



**GROWING AREA WE**  
**Towns of Kennebunkport and Biddeford**  
**ANNUAL REVIEW for 2008**

**Report Date: August 18, 2009**

**Amy M. Fitzpatrick**

**APPROVAL**

Bureau Director:

\_\_\_\_\_ Date: \_\_\_\_\_  
Print name signature

**DISTRIBUTION:**

- ( ) Habitat/Aquaculture Division..... By: \_\_\_\_\_ Date: \_\_\_\_\_
- ( ) Bureau of Resource Management Director..... By: \_\_\_\_\_ Date: \_\_\_\_\_
- ( ) Office of the Commissioner..... By: \_\_\_\_\_ Date: \_\_\_\_\_



### DRAFT APPROVAL ROUTING FORM

Date in Process:

Operation Title:

Revision No.:

Originator's Name: Amy M. Fitzpatrick \_\_\_\_\_  
Print name Signature

-----

The attached draft is for your evaluation and comment. Suggested changes should be concise and reasons specific. Return to sender.

Peer reviewer:

Anna Bourakovsky \_\_\_\_\_ Date: \_\_\_\_\_  
print name signature

Peer reviewer:

Mercuria Cumbo \_\_\_\_\_ Date: \_\_\_\_\_  
print name signature



**TABLE OF CONTENTS**

Executive Summary .....5  
 Growing Area Description .....5  
 Current Classification(s).....6  
 Activity during Review Period .....7  
 Current Management Plan(s) for Conditional Area(s).....8  
 Current Annual Review of Management Plan(s).....8  
 Water Quality Review and Discussion .....8  
 Recommendations for Upward Classification ..... 11  
 Shoreline Survey Activity .....20  
 Aquaculture/Wet Storage Activity .....21  
 Classification Changes Required and Requested .....21  
 Summary.....21  
 References.....23  
 Appendix A. Annual Review of Conditional Area Management Plan for Goosefare Bay and Little River.....24  
 Appendix B. Key to Water Quality Table Headers .....26  
 Appendix C. Growing Area WE 2008 Data .....27

**LIST OF TABLES**

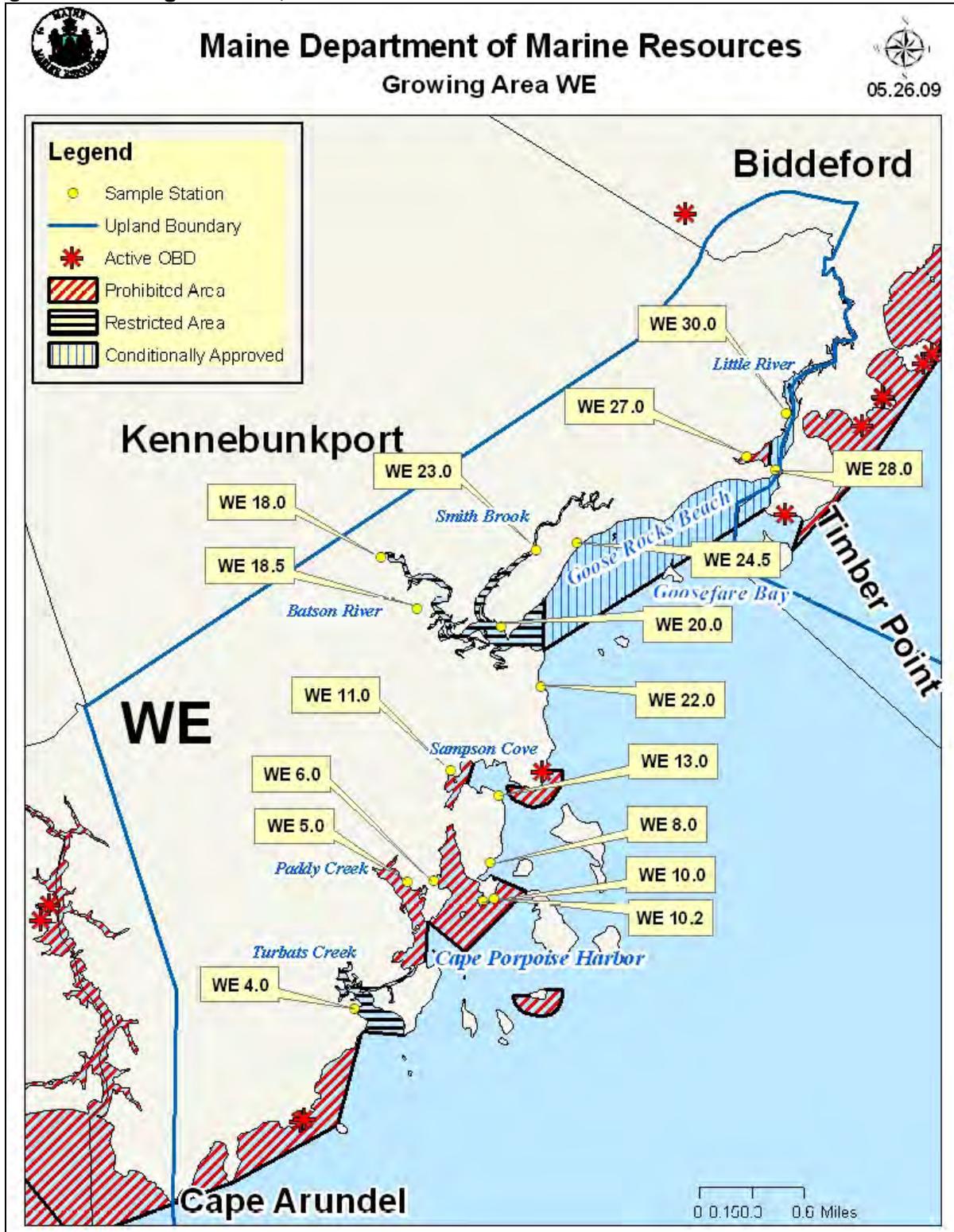
Table 1. Geomean and P90 Scores, Growing Area WE, 2002-2008.....8  
 Table 2. Goosefare Bay/Little River Seasonal Conditional Area, Open Status, 2003-2008, October 1- May 31 .....9  
 Table 3. WE Samples Collected in 2008 .....9  
 Table 4. Year Round Geometric means and P90 Scores for station WE20-30, 2003-2008 ..... 12  
 Table 5. Seasonal and Rainfall Assessment, Station WE 20, 2002-2008 ..... 13  
 Table 6. Seasonal and Rainfall Assessment, Station WE 23, 2002-2008 ..... 14  
 Table 7. Seasonal and Rainfall Assessment, Station WE 24.5, 2002-2008 ..... 15  
 Table 8. Seasonal and Rainfall Assessment, Station WE 28, 2002-2008 ..... 17  
 Table 9. Seasonal and Rainfall Assessment, Station WE 30, 2002-2008 ..... 18  
 Table 10. Goosefare Bay/Little River Seasonal Conditional Area, Open Status, 2003-2008 ....24

**LIST OF FIGURES**

Figure 1. Growing Area WE, with Active Water Stations .....4  
 Figure 2. Area WE P90 Scores for Approved Stations (expressed as the percent of the approved standard), 2006-2008..... 10  
 Figure 3. Area WE P90 Scores for Restricted Stations (expressed as the percent of the restricted standard), 2006-2008..... 11  
 Figure 4. Year Round P90 trends for Station WE 20-30, 2004-2008..... 12



Figure 1. Growing Area WE, with Active Water Stations





## Executive Summary

This is an annual report for growing area WE written in compliance with the requirements of the 2007 Model Ordinance and the National Shellfish Sanitation Program. Growing area WE is located between Cape Arundel, Kennebunkport and Timber Point, Biddeford. Sources of pollution in the growing area includes four licensed residential overboard discharges (OBD). One OBD located on Goat Island was replaced with a new inground septic system on June 5, 2008. An OBD (#1561) which is located in Growing Area WF but discharged to Little River which drains into growing area WE was removed on August 30, 2007<sup>1</sup>. Non-point pollution from streams and increased seasonal shore usage are also of concern in this growing area. The next triennial report is due in 2010; the next sanitary survey report is due in 2013.

