



GROWING AREA WL
New Meadows River
Towns of Harpswell, Brunswick, West Bath and Phippsburg
Sanitary Survey Report

Report Date: 9-30-11

Anna Bourakovsky
Kohl Kanwit

APPROVAL

Kohl Kanwit

9/30/11

Print name

signature

Date: _____



TABLE OF CONTENTS

Executive Summary	7
Growing Area Description	7
History of Growing Area	7
Current Classification(s).....	11
Conditionally Managed Area(s)	12
Pollution Sources Survey	12
Domestic Waste (<i>IG Systems and OBDs</i>)	12
Municipal WWTP.....	18
Industrial Pollution.....	18
Marinas and Mooring Fields	18
Stormwater.....	19
Non-Point Pollution Sources (<i>streams, etc</i>).....	20
Conservation/Recreation Areas (beaches, trails, etc.)	21
Hydrographic and Meteorological Assessment.....	23
Tides	23
Rainfall	26
Winds	27
River Discharge.....	28
Water Quality Review.....	28
Water Quality Discussion and Classification Determination.....	33
Aquaculture/Wet Storage Activity	36
Recommendation for Future Work	36
Acknowledgements.....	Error! Bookmark not defined.
References	Error! Bookmark not defined.
Appendix A. 2010 Annual Review of Management Plan-New Meadows River Marina Conditional Area, Area 19A	37
Appendix B. 2010 Annual Review of Management Plan-Tottman Cove Seasonal Conditional Area, Area No. 19C.....	39
Appendix C. Key to Water Quality Table Headers.....	41

LIST OF TABLES

Table 1. New Actual and Potential Pollution Sources, identified between 2007-2010.....	12
Table 2. Active OBDs in Growing Area WL, with Closure Sizes (in acres).....	18
Table 3. Geometric Mean and P90 Report for Samples Collected at Ebb Tide.....	233
Table 4. Geometric Mean and P90 Report for Samples Collected at Flood Tide.....	25
Table 5. Geometric Mean and P90 Report for Samples Collected after >0.5 in. of Rainfall.....	26
Table 6. Growing Area WL Geometric Mean and P90 Report.....	29
Table 7. New Meadows River Marina Conditional Area, Open Status.....	31
Table 8. Tottman Cove Seasonal Conditional Area, Open Status.....	31
Table 9. WL 2010 Sampling Effort.....	31
Table 10. Browns Cove Stations.....	33
Table 11. Long Cove Stations, Seasonal Open Status, Oct 1 to May 31.....	33
Table 12. Long Cove Stations, Seasonal Scores.....	34



LIST OF FIGURES

Figure 1. Growing Area WL, with Active Water Stations..... 4
Figure 2. Growing Area WL- Upper River Detail..... 5
Figure 3. Growing Area WL- Lower River Detail..... 6
Figure 4. Growing Area WL Over Board Discharges17
Figure 5. WL Recreation Areas.....22
Figure 6. Average Daily Wind Direction in the Vicinity of Growing Area WL.....28



