R		O	A	<2
WN080.00	2/18/2009	EXT	E	CL	1	26	R		C	P	<2
	4/27/2009	EXT	H	SW	11	22	R		C	P	<2
	6/1/2009	EXT	E	CL	13	25	R		C	P	<2
	8/19/2009	MLP	H	CL	17	29	R		C	P	2
	9/9/2009	EXT	H	CL	20	29	R		O	A	4
	10/21/2009	LSM	HF	CL	11	30	R		O	A	<2
WN080.50	2/18/2009	EXT	F	CL	3	30	R		C	P	<2
	4/27/2009	EXT	H	SW	11	25	R		C	P	<2



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	6/1/2009	EXT	E	CL	12	26	R		C	P	<2
	8/19/2009	MLP	H	CL	18	29	R		C	P	4
	9/9/2009	EXT	H	CL	19	29	R		C	P	2
	10/21/2009	LSM	HF	CL	11	28	R		C	P	<2
WN082.00	2/18/2009	EXT	F	CL	0	2	R		C	P	<2
	4/27/2009	EXT	H	SW	14	4	R		C	P	<2
	6/1/2009	EXT	E	SW	14	4	R		C	P	25
	8/19/2009	MLP	H	CL	21	28	R		C	P	72
	9/9/2009	EXT	H	CL	20	29	R		C	P	2
	10/21/2009	LSM	F	CL	12	25	R		C	P	2
WN083.00	3/16/2009	EXT	H	CL	4	6	R		C	P	<2
	4/27/2009	EXT	HE	SW	14	16	R		C	P	2
	6/1/2009	EXT	E	CL	15	22	R		C	P	8
	8/19/2009	MLP	H	CL	22	29	R		C	P	29
	9/9/2009	EXT	H	CL	19	29	R		C	P	<2
	10/21/2009	LSM	F	CL	11	29	R		C	P	2
WN084.00	2/18/2009	EXT	F	CL	2	30	R		C	P	<2
	4/27/2009	EXT	HE	SW	10	26	R		C	P	<2
	6/1/2009	EXT	E	NW	14	28	R		C	P	80
	8/19/2009	MLP	H	CL	24	29	R		C	P	29
	9/9/2009	EXT	H	NE	20	29	R		C	P	<2
	10/21/2009	LSM	F	CL	10	29	R		C	P	<2
WN085.00	2/18/2009	EXT	HF	CL	2	32	R		O	A	<2
	4/27/2009	EXT	E	SW	9	27	R		O	A	<2
	6/1/2009	EXT	LE	SW	14	28	R		O	A	<2
	8/19/2009	MLP	E	SE	17	29	R		O	A	<2
	9/9/2009	EXT	HE	NW	17	30	R		O	A	<2
	10/21/2009	LSM	E	CL	11	31	R		O	A	<2
WN085.50	2/18/2009	EXT	F	SW	4	32	R		O	A	<2
	4/27/2009	EXT	E	CL	10	28	R		O	A	<2
	6/1/2009	EXT	E	NW	14	28	R		O	A	<2
	8/19/2009	MLP	E	SE	19	29	R		O	A	<2
	9/9/2009	EXT	HE	CL	19	29	R		O	A	8
	10/21/2009	LSM	E	CL	11	30	R		O	A	<2
WN086.00	2/18/2009	EXT	F	CL	3	32	R		C	P	<2
	4/27/2009	EXT	E	SW	11	26	R		C	P	<2
	6/8/2009	MLP	F	CL	13	28	R		C	P	<2
	8/19/2009	MLP	E	CL	23	28	R		C	P	6
	9/1/2009	EXT	L	CL	19	29	R		C	P	<2
	10/21/2009	LSM	E	CL	11	31	R		C	P	16
WN087.00	2/18/2009	EXT	F	CL	2	29	R		C	P	<2
	4/27/2009	EXT	E	SW	11	26	R		C	P	<2



Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	6/8/2009	MLP	F	CL	10	28	R		C	P	<2
	8/19/2009	MLP	E	CL	18	28	R		C	P	<2
	9/9/2009	EXT	E	CL	19	29	R		C	P	2
	10/21/2009	LSM	E	CL	11	31	R		C	P	6
WN089.00	2/18/2009	EXT	E	CL	2	32	R		C	P	<2
	4/27/2009	EXT	E	CL	10	28	R		C	P	<2
	6/1/2009	EXT	LE	SW	14	28	R		C	P	<2
	8/19/2009	MLP	HE	CL	16	29	R		C	P	4
	9/9/2009	EXT	HE	NE	17	32	R		C	P	<2
	10/21/2009	LSM	E	CL	11	31	R		C	P	<2
WN090.00	2/18/2009	MLP	F	CL	3	30	R		C	P	<2
	4/28/2009	FP	HF	S	7	26	R		C	P	<2
	5/20/2009	MLP	HE	CL	9	27	R		C	P	12
	7/22/2009	FP	F	CL	15	28	R	P	C	P	35
	9/8/2009	FP	HF	CL	13	30	R		C	P	96
	10/21/2009	EXT	HF	N	11	30	R		C	P	<2
WN091.00	2/18/2009	EXT	F	CL	3	32	R		C	P	4
	4/27/2009	EXT	E	CL	9	28	R		C	P	<2
	6/1/2009	EXT	HE	CL	11	28	R		C	P	<2
	8/19/2009	MLP	E	CL	22	28	R		C	P	<2
	9/9/2009	EXT	HE	CL	19	30	R		C	P	<2
	10/21/2009	LSM	E	CL	11	30	R		C	P	<2
WN092.00	2/18/2009	EXT	E	CL	2	32	R		C	P	<2
	4/27/2009	EXT	E	SW	9	26	R		C	P	<2
	6/1/2009	EXT	HE	CL	11	28	R		C	P	<2
	8/19/2009	MLP	E	SE	18	28	R		C	P	10
	9/9/2009	EXT	HE	CL	17	29	R		C	P	<2
	10/21/2009	LSM	E	CL	11	31	R		C	P	13
WN093.00	2/18/2009	MLP	F	CL	4	30	R		C	P	<2
	4/28/2009	FP	F	S	5	26	R		C	P	<2
	5/20/2009	MLP	HE	CL	9	28	R		C	P	<2
	7/22/2009	FP	F	CL	12	28	R	P	C	P	4
	9/8/2009	FP	HF	CL	14	30	R		C	P	4
	10/21/2009	EXT	HF	CL	10	30	R		C	P	<2
WN098.00	2/18/2009	MLP	F	SW	5	30	R		C	P	<2
	4/28/2009	FP	F	S	15	26	R		C	P	2
	5/20/2009	MLP	HE	CL	10	28	R		C	P	<2
	7/22/2009	FP	F	CL	13	28	R	P	C	P	<2
	9/8/2009	FP	HF	CL	15	30	R		C	P	<2
	10/21/2009	EXT	HE	CL	10	30	R		C	P	<2
WN099.00	2/18/2009	MLP	F	SW	4	30	R		O	A	<2
	4/28/2009	FP	F	S	8	26	R		O	A	<2



WN Annual Review
Effective Date 05/03/10

Station	Date	Collector	Tide	Wind	Temp	Salin	Strat	Adv	Status	Class	COL
	5/20/2009	MLP	HE	N	10	28	R		O	A	<2
	7/22/2009	FP	F	CL	13	28	R	P	O	A	<2
	9/8/2009	FP	HF	CL	15	30	R		O	A	<2
	10/21/2009	EXT	HE	S	11	30	R		O	A	<2
WN100.00	2/18/2009	MLP	F	SW	4	32	R		C	P	<2
	4/28/2009	FP	F	S	9	27	R		C	P	2
	5/20/2009	MLP	HE	N	10	29	R		C	P	24
	7/22/2009	FP	F	CL	14	28	R	P	C	P	12
	9/8/2009	FP	F	CL	13	30	R		C	P	<2
	10/21/2009	EXT	HE	CL	10	30	R		C	P	<2
WN104.50	3/11/2009	FP	F		3	30	R	P	O	A	<2
	4/28/2009	FP	F	S	7	26	R		O	A	<2
	5/20/2009	MLP	H	N	9	27	R		O	A	2
	7/22/2009	FP	E	CL	15	28	R	P	O	A	4
	9/8/2009	FP	F	CL	15	30	R		O	A	<2
	10/21/2009	EXT	H	NW	11	30	R		O	A	<2
WN105.00	3/11/2009	FP	F		3	30	R	P	O	A	<2
	4/28/2009	FP	F	S	9	26	R		O	A	<2
	5/20/2009	MLP	H	N	8	27	R		O	A	<2
	7/22/2009	FP	E	CL	15	28	R	P	O	A	12
	9/8/2009	FP	F	CL	14	30	R		O	A	<2
	10/21/2009	EXT	H	NW	11	26	R		O	A	<2
WN114.00	2/18/2009	MLP	F	SW	5	32	R		C	P	2
	4/28/2009	FP	F	S	7	30	R		C	P	<2
	5/20/2009	MLP	HF	CL	9	28	R		C	P	<2
	7/22/2009	FP	E	S	14	30	R	P	C	P	15
	9/8/2009	FP	F	CL	13	30	R		C	P	2
	10/21/2009	EXT	H	W	11	31	R		C	P	<2
WN115.00	2/18/2009	MLP	F	SW	4	32	R		C	P	<2
	4/28/2009	FP	F	S	8	29	R		C	P	<2
	5/20/2009	MLP	HF	CL	9	28	R		C	P	10
	7/22/2009	FP	E	S	14	30	R	P	C	P	4
	9/8/2009	FP	F	S	13	30	R		C	P	2
	10/21/2009	EXT	H	CL	11	32	R		C	P	<2
WN117.00	2/18/2009	MLP	F	SW	5	27	R		C	P	<2
	4/28/2009	FP	F	S	13	14	R		C	P	2
	5/20/2009	MLP	HF	CL	10	29	R		C	P	<2
	7/22/2009	FP	E	S	20	12	R	P	C	P	72
	9/8/2009	FP	F	S	14	30	R		C	P	2
	10/21/2009	EXT	H	S	12	28	R		C	P	<2