As a result of the current water quality review, several upward classification changes are recommended at this time. The prohibited area around the south end of Goat Island can be repealed due to the removal of the OBD<sup>2</sup>. Goosefare Bay and Little River are recommended for an upward classification change, from conditionally approved based on season to approved; Smith Brook is recommended for an upward classification change, from restricted to approved.

## Growing Area Description

Growing Area WE is located between Cape Arundel, Kennebunkport and Timber Point, Biddeford (Figure 1). A complete boundary description can be found in the central files. The growing area includes several coves (Turbats Creek, Paddy Creek, and Sampson Cove), Cape Porpoise Harbor, Goosefare Bay, and two small rivers (Batson River and Little River).

There is no municipal wastewater treatment plant within the boundaries of growing area WE. The Kennebunkport Waste Water Treatment Plant sewer collection system serves most of Cape Porpoise Harbor and extends along Marshall Point and Goosefare Bay. The plant discharges to the Kennebunk River in Growing Area WD. There are pump stations in growing area WE: two near Little River, three on Goosefare Bay, one near Sampson Cove, one near Paddy Creek, two near Turbats Creek, two inland and five on the Kennebunk River in growing area WD. All of the pump stations have dual pumps, alarms and no overflow pipes per the review of the plant on January 14, 2008. There is a farm which grazes 20-50 sheep and a pond that has wild and domestic geese on the shore of Batson Brook. There are no marinas in the area but the Cape Porpoise Town Pier which has 76 moorings: 48 for fishing boats and 28 for recreational boats. Only two of the recreational boats have heads and the peak season for usage is Memorial Day to Labor Day. There is one limited purpose aquaculture license (WHI 05) for soft-shelled clams which is comprised of a shellfish raft/overwintering cage in Cape Porpoise Harbor. The Rachel Carson Preserve that owns a predominant amount of the shoreline at Sampson Cove, Smith Brook, Batson River and Little River. The preserve is home for deer, fox, raccoons and various waterfowl. There are also beaver in Beaver Pond, and the drainage from the pond impacts water quality at Station WE 27, which is classified prohibited.



## Current Classification(s)

At the end of 2008, growing area WE had areas classified as:

### Approved

- WE 8, 13 and 22

### Conditionally Approved

Area No. 9, Batson River to Fortunes Rocks (Kennebunkport and Biddeford), Goosefare Bay and Little River, Conditional Area based on season, monitored by stations WE 24.5, 28 and 30.

### Restricted (due to non-point source pollution and run-off from farm)

- Area No. 8, Kennebunk River to Cape Porpoise (Kennebunk and Kennebunkport), Turbats Creek, monitored by station WE 4.0.
- Area No. 9, Batson River to Fortunes Rocks (Kennebunkport and Biddeford), monitored by stations WE 18, 18.5, 20 and 23.

### Prohibited

- Area No. 8, Kennebunk River to Cape Porpoise (Kennebunk and Kennebunkport)  
  
Cape Arundel, due to two overboard discharges and no shoreline survey- no sampling station monitor this prohibited area  
Cape Porpoise Harbor, due to non-point pollution; monitored by stations WE 6, 10 and 10.2.  
Paddy Creek; due to a malfunctioning septic system; monitored by station WE 5  
Sampson Cove (1 station- WE 5)  
Nessler Point; due to an overboard discharge  
Goat Island; due to an overboard discharge (Removed June 5, 2008)
- Area No. 9, Batson River to Fortunes Rocks (Kennebunkport and Biddeford)  
  
Little River- due to non-point pollution; monitored by station WE 27

Please visit the DMR website to view legal notices:

[http://www.maine.gov/dmr/rm/public\\_health/closures/closedarea.htm#T](http://www.maine.gov/dmr/rm/public_health/closures/closedarea.htm#T)



## Activity during Review Period

Samples were collected in Cape Porpoise as part of an investigation to try and determine the cause for high fecal coliform scores at samples station WE 10 in February 2008. One runoff sample that was collected from road runoff coming through a rock wall at station WE 10 had a score of 880 CFU/100ml. DMR reported the result to the local volunteer and shellfish warden for further investigation. On February 19, 2008, the volunteer reported that there was no runoff coming either from the parking lot, or from underneath where the rocks are, as there was when DMR and the town were there to take the sample. The investigation did not reveal any pipes hidden in the rock wall.<sup>3</sup> The sewer line does not run to the wharf but it does run to a restaurant out on the dock where there are two public toilets. The harbormaster has a chemical toilet out on the wharf. It was noted on the field sheet the day of the sample that there was evidence of duck tracks.

On March 21, 2008, Area No. 8, Kennebunk River to Cape Porpoise (Kennebunk and Kennebunkport) was amended to reclassify Paddy Creek, Kennebunkport, from conditionally approved to prohibited due to a malfunctioning septic system. On that day, sample station WE 5.0 was reclassified from conditionally approved to prohibited.

A licensed OBD located on Goat Island was replaced with a new inground septic system as confirmed by the Kennebunkport codes enforcement officer on June 5, 2008.

On July 18, 2008, the Kennebunkport Sewer Department (KSD) reported that on that day and for several hours severe thunder showers hit the Kennebunk area. A total of 7 pump stations including Wells Road Pump Station came into alarm conditions due to power outages. All have radio telemetry to the main treatment plant and all were working properly. The on call person and another KSD employee responded to Wells Road Pump Station and discovered the station working properly and on emergency power. They continued to take care of several other stations that require portable generators. During that time and before they could get back and check Wells Road Pump Station a control breaker tripped causing the pumps to not run. The breaker has been replaced as a precaution due to possible lightning damage. Upon returning to Wells Road Pump Station personnel noticed the manhole was overflowing and discovered the problem with the breaker. The problem was taken care of immediately. KSD estimated approximately 2 hours of overflow as explained in the NON-COMPLIANCE/DISCHARGE REPORT to DEP for a maximum amount. The DMR was not notified of this discharge until later when the DEP forwarded an e-mail. The Wells Road pump station is located in a prohibited area.<sup>4</sup>

The KSD reported on August 1, 2008 that there was a pump station malfunction on Ocean Avenue, right before lunch, and discharged about 100 gallons of sewage down the road toward the Kennebunk River. The Kennebunk River is prohibited so no action was required.<sup>5</sup>



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

There is a management plan for a seasonal conditionally approved area in growing area WE for the Goosefare Bay/Little River. The area is in the closed status from June 1<sup>st</sup> through September 30<sup>th</sup> per the management plans. Copies of the management plans can be found in DMR central files.

### Current Annual Review of Management Plan(s)

#### Goosefare Bay/Little River Seasonal Conditionally Approved Area

In 2008, the seasonal conditional area closed on June 1 and reopened on October 1. The seasonal water quality was reviewed prior to reopening (September 23, 2008) and water quality at Stations WE 24.5, 28 and 30 continued to meet approved standards for the open season. A complete management plan review can be found in Appendix A.