Figure 1. Growing Area WL, with Active Water Stations

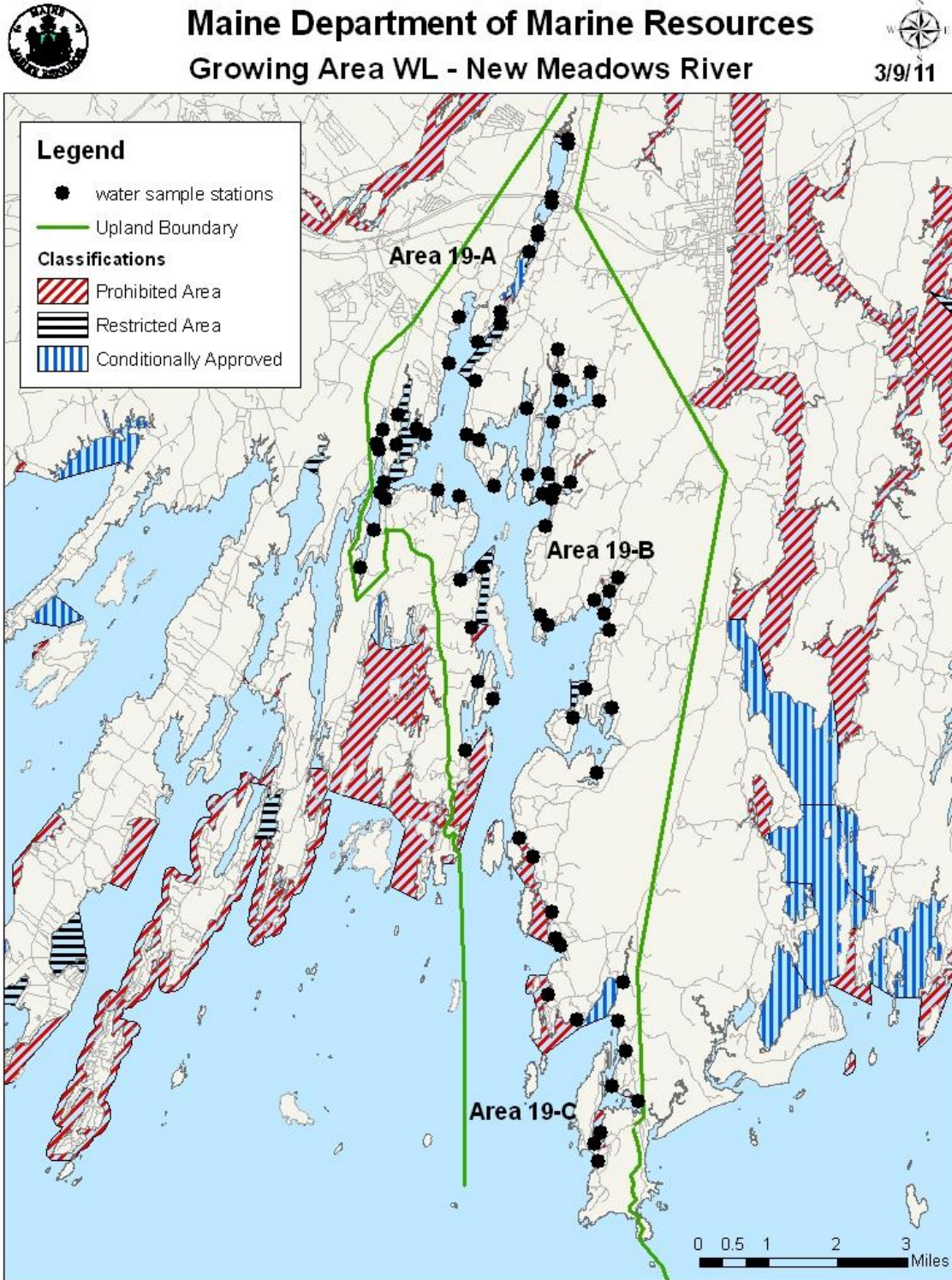