### Water Quality Review and Discussion

Table 1 lists all active approved, restricted and prohibited stations in Growing Area WE, with their respective Geomean and P90 calculations for 2008. Please refer to Appendix C for a key to interpreting the headers on the columns of Table 1. The approved and restricted standards for each station are also displayed in Table 1. These standards will fluctuate yearly as a result of the DMR transition from a most probable number (MPN) fecal coliform test method to a membrane filtration (MF) method and are dependent on the number of sample analyzed by MPN verses MF. The total number of data points used in the calculations is displayed in the Count column and includes both MPN and MF values. The number of data points analyzed by MF is displayed in the MFCNT column. This fluctuating standard will cease when all 30 data points have been analyzed by the MF method. A more detailed explanation of this transition can be found in central files. All approved and restricted stations met their NSSP classification standard in 2008.

**Table 1. Geomean and P90 Scores, Growing Area WE, 2002-2008**

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WE 4.0	R	30	19	6.8	0.63	500	42.8	37	204
WE 5.0	P	30	23	4.9	0.47	43	19.5	34	188
WE 6.0	new	10	9	4	0.34	14	11	32	173
WE 8.0	A	30	15	4.2	0.48	152	17.2	39	221
WE 10.0	P	30	10	17.2	0.81	740	187.9	42	245
WE 10.2	new	9	9	2.5	0.18	5.5	4.3		
WE 11.0	P	30	15	3.7	0.45	108	14	39	221
WE 13.0	A	30	15	3	0.3	43	7.3	39	221
WE 18.0	R	30	15	22.5	0.52	240	103.9	39	221
WE 18.5	new	24	15	5.1	0.5	84	22.5	37	205
WE 20.0	R	30	20	3.1	0.34	43	8.5	36	200
WE 22.0	A	30	14	3.8	0.35	43	10.6	40	226
WE 23.0	R	30	15	4.8	0.45	43	17.9	39	221
WE 27.0	P	30	20	13.2	0.6	240	77.6	36	200



Table 2 lists all conditionally approved stations in Goosefare Bay and Little River seasonal conditional area with their respective Geomean and P90 calculations for 2008. Data for conditionally approved stations reflects only the open status. All stations met the approved standard during open status.

**Table 2. Goosefare Bay/Little River Seasonal Conditional Area, Open Status, 2003-2008, October 1- May 31**

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WE024.50	CA	30	16	4.7	0.65	>1600	32	38	217
WE028.00	CA	30	16	3.8	0.43	240	13.4	38	217
WE030.00	CA	30	15	4.2	0.40	93	13.4	39	221

All approved, restricted and prohibited stations that were active at the beginning of 2008 were sampled at least 6 times following the systematic random sampling (SRS) schedule (Table 3 and Appendix E). At station WE 13, additional samples were collected under adverse conditions because it is a flood sample station. Goosefare Bay/Little River conditionally approved stations (WE 24.5, 28 and 30) were sampled 6 times in the open status.

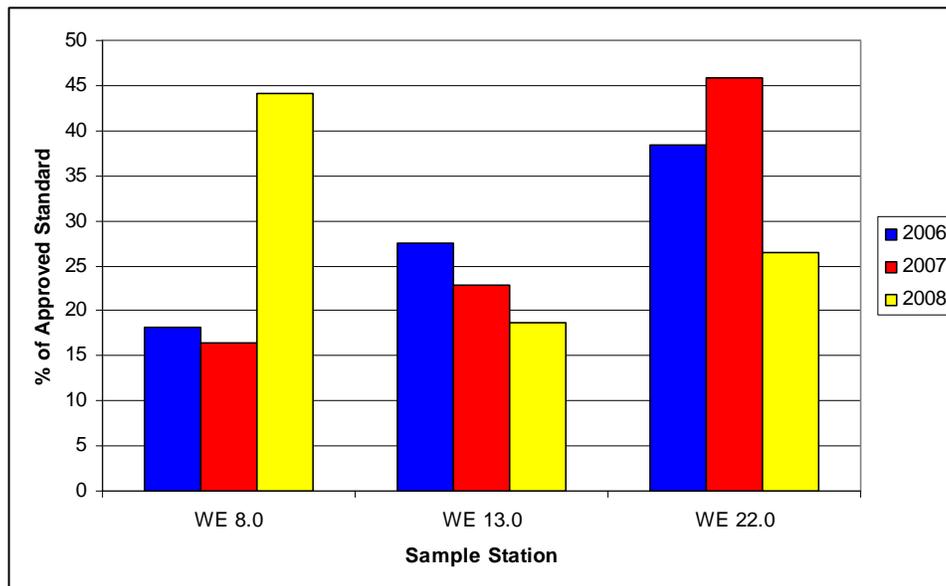
**Table 3. WE Samples Collected in 2008**

Station	Class	Adverse		Random		Total	Comments
		Closed	Open	Closed	Open		
WE004.00	R				6	6	
WE005.00	CA				1	1	Reclassified from CA to P on March 21, 2008
	P			8		8	
WE006.00	P			6		6	Reactivated on August 7, 2007
WE008.00	A				6	6	
WE010.00	P			6		6	Deactivated on December 15, 2005/Reactivated on August 7, 2007
WE010.20	P			6		6	Created on August 7, 2007
WE011.00	P			6		6	
WE013.00	A	11	1		6	18	Flood sample station
WE018.00	R				6	6	Reactivated on July 8, 2004
WE018.50	R				6	6	Created on July 8, 2004
WE020.00	R				8	8	
WE022.00	A				6	6	
WE023.00	R				6	6	
WE024.50	CA			2	6	8	
WE027.00	P			8		8	
WE028.00	CA			2	6	8	
WE030.00	CA			2	6	8	



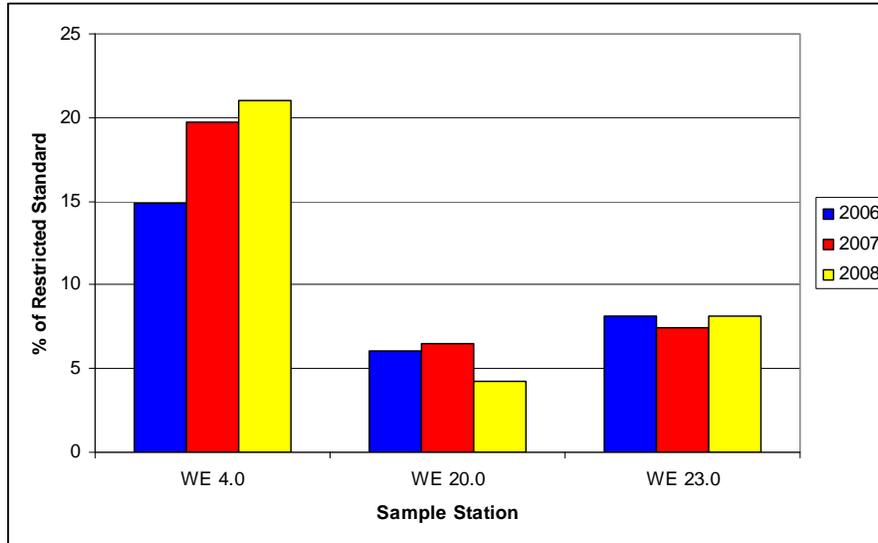
Figures 2 and 3 show the P90 trends over the past three years, for all stations classified as approved and restricted, respectively. During the transition from MPN to MF analysis method, the approved standard will decrease every year, until all samples have been analyzed by the MF method. In order to 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 2008 column on or above the 100 percent line does not meet the standard for approved classification. Approved station WE 8.0 has shown a marked increase in P90 scores over the past year (decreasing water quality), and follow-up survey work is recommended for this area as part of the 2010 triennial review of the area. Approved stations 13 and 22, have shown a decrease in scores over the past review year (improving water quality). Additional scores from station WE 8.0 should be monitored closely over the 2009 field season, to determine whether the upward trend in P90 scores is likely to continue at the end of the 2009 season. A shoreline survey, and pollution source and stream sampling is recommended in this area for the next triennial report. Restricted stations WE 4, 20 and 23 continue to meet the restricted standard. Station 4 is showing an upward trend (decreasing water quality), while water quality at station 20 and 23 remain relatively steady.