Figure 2. Growing Area WL- Upper River Detail

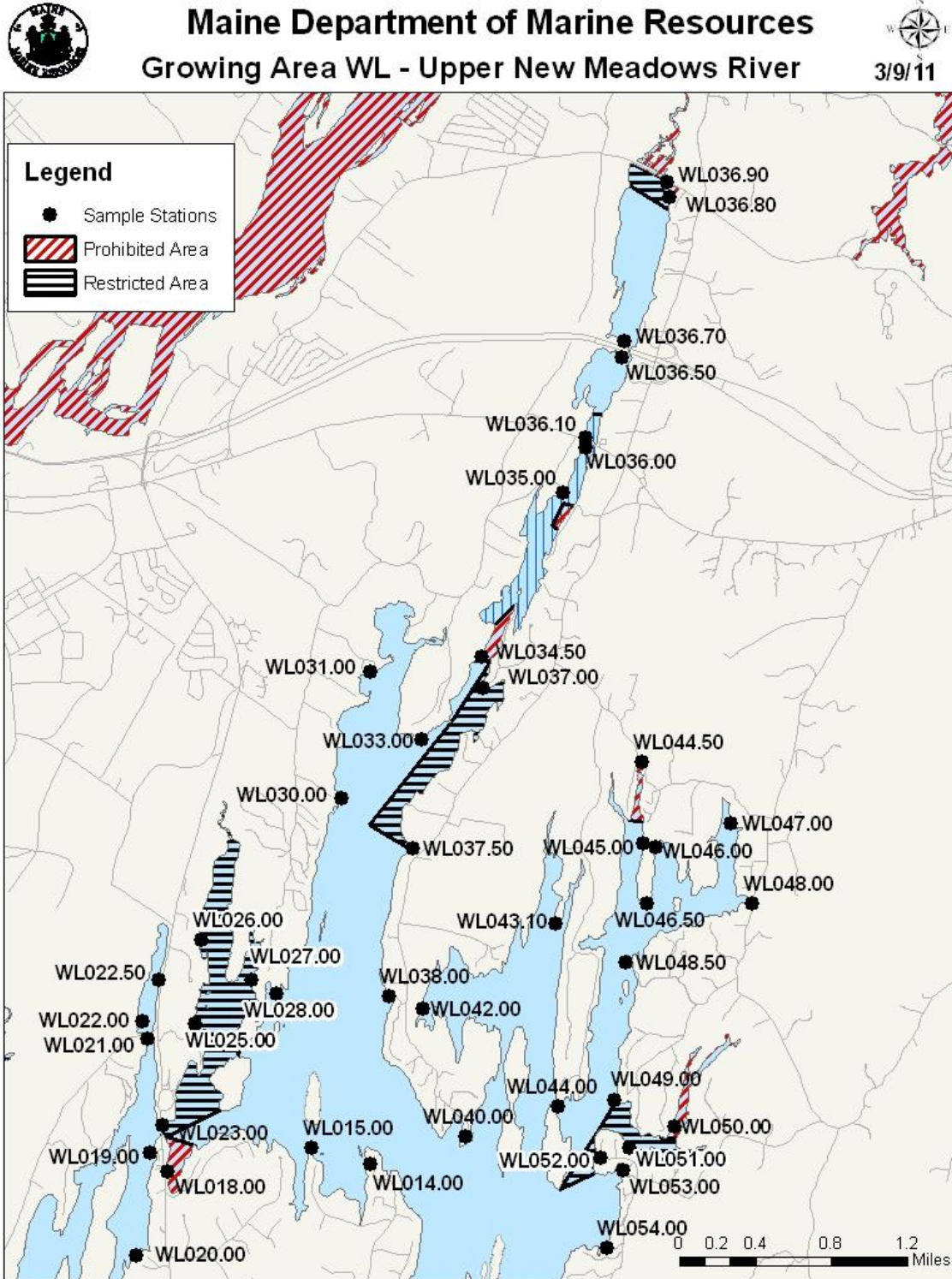
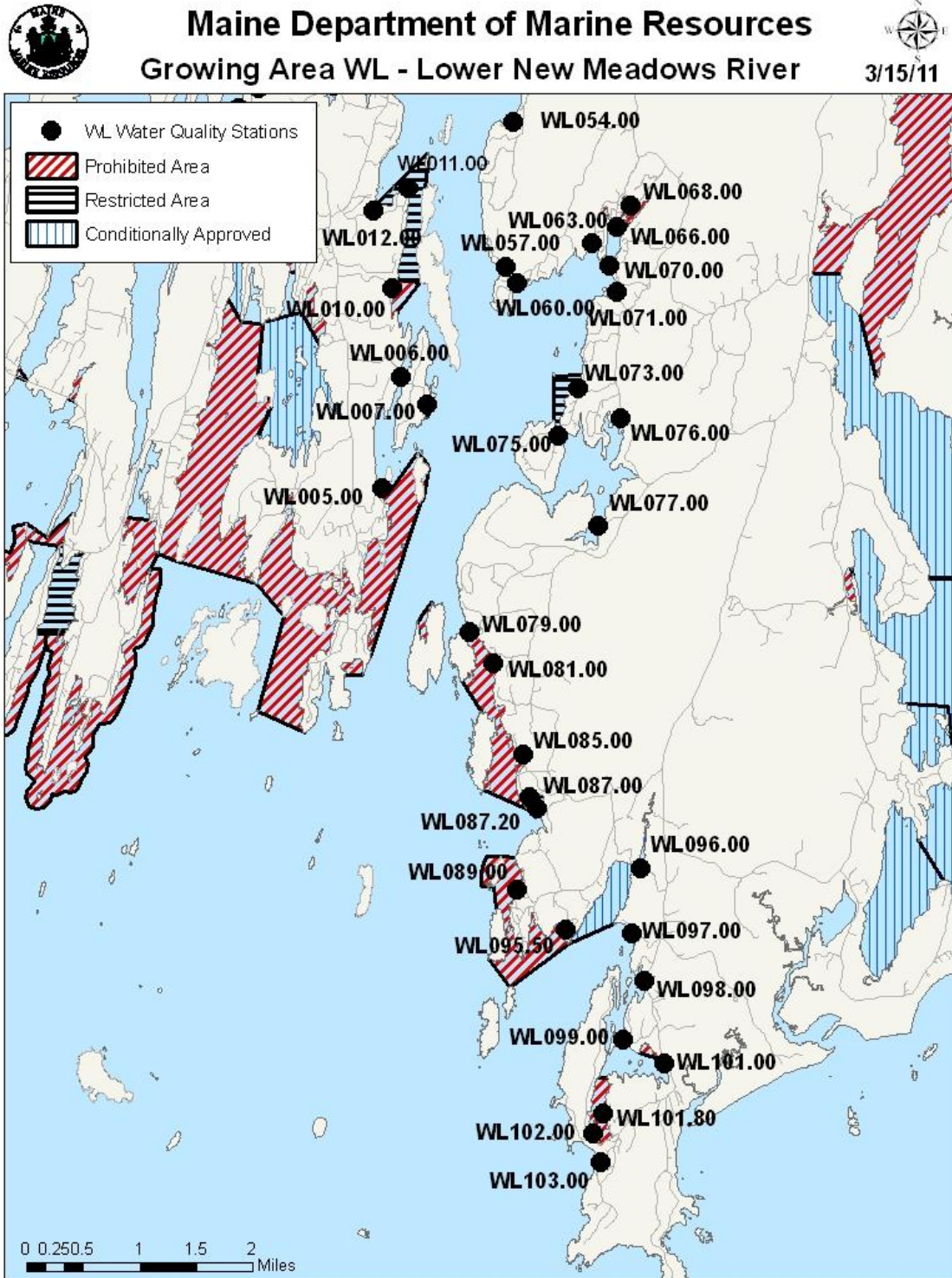




Figure 3. Growing Area WL- Lower River Detail





Executive Summary

This is a sanitary survey report for growing area WL written in compliance with the requirements of the 2009 Model Ordinance and the National Shellfish Sanitation Program. This report includes a water quality review, as well as an evaluation of all pollution source identified during shoreline survey inspections that took place between 2007 and 2010. Pollution sources reviewed in this report include domestic waste, including private in-ground systems and over board discharge (OBDs), marinas, recreational areas, agricultural activities, domestic animal and wildlife areas, stormwater, and non-point pollution transported by streams.

Growing Area Description

Shellfish Growing Area WL begins at Fort Point, Cundy's Harbor and ends at Small Point, Phippsburg and is comprised of the New Meadows River, including Buttermilk and Doughty Coves. The towns in this growing area are Harpswell, Brunswick, West Bath and Phippsburg. There are no municipal treatment facilities in this growing area. All residences have private waste disposal systems most of which are in ground systems. There are also 18 licensed overboard discharge systems, and several outhouses, chemical toilets or composting toilets located throughout the area, predominantly at seasonal properties. There is one marina in area WL, located near the head of the river, and several piers which provide support to local lobstering and fishing activities. There is also a large multi-season resort, Sebasco Harbor Resort, located in the Phippsburg portion of the growing area. There are no industrial discharges in the area.

History of Growing Area

The last sanitary survey reports were written after the completion of the 2001 review year (entire growing area) and 2002 review year (Birch Point, West Bath to West Point, Phippsburg); triennial reports were written after the completion of 2004 and 2008 review years; annual reports were written after the completion of 2005, 2006, 2007, and 2009 review years.

The following classification changes occurred since the last sanitary survey between 2006 and 2010:

2006:

On February 1, 2006, Area No. 19-B, Northern Cape Small Harbor, Phippsburg was repealed. This repeal reopened Northern Small Point Harbor, Phippsburg.

On September 8, 2006, closed areas 19-A, 18-B, 18-BB, 18-P, and 19-F were repealed and replaced with DMR Regulation 95.07 G, Closed Area No. 19-A, New Meadows Lake, Upper New Meadows River and Middle Ground (Bath to Harpswell)



On September 8, 2006, closed areas 18-E and 18-R were repealed and replaced with DMR Regulation 95.07 N, Closed Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg).

On September 13, 2006, Area No. 18-E, Cundy's Harbor and Dingley Island, Harpswell, and Area No. 18-R, East Harpswell and Long Island, Harpswell, was repealed and replaced with a new rule. This new rule opened the Brightwater area of Phippsburg, and administratively combined the areas previously described in Closed Areas 18-R, 19-C, and parts of 18-E, 18-P, and 19-A, and places them in this notice.

2007:

On August 21, 2007, Woodward Cove, Brunswick was downgraded from approved to restricted due to water quality not meeting the approved standard.

On August 21, 2007, the prohibited area around Bombazine Island, Harpswell was repealed due to the removal of an overboard discharge (OBD).

On August 21, 2007, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to reclassify the inner portion of Winnegance Bay, West Bath and Phippsburg from approved to prohibited due to intermittently elevated microbiological contamination from an unknown source.

On December 21, 2007, Round Cove, Phippsburg, was downgraded from approved to restricted due to water quality not meeting the approved standard.

On December 21, 2007, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to reclassify Dam Cove, West Bath, as restricted for shellfish harvesting due to non-point pollution.

On December 21, 2007, Area No. 19-C, Lower New Meadows River (Harpswell to Phippsburg) was amended to reclassify The Branch portion of Small Point Harbor, Hermit Island, Phippsburg from approved to restricted due to water quality not meeting the approved standard.

2008:

On May 30, 2008, Area No. 19-A, New Meadows Lake, Upper New Meadows River and Middle Ground (Bath to Harpswell), was amended to reclassify Long Cove, West Bath from "prohibited" to "approved" and upper Mill Cove, West Bath, from "restricted" to "approved".

On May 30, 2008, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to reclassify an area at the Sabino Landing (West Bath) from "prohibited" to "restricted"; to reclassify the remaining area from Sabino to Birch Point (West Bath) from "prohibited" to "approved"; to reduce the size of the prohibited area in Winnegance Bay (Phippsburg); to repeal the prohibited area on Long Island (Harpswell); and to reclassify the area near Hen Island (Phippsburg) from "approved" to "restricted".