**Figure 2. Area WE P90 Scores for Approved Stations (expressed as the percent of the approved standard), 2006-2008**





**Figure 3. Area WE P90 Scores for Restricted Stations (expressed as the percent of the restricted standard), 2006-2008**



A significant portion of growing area WE requires shoreline survey work. It is not known what may be having an impact on water quality in the area except for the malfunctioning septic system in Paddy Creek, the farm on the Batson River and the continued problem at sample station WE 10, which is a prohibited station at the Cape Porpoise Pier.

### Recommendations for Upward Classification

#### *Goat Island*

The 18 acre prohibited area at Goat Island can be reclassified to approved, due to the removal of the licensed OBD. The area was reclassified on May 27, 2009.

#### *Goosefare Bay, Little River and Smith Brook*

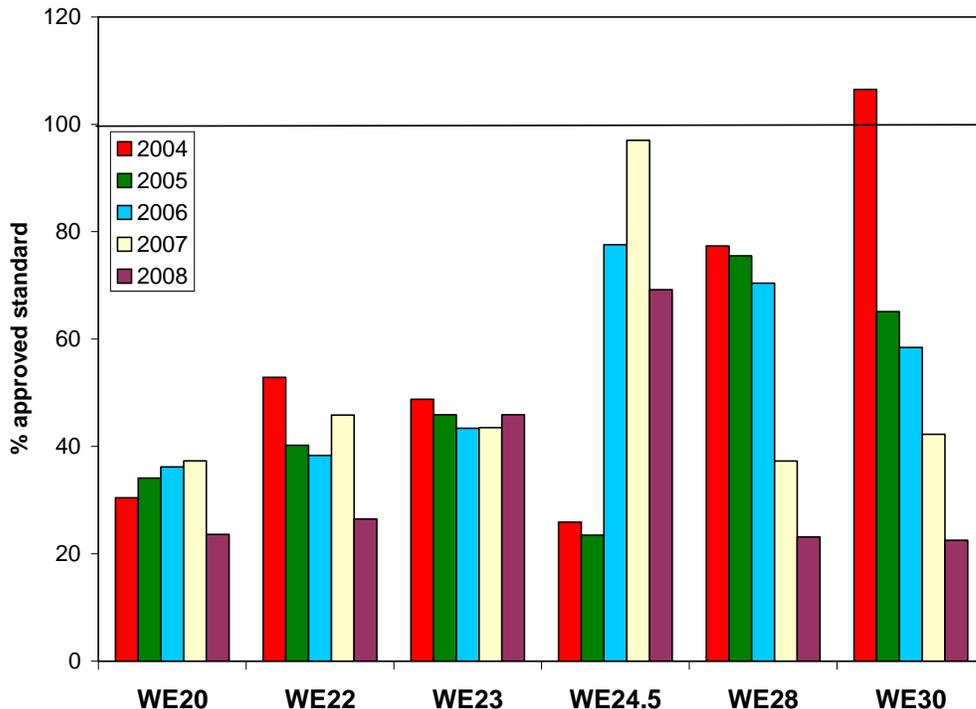
Based on the following assessment, five stations in growing area WE are being recommended for an upgrade in classification. At the end of 2004, Goosefare Bay (stations WE 24.5 and 28) and Little River (station WE 30) were classified as conditionally approved based on season. Smith Brook (stations WE 20 and 23) was classified as restricted. In 2008, the conditionally approved stations met the approved standard, using year round data (Table 4). Restricted sample stations WE 20 and 23 also meet the approved standard, with the highest individual data scores (max score) for both stations being 43 fc/100 ml sample. Figure 4 shows P90 trends for these stations (expressed as a percent of the approved standard), for the past 5 years, using year round data. Four out of the five stations being considered for an upgrade in classification have the approved standard over the past 5 years; station WE 30 has met the approved standard for the past 4 years. Station WE 22 is the nearest approved station, and is included in Figure 4 for score comparison.



**Table 4. Year Round Geometric means and P90 Scores for station WE20-30, 2003-2008**

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD STD	RESTR STD
WE020.00	R	30	20	3.1	0.34	43	8.5	36	200
WE023.00	R	30	15	4.8	0.45	43	17.9	39	221
WE024.50	CA	30	21	3.9	0.63	>1600	24.9	36	196
WE028.00	CA	30	22	3.4	0.30	15	8.1	35	192
WE030.00	CA	30	21	3.3	0.30	18	8.1	36	196

**Figure 4. Year Round P90 trends for Station WE 20-30, 2004-2008**



A further rainfall and seasonal assessment was completed, considering all individual scores collected between 2002 and 2008 at the five stations proposed for upgrades (Tables 5- 9); scores exceeding the variability standard (P90) are highlighted in each table. Stations WE 20 and 23 showed no seasonal or rainfall impact on scores, and had no scores in the dataset that exceeded the variability standard (Tables 5 and 6). Conditionally approved station WE 24.5, had two scores that exceeded the variability score; both of these scores occurred in the open status. This station received a score of 46 (April 2007) following a rainfall event, where greater than 1 inch of rain had occurred within three days of sample collection; the remaining eight samples that were collected after at least 1 inch of rainfall had occurred within three days prior to sample collection yielded clean water scores. Station WE 24.5 also received a score of >1600 (October 2006); no rainfall was recorded within three days of sample collection date, or on the date of collection. This sample was collected on an extremely high tide (as noted by collector on the data sheet), and it is possible that this high score was a result of fecal



contaminants (domestic animal or wildlife waste, trash, etc) which were deposited in the uppermost reaches of the high tide mark, and picked up by the extremely high tide. The remaining two stations, WE 28 and 30, received some elevated scores, but did not show a seasonal pattern or consistent rainfall effect. Station WE 28 had three elevated scores in the dataset, occurring in May, July and October of 2004; on all three sample dates some rainfall was recorded within three days of sample collection. Station WE 30 had five elevated scores since 2002, with one elevated score occurring in 2002, one in 2003, and the remaining three elevated scores occurring in 2004; the 2004 elevated scores coincide with collection dates which yielded high scores at stations WE 28. Water quality samples collected at this station since 2004 have shown low scores, and have not shown any seasonal or precipitation event trends, suggesting the elevated scores that occurred at this station were a result of an isolated pollution event, which occurred in 2004, and has since ended or been corrected. A shoreline survey was completed in this area in the following two years (2005 and 2006) by DEP staff, and no actual pollution sources were identified at the time of the survey.