On May 30, 2008, Area No. 19-C, Lower New Meadows River (Harpwell to Phippsburg) was amended to reclassify two areas in Phippsburg from “restricted” to “conditionally approved” based on season. One area is in Tottman Cove, with an open status from October 1 – June 30; the second area is in The Branch, Hermit Island, with an open status from November 16 – May 31.

On June 13, 2008, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to reclassify an area at Foster’s Point (West Bath) from “prohibited” to “approved”.

On November 21, 2008, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to creates a closure east of Wallace Shore Road (Harpwell), due to the presence of holding tanks and a house that is submerged at high tide. This amendment also repealed a prohibited area on the east side of Indian Point (Harpwell) due to the removal of a licensed overboard discharge.

On December 31, 2008, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to reclassify the middle lobe of Mill Cove, locally known as Brown’s Cove, from approved to prohibited due to a malfunctioning septic system and water quality exceeding the approved standard.

On December 31, 2008, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to reclassify the flats surrounding Laurel Point, Harpswell from approved to restricted due to water quality exceeding the approved standard due to non-point pollution.

2009:

On June 4, 2009, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to create a larger prohibited area surrounding an over board discharge on Dingley Island, Harpswell, based on a revised dilution calculation.

On July 16, 2009, Area No. 19-A, Upper New Meadows River (Bath to Harpswell) was amended to reclassifies the New Meadows Lake from restricted to approved, due to a recently updated sanitary survey and water quality meeting the approved standard, and expands the prohibited area in Upper New Meadows Lake to provide a dilution area for stormwater. This classification change was based on a recommendation in the 2008 WL Triennial report.

On August 21, 2009, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), amendment reclassifies Indian Rest Cove (Harpwell) from approved to prohibited, due the presence of a malfunctioning septic system.

On September 29, 2009, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to modify the size of the Middle Ground restricted area, by adjusting the boundaries of this restricted area to extend to the next water quality monitoring station meeting the approved standard.



2010:

On January 4, 2010, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to expand the restricted area in Woodward Cove (Brunswick), due to water quality not meeting the approved standard at the current boundary station between the restricted and approved areas.

On April 6, 2010, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to create a prohibited area off Bull Rock Road, West Bath, due to a septic system malfunction.

On August 5, 2010, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to reclassify Long Cove, West Bath from approved to prohibited due to the presence of a malfunctioning waste disposal system.

On August 30, 2010, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to reclassify Brown's Cove, West Bath, from prohibited to approved, due to a remediation of a known pollution source and water quality returning to the approved standard.

On August 31, 2010, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to create a prohibited area in Woodward Cove, Brunswick, due to an identified septic system malfunction.

On September 1, 2010, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg), was amended to reclassify the upper portion of Dam Cove (West Bath) from restricted to prohibited, due to an identified septic system malfunction. Area No. 19-C, Lower New Meadows River (Harpswell to Phippsburg) was amended to reclassify The Branch (Phippsburg) from conditionally approved and approved to prohibited, due to the presence of identified pollution sources.

On September 20, 2010, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), was amended to reclassify the upper portion of the New Meadows Lake from prohibited to restricted due to water quality meeting the restricted standard and due to a request from marine law enforcement to reclassify the area to reduce poaching. The area north of Old Bath Road and the northeast corner of the lake remain classified as prohibited.

On September 21, 2010, Area No. 19-C, Lower New Meadows River (Harpswell to Phippsburg), was amended to reclassify a portion of Cape Small Harbor (Phippsburg) from approved to prohibited, due to the presence of a malfunctioning septic system.

On October 28, 2010, Area No. 19-A, Upper New Meadows River (Bath to Harpswell), amended to reclassify a portion of Woodward Cove (Brunswick) from prohibited to restricted due to the remediation of a known pollution source.

On October 29, 2010, Area No. 19-B, Middle New Meadows River (West Bath, Harpswell, Phippsburg) was amended to expand the size of the prohibited area in Brigham's Cove (West Bath and Phippsburg) due to an identified septic system malfunction.



Current Classification(s)

At the end of 2010, shellfish growing area WL had areas classified as:

Approved: 42 stations; WL

Conditionally Approved

- Pollution Area No. 19-A New Meadows Lake, Upper New Meadows River and Middle Ground (Bath, Brunswick, West Bath and Harpswell); sample stations monitoring the conditionally approved (seasonal closure based on a marina operations) area- Stations WL 35.0, 36.0 and 36.1.
- Pollution Area No. 19-C Lower New Meadows River (Harpswell to Phippsburg): sample station monitoring the Tottman Cove conditionally approved area based on season- WL 96

Restricted

- Pollution Area No. 19-A, Woodward Cove- WL 25, 26, and 27 (restricted due to non-point source pollution); and Middle Ground- WL 37 and 37.5 (restricted due to non-point source pollution).
- Pollution Area 19-B Middle New Meadows River (West Bath, Harpswell and Phippsburg): Dam Cove- WL 51 and 52 (restricted due to non-point source pollution); and the area east of Hen Island- WL 73 (restricted due to non-point source pollution).
- Pollution Area 19-C Lower New Meadows River (Harpswell to Phippsburg); Round Cove- WL 87 (restricted due to identified potential pollution sources)

Prohibited

- Pollution Area No. 19-A New Meadows Lake, Upper New Meadows River and Middle Ground (Bath, Brunswick, West Bath and Harpswell), Rosedale Point: WL 34.5 (prohibited due to an active OBD); Upper New Meadows Lake Marsh: WL 36.9 (due to non-point source pollution); Upper Long Cove (West Bath): WL 44.5 (due to an identified pollution source).
- Pollution Area 19-B Middle New Meadows River (West Bath, Harpswell and Phippsburg): Brighams Cove; WL 68 (prohibited due to identified pollution source and non-point source pollution); Wallace Shore, WL 10 (prohibited due to identified pollution source)
- Pollution Area 19-C Lower New Meadows River (Harpswell to Phippsburg): WL 81, 85, 89 and 98 (Prohibited due to the presence of active OBDs).
- Pollution Area No. 19-C Lower New Meadows River (Harpswell to Phippsburg): Hermit Island Area; Station s WL 101.8 and 102 (Prohibited due to septic systems malfunctions)

There are six stations in area WL that are new stations (<30 data points); these stations do not have a classification assigned to them.

Please visit the DMR website to view legal notices for growing area WL:



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

Conditionally Managed Area(s)

There are two conditionally managed areas in growing area WL:

- 1) New Meadows Marina Conditionally Approved Area, Open November 16- April 30
Conditionally approved (CA) Stations WL 35, 36 and 36.1
- 2) Tottman Cove Seasonal Conditionally Approved Area, Open October 1- June 30
CA Station WL 96

Conditional area management plans can be found in DMR growing area files. Both plans were reviewed and updated in December 2010.

Pollution Sources Survey

The following sections include information on pollution sources which do or may impact water quality in growing area WL. Pollution sources that are reviewed in this section include domestic waste, including both private inground systems and over board discharges (OBDs), marinas and mooring fields, stormwater and pollution from non-point sources (streams), farms and other agricultural activities, domestic animals and wildlife areas, and recreational areas.

Domestic Waste (*IG Systems and OBDs*)

Much of the shoreline in growing area WL was resurveyed between 2007 and 2010. New actual and potential problems were identified as part of this recent shoreline survey work. Results are presented in Table 1 along with a description of the potential or actual problem. All problems were reported to codes enforcement officers of each respective town. Several identified potential problems are scheduled to have follow-up work by DMR and DEP in 2011.

Table 1 . New Actual and Potential Pollution Sources, identified between 2007-2010

Pollution Source ID	Area	Inspection Date	Problem	Source Type	Source Impact	Description
WLC0387.00	New Meadows River	8/10/07	Yes	Drain	Potential Indirect	Corrugated land drain
WLC0387.00	New Meadows River	8/10/07	Yes	Inground system	Potential Indirect	IG wet area below pump.
WLC0399.00	New Meadows River	8/10/07	Questionable	Holding Tank	Potential Indirect	Holding Tank
WLC0442.00	Birch Point North	10/9/07	Yes	Inground system	Potential Indirect	IG installed - Inactive OBD pipe-ordered removed
WLB0065.00	Woodward Cove	3/31/08	Questionable	Drain	Potential Indirect	2 land drains left corner of house
WLB0065.00	Woodward Cove	3/31/08	Questionable	Inground system	Potential Indirect	Septic right of house
WLB0065.00	Woodward Cove	3/31/08	Questionable	Other	Potential Indirect	Possible grey water pipe
WLB0094.00	New Meadows River	3/31/08	Yes	Drain	Potential Direct	3 Land Drains