**Table 5. Seasonal and Rainfall Assessment, Station WE 20, 2002-2008**

72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	4/25/02	30				3.6								
0	0	5/23/02	30					<3							
0	0	2/18/04	30		<3										
0	0	11/17/04	30											<3	
0	0	2/9/05	30		<3										
0	0	3/22/05	26			<3									
0	0	4/20/05	26				<3								
0	0	2/14/06	30		3.6										
0	0	6/19/07	27						<2						
0	0	8/13/07	32								<2				
0	0	9/24/07	32									2			
0	0.02	10/21/03	31										23		
0	0.05	7/10/03	32							3.6					
0.01	0.01	10/26/04	30										43		
0.01	0.01	12/14/05	32												<3
0.01	0.02	9/11/03	30									9.1			
0.02	0.02	1/21/04	32	<3											
0.02	0.02	10/15/08	30										10		
0.02	0.03	4/22/04	30				<3								
0.02	0.29	3/19/02	28			<3									
0.03	0.03	6/17/04	31						3.6						
0.04	0.05	4/18/06	31				<3								
0.05	0.05	8/22/02	32								3.6				
0.05	0.05	1/4/06	30	3											
0.11	0.37	8/2/05	30								9.1				
0.15	0.15	1/19/05	30	<3											
0.15	0.15	11/12/08	32											<2	
0.2	0.2	11/28/05	26											<3	
0.23	0.23	7/22/04	28							15					
0.23	0.23	5/30/07	28					<2							



72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.26	0.26	6/2/08	31						<2						
0.29	0.98	5/5/08	22					<2							
0.35	0.35	10/4/06	32										2		
0.35	0.58	4/2/08	24				<2								
0.39	0.39	9/28/05	32									43			
0.49	0.52	3/24/04	20			3.6									
0.51	0.51	3/3/08	31			<2									
0.52	0.52	9/2/04	30									23			
0.54	0.95	4/24/03	29				<3								
0.57	0.57	12/10/03	32												<3
0.6	0.6	9/12/06	30									<2			
0.67	0.67	2/13/02	30		<3										
0.83	1.31	6/23/03	30						3.6						
0.88	0.88	12/4/06	32												6
0.95	1.1	11/19/07	20											22	
0.96	0.97	5/15/03	29					9.1							
1.05	1.05	1/3/07	30	<2											
1.08	1.1	4/30/07	22				2								
1.22	1.22	10/28/02	32										<3		
1.24	1.45	5/27/04	12					23							
1.4	1.4	3/6/07	30			<2									
1.4	1.4	2/4/08	30		<2										
1.41	1.41	7/25/02	30							<3					
1.68	1.7	7/22/08	30							6					
4.5	4.5	10/16/07	32										<2		

Table 6. Seasonal and Rainfall Assessment, Station WE 23, 2002-2008

72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	4/25/02	30				<3								
0	0	5/23/02	30					<3							
0	0	2/9/05	30		<3										
0	0	3/22/05	30			<3									
0	0	4/20/05	30				<3								
0	0	2/14/06	30		<3										
0	0	6/19/07	28						2						
0	0	8/13/07	32								<2				
0	0.02	10/21/03	32										9.1		
0	0.05	7/10/03	31							15					
0.01	0.01	10/26/04	30										23		
0.01	0.02	9/11/03	31									23			
0.02	0.03	4/22/04	30				<3								
0.02	0.29	3/19/02	20			43									
0.03	0.03	6/17/04	26						3.6						



72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.04	0.05	4/18/06	31				<3								
0.05	0.05	8/22/02	32								<3				
0.05	0.05	1/4/06	30	3											
0.11	0.37	8/2/05	30								9.1				
0.15	0.15	1/19/05	24	<3											
0.15	0.15	11/12/08	32											<2	
0.2	0.2	11/28/05	21											3.6	
0.23	0.23	7/22/04	24							23					
0.26	0.26	6/2/08	32						33						
0.35	0.58	4/2/08	11				6								
0.39	0.39	9/28/05	32									23			
0.52	0.52	9/2/04	25									15			
0.54	0.95	4/24/03	28				<3								
0.55	0.55	9/26/06	24									14			
0.59	1.7	11/14/06	2											23	
0.6	0.6	9/12/06	30									<2			
0.67	0.67	2/13/02	30		<3										
0.83	1.31	6/23/03	30						<3						
0.88	0.88	12/4/06	31												16
0.96	0.97	5/15/03	28					3.6							
1.05	1.05	1/3/07	31	<2											
1.08	1.1	4/30/07	18				2								
1.22	1.22	10/28/02	32										3		
1.24	1.45	5/27/04	4					43							
1.4	1.4	3/6/07	22			2									
1.4	1.4	2/4/08	18		6										
1.41	1.41	7/25/02	31							23					
1.46	1.83	10/29/08	31										<2		
1.68	1.7	7/22/08	30							<2					
4.5	4.5	10/16/07	32										<2		

**Table 7. Seasonal and Rainfall Assessment, Station WE 24.5, 2002-2008**

72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	4/25/02	30				3.6								
0	0	5/23/02	30					<3							
0	0	2/18/04	30		<3										
0	0	11/17/04	32											9.1	
0	0	2/9/05	31		<3										
0	0	3/22/05	30			<3									
0	0	4/20/05	30				15								



72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	2/14/06	31		<3										
0	0	5/10/06	30					23							
0	0	10/11/06	32										> 1600		
0	0	6/19/07	28						2						
0	0	8/13/07	32								<2				
0	0	9/24/07	32									<2			
0	0.02	10/21/03	32										<3		
0	0.05	7/10/03	31							3.6					
0	0.13	11/12/03	31											3.6	
0.001	0.001	3/19/03	32			<3									
0.01	0.01	10/26/04	30										43		
0.01	0.01	12/14/05	32												<3
0.01	0.02	9/11/03	31									9.1			
0.01	0.02	11/7/06	32											<2	
0.02	0.02	1/21/04	32	<3											
0.02	0.02	10/15/08	31										2		
0.02	0.03	4/22/04	30					3.6							
0.02	0.29	3/19/02	30			<3									
0.03	0.03	6/17/04	30						<3						
0.04	0.05	4/18/06	32				<3								
0.05	0.05	8/22/02	32								<3				
0.05	0.05	1/4/06	30	<3											
0.11	0.37	8/2/05	30								3				
0.14	0.14	5/23/07	29					2							
0.15	0.15	1/19/05	32	<3											
0.15	0.15	11/12/08	32											<2	
0.2	0.2	11/28/05	30											<3	
0.23	0.23	7/22/04	30							23					
0.26	0.26	6/2/08	32						<2						
0.29	0.98	5/5/08	22					<2							
0.35	0.35	10/4/06	31										32		
0.35	0.58	4/2/08	32				4								
0.39	0.39	9/28/05	32									<3			
0.49	0.52	3/24/04	31			<3									
0.51	0.51	3/3/08	32			<2									
0.52	0.52	9/2/04	30									23			
0.57	0.57	12/10/03	32												3.6
0.83	1.31	6/23/03	30						<3						
0.88	0.88	12/4/06	32												<2
0.95	1.1	11/19/07	32											<2	
0.96	0.97	5/15/03	29					3.6							
1.05	1.05	1/3/07	31	<2											



72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.08	1.1	4/30/07	22				46								
1.22	1.22	10/28/02	32										3.6		
1.24	1.45	5/27/04	28					<3							
1.34	1.61	2/5/03	32		<3										
1.4	1.4	3/6/07	32			<2									
1.4	1.4	2/4/08	32		<2										
1.41	1.41	7/25/02	31							3.6					
1.68	1.7	7/22/08	30							<2					
4.5	4.5	10/16/07	32										<2		

**Table 8. Seasonal and Rainfall Assessment, Station WE 28, 2002-2008**

72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	4/25/02	28				3.6								
0	0	5/23/02	30					<3							
0	0	2/18/04	30		<3										
0	0	11/17/04	31											3.6	
0	0	2/9/05	31		3.6										
0	0	3/22/05	30			<3									
0	0	4/20/05	29				<3								
0	0	2/14/06	30		<3										
0	0	5/10/06	28					7.3							
0	0	10/11/06	32										2		
0	0	6/19/07	28						<2						
0	0	8/13/07	32								<2				
0	0	9/24/07	32									4			
0	0.02	10/21/03	32										23		
0	0.05	7/10/03	31							43					
0	0.13	11/12/03	31											3.6	
0.001	0.001	3/19/03	32			<3									
0.01	0.01	10/26/04	30										<3		
0.01	0.01	12/14/05	32												<3
0.01	0.02	9/11/03	31									<3			
0.01	0.02	11/7/06	32											8	
0.02	0.02	1/21/04	32	<3											
0.02	0.02	10/15/08	30										4		
0.02	0.03	4/22/04	30				<3								
0.02	0.29	3/19/02	30			<3									
0.03	0.03	6/17/04	31						<3						
0.04	0.05	4/18/06	20				9.1								
0.05	0.05	8/22/02	32								3				



72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.05	0.05	1/4/06	30	3.2											
0.06	0.06	12/15/04	31												<3
0.06	0.53	11/6/02	30											9.1	<3
0.07	0.07	12/4/02	33												
0.11	0.37	8/2/05	30								15				
0.15	0.15	1/19/05	28	<3											
0.15	0.15	11/12/08	32											2	
0.2	0.2	11/28/05	30											<3	
0.23	0.23	7/22/04	24							93					
0.23	0.23	5/30/07	29					<2							
0.26	0.26	6/2/08	31						4						
0.29	0.98	5/5/08	24					<2							
0.35	0.35	10/4/06	31										11		
0.35	0.58	4/2/08	28				2								
0.36	0.36	1/23/02	30	<3											
0.39	0.39	9/28/05	32									<3			
0.49	0.52	3/24/04	31			<3									
0.51	0.51	3/3/08	32			<2									
0.52	0.52	9/2/04	22									43			
0.54	0.95	4/24/03	30				<3								
0.57	0.57	12/10/03	32												3.6
0.67	0.67	2/13/02	30		<3										
0.83	1.31	6/23/03	30						7.3						
0.88	0.88	12/4/06	31												2
0.95	1.1	11/19/07	14											13	
0.96	0.97	5/15/03	29					<3							
1.05	1.05	1/3/07	30	<2											
1.08	1.1	4/30/07	21				10								
1.22	1.22	10/28/02	32										9.1		
1.24	1.45	5/27/04	2					240							
1.34	1.61	2/5/03	32		<3										
1.4	1.4	3/6/07	32			<2									
1.4	1.4	2/4/08	30		<2										
1.41	1.41	7/25/02	31							3.6					
1.51	1.51	10/18/04	30										240		
1.68	1.7	7/22/08	30							<2					
4.5	4.5	10/16/07	32										2		

Table 9. Seasonal and Rainfall Assessment, Station WE 30, 2002-2008



72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	4/25/02	30				3								
0	0	5/23/02	30					<3							
0	0	2/18/04	30		<3										
0	0	11/17/04	32											<3	
0	0	2/9/05	30		3.2										
0	0	3/22/05	30			<3									
0	0	4/20/05	30				<3								
0	0	2/14/06	29		<3										
0	0	5/10/06	30					3.2							
0	0	10/11/06	32										6		
0	0	6/19/07	29						<2						
0	0	8/13/07	32							2					
0	0	9/24/07	32								2				
0	0.02	10/21/03	31										3.6		
0	0.05	7/10/03	31							93					
0	0.13	11/12/03	30											14	
0.001	0.001	3/19/03	33			<3									
0.01	0.01	10/26/04	30										9.1		
0.01	0.01	12/14/05	32												<3
0.01	0.02	9/11/03	31									3.6			
0.01	0.02	11/7/06	31											<2	
0.02	0.02	1/21/04	32	<3											
0.02	0.02	10/15/08	30										4		
0.02	0.03	4/22/04	30				<3								
0.02	0.29	3/19/02	12			<3									
0.03	0.03	6/17/04	30						<3						
0.04	0.05	4/18/06	32				<3								
0.05	0.05	8/22/02	31								9.1				
0.05	0.05	1/4/06	30	<3											
0.06	0.06	12/15/04	31												<3
0.06	0.53	11/6/02	30											460	
0.07	0.07	12/4/02	33												<3
0.11	0.37	8/2/05	30								3.6				
0.15	0.15	1/19/05	26	<3											
0.15	0.15	11/12/08	32											10	
0.2	0.2	11/28/05	30											3.6	
0.23	0.23	7/22/04	24							93					
0.23	0.23	5/30/07	29					<2							
0.26	0.26	6/2/08	31						<2						
0.29	0.98	5/5/08	23					<2							
0.35	0.35	10/4/06	32										14		
0.35	0.58	4/2/08	24				<2								



72 hour	72 hour +day of sample	Date	SAL%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.36	0.36	1/23/02	31	<3											
0.39	0.39	9/28/05	32									<3			
0.49	0.52	3/24/04	27			3.2									
0.51	0.51	3/3/08	32			<2									
0.52	0.52	9/2/04	22									240			
0.54	0.95	4/24/03	29				<3								
0.55	0.55	9/26/06	20									18			
0.57	0.57	12/10/03	32												<3
0.67	0.67	2/13/02	30		<3										
0.83	1.31	6/23/03	30						3.6						
0.88	0.88	12/4/06	32												<2
0.96	0.97	5/15/03	29					9.1							
1.05	1.05	1/3/07	30	8											
1.08	1.1	4/30/07	20				18								
1.22	1.22	10/28/02	32										9.1		
1.24	1.45	5/27/04	2					93							
1.34	1.61	2/5/03	32		<3										
1.4	1.4	3/6/07	32			<2									
1.4	1.4	2/4/08	26		2										
1.41	1.41	7/25/02	31							3.6					
1.51	1.51	10/18/04	30										23		
1.68	1.7	7/22/08	30							<2					
4.5	4.5	10/16/07	32										4		

The shoreline survey for the areas proposed for upward classification has been completed in the last five years. DEP surveyed Smith Brook, Batson River (south of Route 9) and both sides of the Little River (Kennebunkport and Biddeford) in December 2005 and April, May and July of 2006. Four malfunctioning septic systems were identified and corrected. One bathroom discharge <50 feet from Little River was identified and corrected. Two washing machine discharges to wetlands were identified and confirmed to be corrected.

Based on this review, Goosefare Bay (WE 24.5 and 28), and Little River (WE 30) are recommended for an upgrade in classification, from conditionally approved to approved; Smith Brook (area between stations WE 20 and 23) is recommended for an upgrade in classification, from restricted to approved.

### Shoreline Survey Activity

DMR surveyed 62 lots in the Paddy Creek area and 7 lots in the Sampson Cove area on March 20, 2008. One malfunctioning septic system was located on the shore in Paddy Creek and reported to the codes enforcement officer for follow up. The area was reclassified from conditionally approved to prohibited on March 21, 2008.