WL Sanitary Survey 2010
Effective Date 9/30/2011

WLB0094.00	New Meadows River	3/31/08	Yes	Other	Potential Direct	washing machine drain
WLB0096.00	New Meadows River	3/31/08	Questionable	Other	Potential Indirect	CEO confirmed pipes are basement drains
WLB0104.01	New Meadows	3/31/08	Questionable	Inground system	Potential Indirect	Graywater reconnected to septic. Animal waste in yard.
WLB0104.01	New Meadows	3/31/08	Yes	Other	Actual Indirect	Washing machine drain south of house on ground
WLB0104.01	New Meadows	3/31/08	Yes	Other	Actual Indirect	Dog waste in yard
WLB0107.00	New Meadows River	3/31/08	Yes	Other	Potential Indirect	Unknown system, no evidence of problem noted (5-9-08) Pipe discharges directly into stream. Not to occupy sent by town.
WLB0110.00	Thomas Bay	3/31/08	Yes	Other	Actual Direct	
WLB0111.00	Thomas Bay	3/31/08	Yes	Outhouse	Actual Indirect	Outhouse 400 feet from shore
WLB0112.00	New Meadows River	3/31/08	Yes	Other	Actual Direct	Toilet paper down on bank
WLB0112.00	New Meadows River	3/31/08	Yes	Straight Pipe	Actual Indirect	Straight pipe from camper trailer. Enforcement letter not to occupy Straight pipe under house, outhouse ordered removed may not be occupied
WLB0113.00	New Meadows River	3/31/08	Yes	Straight Pipe	Actual Direct	
WLB0115.00	Thomas Bay	3/31/08	Questionable	Farm	Actual Direct	Manure and hay pile (boarded off) 15 feet from stream.
WLB0115.00	Thomas Bay	3/31/08	Questionable	Inground system	Potential Indirect	Septic behind house, pumped occasionally
WLB0115.00	Thomas Bay	3/31/08	Questionable	Other	Actual Direct	2 drainage ravines, 1 west and 1 south
WLB0116.00	Thomas Point Beach	3/31/08	Questionable	Gray Water	Potential Indirect	Sink outdoor with PVC pipe. Unknown location of septic systems
WLB0116.00	Thomas Point Beach	3/31/08	Questionable	Inground system	Potential Direct	
WLA0174.00	Dingley Island	4/1/08	Yes	Overboard discharge	Potential Direct	licensed overboard discharge
WLB0046.00	Gurnet Strait	4/1/08	Yes	Drain	Potential Indirect	curtain drain towards shore
WLB0046.00	Gurnet Strait	4/1/08	Yes	Inground system	Potential Indirect	Enforcement letter not to occupy sent by town. Old privy with flush toilet installed possible leach field behind outhouse.
WLB0050.00	Gurnet Strait	4/1/08	Questionable	Outhouse	Potential Direct	Outdoor shower and grey water pipe
WLB0050.00	Gurnet Strait	4/1/08	Yes	Other	Potential Direct	
WLB0079.03	Woodward Cove	4/1/08	Questionable	Drain	Potential Indirect	2 land drains
WLB0079.05	Woodward Circle	4/1/08	Questionable	Other	Potential Indirect	Owners asked staff to leave.
WLB0086.00	New Meadows River	4/1/08	Yes	Animal Waste	Potential Direct	Animal waste.
WLB0086.00	New Meadows River	4/1/08	Yes	Inground system	Potential Direct	New system designed
WLB0137.00	New Meadows River	6/27/08	Yes	Other	Potential Indirect	Holding Tank behind garage, plans for new leach field tank appears to be overflowing, failing
WLB0154.00	U. New Meadows Lake	7/9/08	Yes	Inground system	Potential Indirect	Old OBD with pipe. Check to be sure it's inactive.
WLC0004.00	U. New Meadows Lake	9/18/08	Questionable	Unknown	Potential Direct	
WLC0006.00	Upper New Meadows Lake	9/18/08	Questionable	Inground system	Potential Indirect	IG tank
WLC0013.00	Upper New Meadows Lake	9/18/08	Questionable	Unknown	Potential Indirect	System type unknown Plans to install new system. system malfunctioned, closure made 4/6/10.
WLC0038.00	New Meadows River	10/29/08	Yes	Inground system	Actual Direct	
WLC0051.00	New Meadows River	10/29/08	Questionable	Inground system	Potential Indirect	IG location?
WLC0055.00	New Meadows River	10/29/08	Questionable	Inground system	Potential Indirect	IG SE of cabin.
WLC0070.00	New Meadows River	10/29/08	Yes	Gray Water	Actual Indirect	Sink discharge into ground
WLC0070.00	New Meadows River	10/29/08	Yes	Inground system	Potential Indirect	IGS location?
WLC0073.00	New Meadows River	10/29/08	Questionable	Overboard discharge	Potential Direct	OBD may not be working properly.
WLC0084.00	New Meadows River	10/29/08	Questionable	Inground system	Potential Indirect	IG location?