The DEP and the Kennebunkport Sewer Department inspected the pump stations and dye tested the systems of two restaurants in Cape Porpoise Harbor on July 25, 2008. The work was conducted in response to a complaint from DMR regarding high sample scores from the float near the Cape Porpoise harbor masters office. The DEP investigator did note the presence of black, odiferous mud at the end of the point, next to the float where the growing area samples are collected. There is a bait storage room in the town's building at the end of the point. It appeared to the investigator that it is possible for some fish waste from the bait storage to end up in the water when they wash down the floor and it is suspected to be the cause of the black mud.<sup>6</sup>

### **Aquaculture/Wet Storage Activity**

There is one limited purpose aquaculture (LPA) license (WHI 05) for soft-shelled clams which is comprised of a shellfish raft/overwintering cage in Cape Porpoise Harbor.<sup>7</sup>

Please visit the DMR website to view details on the LPA:

<http://www.maine.gov/dmr/aquaculture/leaseinventory/documents/whi05.pdf>

### **Classification Changes Required and Requested**

As a result of the current water quality review, two upward classification changes are requested at this time: the prohibited area around the south end of Goat Island can be repealed due to the removal of the OBD; this change was implemented on May 27, 2009. The conditionally approved area around Goosefare Bay, and the restricted area in the lower portion of the Batson River are recommended for an upgrade to approved classification. This change was implemented on August 14, 2009.

### **Summary**

Growing area WE continues to maintain good water quality in areas currently classified as approved. At the end of the 2008 review year, all approved stations were meeting their respective NSSP classification standards. Based on this report, several upward classification changes are recommended at this time. The prohibited area around the south end of Goat Island can be repealed due to the removal of the OBD<sup>2</sup>. Goosefare Bay and Little River are recommended for an upward classification change, from conditionally approved based on season to approved, due to water quality meeting the approved standard on a year round basis for multiple years. Smith Brook is recommended for an upward classification change, from restricted to approved.

Portions of growing area WE were surveyed in 2008 (Paddy Creek and Sampson Cove). All data collected during this recent survey has been entered into the DMR database, and information on all identified problems has been submitted to the town Codes Enforcement Officer for corrective action.



Subsequent communication on June 2, 2009 with the Department of Environmental Protection (DEP) revealed that shoreline survey work in Batson River, Smith Brook, Goose Rocks Beach and Little River (Kennebunkport and Biddeford) was conducted in December 2005 and April, May and July of 2006. All actual pollution problems noted during the survey have been remediated.

The upland boundary for Growing Area WE should be re-evaluated so that the eastern boundary does not go down the middle of Little River. It should be made to encompass the entire watershed, if possible.



## References

<sup>1</sup>Demarest, Michael. 28 May 2009. OBD #1561 [personal email] Accessed 28 May 2009.

<sup>2</sup>Gilliam, Werner. 15 July 2008. Goat Island [Livingston email] Accessed 22 May 2009.

<sup>3</sup>White, John. 19 February 2008. Cape Porpoise runoff [Livingston email] Accessed 22 May 2009.

<sup>4</sup>Hight, Matt. 30 July 2008. Wells Road Overflow [Livingston email] Accessed 25 May 2009.

<sup>5</sup>Livingston, Laura. 01 August 2008. Kennebunkport Sewage Spill [Bourakovsky email] Accessed 25 May 2009.

<sup>6</sup>Glowa, John. 26 May 2009. Pier 77 and chowder house...never mind [personal email] Accessed 26 May 2009.

<sup>7</sup>Maine Department of Marine Resources, ©2008. [cited 23 May 2009]. Available from: <http://www.maine.gov/dmr/aquaculture/leaseinventory/yorkcounty.htm>

<sup>8</sup>Glowa, John. 2 June 2009. sanitary survey work in Kennebunkport/Biddeford [personal email and personal interview] Accessed 2 June 2009.



## Appendix A. Annual Review of Conditional Area Management Plan for Goosefare Bay and Little River

### Scope

Goosefare Bay (station WE 24.5) and Little River (stations WE 28 and 30) are conditionally approved areas due to seasonal variation in water quality, due to non-point source pollution. Water quality continues to meet approved standards during the open status of October 1 to May 31.

### Compliance with management plan

In 2008, the conditional areas closed on June 1 and reopened on October 1 in accordance with the management plan. The seasonal water quality was reviewed prior to reopening and water quality at stations WE 24.5, 28 and 30 continued to meet approved standards for the open season.

### 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 conditionally approved stations in growing area WE met approved standards during the open status (Table 4).

**Table 10. Goosefare Bay/Little River Seasonal Conditional Area, Open Status, 2003-2008**

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WE024.50	CA	30	16	4.7	0.65	>1600	32	38	217
WE028.00	CA	30	16	3.8	0.43	240	13.4	38	217
WE030.00	CA	30	15	4.2	0.40	93	13.4	39	221

### Field inspection of critical pollution sources

The potential for pollution in Growing Area WE is non-point source pollution. Potential contributors to non-point source pollution comes from increased shore usage (swimming, walking dogs, etc.) and the influx of summer residents to their seasonal homes. Visual observations are made throughout the year during the course of random sampling and shoreline surveying.

### Water sampling compliance history

All stations were collected 6 times when in the open status.



### **Analysis-Recommendations**

This area is being recommended for an upgrade in classification. Please refer to the "Recommendation for Upward Classification" section of this report for more information and data analysis.



## Appendix B. Key to Water Quality Table Headers

Station = water quality monitoring station

Class = classification assigned to the station; prohibited (P), restricted (R), conditionally restricted (CR), conditionally approved (CA) and approved (A).

CNT = 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)

GM = 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 = 90<sup>th</sup> percentile

APPD\_STD = the 90<sup>th</sup> 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 90<sup>th</sup> percentile, at or below which the station would meet restricted criteria.



**Appendix C. Growing Area WE 2008 Data**

Station	Date	Collect	Tide	Temp	Sal	Strat	ADV	Stat	CL	MFCOL	WIND
WE004.00	02/05/08	LL	E	2	31	R	P	O	R	<2.0	S
	04/01/08	JW	E	5	28	R	-	O	R	<2.0	SW
	06/03/08	JW	H	13.7	31	R	-	O	R	2	SW
	07/23/08	JW	F	19.1	31	R	-	O	R	18	CL
	09/16/08	JW	HF	13	32	R	-	O	R	27	E
	11/05/08	JW	F	11.5	30	R	-	O	R	<2.0	S
WE005.00	02/05/08	LL	E	3	30	R	PH	O	CA	42	CL
	03/03/08	EXT	HE	0	32	R	P	C	P	2	CL
	04/01/08	JW	E	5	20	R	-	C	P	3.6	S
	05/05/08	FP	H	11	22	R	-	C	P	2	S
	06/03/08	JW	H	12.2	32	R	-	C	P	24	CL
	07/23/08	JW	HF	18.2	30	R	-	C	P	5.5	CL
	09/16/08	JW	HF	12.5	32	R	H	C	P	<2.0	CL
	10/14/08	AB	HE	13	30	R	W	C	P	6	S
11/05/08	JW	F	12	30	R	H	C	P	<2.0	S	
WE006.00	02/05/08	LL	E	2	30	R	P	C	P	4	CL
	04/01/08	JW	E	5	30	R	WH	C	P	<2.0	S
	06/03/08	JW	HE	11.3	31	R	-	C	P	8	SW
	07/23/08	JW	HF	19.5	31	R	-	C	P	<2.0	CL
	09/16/08	JW	HF	13	32	R	H	C	P	10	CL
	11/05/08	JW	F	11.5	32	R	H	C	P	<2.0	S
WE008.00	02/05/08	LL	E	2	26	R	P	O	A	122	SE
	04/01/08	JW	E	5	29	R	-	O	A	<2.0	S
	06/03/08	JW	HE	12.7	31	R	H	O	A	4	W
	07/23/08	JW	HF	18.8	30	R	H	O	A	<2.0	E
	09/16/08	JW	HF	14	31	R	H	O	A	152	CL
	11/05/08	JW	F	12	32	R	-	O	A	<2.0	S
WE010.00	02/05/08	LL	E	4	32	R	P	C	P	2	CL
	04/01/08	JW	E	5	30	R	N	C	P	2	S
	06/03/08	JW	HE	11.2	31	R	-	C	P	36	W
	07/23/08	JW	HF	19.5	30	R	-	C	P	44	E
	09/16/08	JW	HF	13	32	R	-	C	P	740	CL
	11/05/08	JW	F	10	32	R	H	C	P	4	S
WE010.20	02/05/08	LL	E	3	32	R	P	C	P	<2.0	CL
	04/01/08	JW	E	4	30	R	-	C	P	3.6	S
	06/03/08	JW	HE	11	31	R	-	C	P	2	W
	07/23/08	JW	HF	18.4	30	R	-	C	P	2	E
	09/16/08	JW	HF	13	31	R	-	C	P	5.5	CL
	11/05/08	JW	F	10	32	R	-	C	P	<2.0	S
WE011.00	04/02/08	LL	HE	2	31	R	-	C	P	<2.0	NW
	04/16/08	EXT	H	6	30	R	-	C	P	<2.0	SE



Station	Date	Collect	Tide	Temp	Sal	Strat	ADV	Stat	CL	MFCOL	WIND
	06/03/08	JW	HE	14	31	R	W	C	P	<2.0	W
	07/23/08	JW	HF	17.7	30	R	P	C	P	<2.0	E
	09/16/08	JW	H	14	31	R	-	C	P	98	-
	11/05/08	JW	F	11	32	R	-	C	P	2	S
WE013.00	02/05/08	LL	E	3	32	R	P	O	A	<2.0	CL
	04/01/08	JW	E	5	30	R	-	O	A	<2.0	S
	06/03/08	JW	HE	12.8	32	R	H	O	A	<2.0	W
	07/23/08	JW	HF	18.2	32	R	-	O	A	<2.0	E
	09/16/08	JW	H	14	32	R	-	O	A	6	-
	11/05/08	JW	F	10	32	R	-	O	A	<2.0	S
WE018.00	02/04/08	EXT	E	-3	2	R	-	O	R	48	CL
	04/02/08	LL	HE	2	0	R	-	O	R	56	NW
	06/02/08	LL	E	16	26	R	-	O	R	46	SE
	07/22/08	EXT	HF	23	12	R	-	O	R	92	CL
	10/29/08	EXT	HF	8	9	R	P	O	R	36	CL
	11/12/08	AB	HE	6	15	R	-	O	R	11	CL
WE018.50	02/04/08	EXT	E	-1	10	R	-	O	R	18	CL
	04/02/08	LL	HE	2	4	R	-	O	R	16	NW
	06/02/08	LL	HE	12	29	R	-	O	R	16	S
	07/22/08	EXT	HF	20	30	R	-	O	R	2	SW
	10/29/08	EXT	HF	10	31	R	P	O	R	<2.0	W
	11/12/08	AB	HE	6	32	R	-	O	R	<2.0	CL
WE020.00	02/04/08	EXT	E	1	30	R	-	O	R	<2.0	CL
	03/03/08	FP	H	-2	31	R	-	O	R	<2.0	CL
	04/02/08	LL	HE	2	24	R	-	O	R	<2.0	NW
	05/05/08	FP	H	9	22	R	-	O	R	<2.0	S
	06/02/08	LL	E	13	31	R	-	O	R	<2.0	S
	07/22/08	EXT	F	20	30	R	-	O	R	6	SW
	10/15/08	CLV	F	11	30	R	-	O	R	10	CL
	11/12/08	AB	HE	7	32	R	-	O	R	<2.0	SE
WE022.00	02/05/08	LL	E	4	32	R	P	O	A	<2.0	CL
	04/01/08	JW	E		32	R	-	O	A	6	S
	06/03/08	JW	E	12.6	30	R	W	O	A	6	W
	07/23/08	JW	H	18	30	R	P	O	A	<2.0	E
	09/16/08	JW	H	13	30	R	H	O	A	6	SE
	11/05/08	JW	F	11	32	R	-	O	A	<2.0	S
WE023.00	02/04/08	EXT	E	1	18	R	-	O	R	6	CL
	04/02/08	LL	HE	2	11	R	-	O	R	6	NW
	06/02/08	LL	E	12	32	R	-	O	R	33	SE
	07/22/08	EXT	F	20	30	R	-	O	R	<2.0	CL
	10/29/08	EXT	HF	10	31	R	P	O	R	<2.0	W
	11/12/08	AB	HE	6	32	R	-	O	R	<2.0	SE
WE024.50	02/04/08	EXT	E	1	32	R	-	O	CA	<2.0	CL



Station	Date	Collect	Tide	Temp	Sal	Strat	ADV	Stat	CL	MFCOL	WIND
	03/03/08	FP	H	-2	32	R	W	O	CA	<2.0	CL
	04/02/08	LL	HE	3	32	R	-	O	CA	4	NW
	05/05/08	FP	H	9	22	R	-	O	CA	<2.0	S
	06/02/08	LL	E	10	32	R	-	C	CA	<2.0	SE
	07/22/08	EXT	F	20	30	R	-	C	CA	<2.0	CL
	10/15/08	CLV	F	10	31	R	-	O	CA	2	CL
	11/12/08	AB	HE	7	32	R	-	O	CA	<2.0	SE
WE027.00	02/04/08	EXT	E	-2	10	R	-	C	P	12	CL
	03/03/08	FP	HE	-4	10	R	-	C	P	4	CL
	04/02/08	LL	E	2	10	R	-	C	P	24	NW
	05/05/08	FP	HE	11	6	R	-	C	P	20	S
	06/02/08	LL	E	13	29	R	-	C	P	82	SE
	07/22/08	EXT	F	23	19	R	-	C	P	18	CL
	10/15/08	CLV	F	11	30	R	-	C	P	3.6	CL
	11/12/08	AB	E	6	24	R	-	C	P	94	S
WE028.00	02/04/08	EXT	E	1	30	R	-	O	CA	<2.0	CL
	03/03/08	FP	HE	-1	32	R	-	O	CA	<2.0	CL
	04/02/08	LL	E	3	28	R	-	O	CA	2	NW
	05/05/08	FP	HE	7	24	R	-	O	CA	<2.0	S
	06/02/08	LL	E	12	31	R	-	C	CA	4	S
	07/22/08	EXT	F	19	30	R	-	C	CA	<2.0	CL
	10/15/08	CLV	F	10	30	R	-	O	CA	4	CL
	11/12/08	AB	E	6.5	32	R	-	O	CA	2	S
WE030.00	02/04/08	EXT	E	0	26	R	-	O	CA	2	CL
	03/03/08	FP	HE	-4	32	R	W	O	CA	<2.0	SW
	04/02/08	LL	E	2	24	R	-	O	CA	<2.0	NW
	05/05/08	FP	HE	9	23	R	-	O	CA	<2.0	S
	06/02/08	LL	E	13	31	R	-	C	CA	<2.0	SE
	07/22/08	EXT	F	18	30	R	-	C	CA	<2.0	CL
	10/15/08	CLV	HF	10	30	R	-	O	CA	4	CL
	11/12/08	AB	E	7	32	R	-	O	CA	10	S