WL Sanitary Survey 2010
Effective Date 9/30/2011

WLA0519.00	Indian Rest Cove	11/10/08	Yes	Holding Tank	Potential Indirect	Holding tank
WLA0531.00	Doughy's Cove	11/13/08	Yes	Other	Potential Direct	Straight pipe
WLA0272.00	New Meadows River	11/17/08	Yes	Holding Tank	Actual Direct	Pumped uphill into holding tank
WLA0273.00	New Meadows River	11/17/08	Yes	Holding Tank	Potential Indirect	Holding tank with rusted lid
WLA0295.00	New Meadows River	11/17/08	Yes	Holding Tank	Potential Indirect	comments not recorded
WLA0295.00	New Meadows River	11/17/08	Yes	Outhouse	Potential Indirect	Outhouse attached to house
WLA0329.00	Laurel Cove	11/17/08	Yes	Holding Tank	Potential Indirect	Tank SE of house
WLA0338.00	Laurel Point	11/17/08	Questionable	Inground system	Potential Indirect	New system
WLA0358.00	New Meadows River	11/17/08	Yes	Inground system	Potential Indirect	Field looks eroded
WLA0135.00		11/20/08	Questionable	Unknown	Potential Indirect	Rusty pipe coming from garage. IG, rechecked 8/20/09, no problem noted
WLA0482.00	Indian Rest Cove	8/20/09	Questionable	Inground system	Potential Indirect	Boathouse has graywater discharge to shore.
WLA0533.00	Gurnet Strait	8/20/09	Questionable	Gray Water	Potential Direct	OH to shore, toilet paper visible.
WLA0533.00	Gurnet Strait	8/20/09	Yes	Outhouse	Actual Direct	site plans?
WLC0024.00		8/28/09	Questionable	Unknown	Potential Indirect	IGS northeast. Not sure what dwelling use system
WLC0027.00	New Meadows River	8/28/09	Questionable	Inground system	Potential Indirect	Pond with pipe going into it. Holding tank for camper June - Sept. Pumped every week (Monday)
WLC0027.00	New Meadows River	8/28/09	Questionable	Other	Potential Indirect	Possible IG in front yard??
WLC0297.00		9/24/09	Questionable	Holding Tank	Potential Indirect	Black drain pipe to shore Unclear where or what system is located
WLC0313.00	Mill Cove	9/24/09	Questionable	Inground system	Potential Direct	Leachfield, wet soil, no odor.
WLC0313.00	Mill Cove	9/24/09	Questionable	Other	Potential Direct	IG field
WLC0114.00	New Meadows River	7/20/10	Questionable	Unknown	Potential Indirect	IG seeps on shore No waste disposal system on site. No problems noted at time of survey
WLC0134.00	New Meadows River	7/20/10	Yes	Inground system	Potential Indirect	HT front yard, tank full of water, breakout to shore
WLC0150.00	New Meadows River	7/21/10	Yes	Inground system	Potential Indirect	Drains to shore, not sure what they are
WLC0181.00	New Meadows River	7/21/10	Yes	Inground system	Potential Direct	HT by cabins-not connected. No system, not a problem as long as camp is not used
WLC0185.00	New Meadows River	7/21/10	Questionable	Unknown	Potential Direct	field right next to pump.
WLC0287.00	Mill Cove	8/4/10	Yes	Holding Tank	Actual Direct	No bathroom found
WLC0290.00	Mill Cove	8/4/10	Questionable	Drain	Potential Direct	Pump, tank very close to shore disconnected from line up to field above ground.
WLC0290.00	Mill Cove	8/4/10	Yes	Holding Tank	Potential Direct	Malfunctioning system, dye test positive, closure made.
WLC0327.00	Mill Cove	8/10/10	Yes	Other	Potential Indirect	Tank and field not located. No problem noted.
WLC0336.00	New Meadows River	8/26/10	Yes	Inground system	Potential Indirect	Gray water pipe.
WLC0344.00	New Meadows River	8/26/10	Questionable	Unknown	Potential Indirect	Tank W of house. Breakout on SW side.
WLC0351.00	Dam Cove	8/26/10	Yes	Inground system	Potential Direct	10 free range chickens, possible manure pile 20 feet from shore
WLC0358.00	Dam Cove	8/26/10	Yes	Inground system	Actual Indirect	HT in side yard; don't see an alarm.
WLD0391.00	Small Point Harbor	8/31/10	Yes	Inground system	Potential Indirect	Gray water to shore.
WLD0330.00	Fish House Cove	9/1/10	Yes	Gray Water	Actual Indirect	HT under walkway.
WLD0409.00	Cape Small Harbor	9/1/10	Yes	Inground system	Actual Indirect	
WLD0417.00	Cape Small Harbor	9/1/10	Questionable	Farm	Potential Indirect	
WLD0425.40	Cape Small Harbor	9/1/10	Questionable	Holding Tank	Actual Direct	
WLD0425.40	Cape Small Harbor	9/1/10	Yes	Gray Water	Actual Direct	
WLD0425.41	Cape Small Harbor	9/1/10	Questionable	Other	Potential Indirect	



WL Sanitary Survey 2010
Effective Date 9/30/2011

WLD0425.43	Cape Small Harbor	9/1/10	Yes	Holding Tank	Potential Direct	HT front yard. System can bypass via pipe.
WLD0425.51	Cape Small Harbor	9/1/10	Questionable	Cess Pool	Potential Indirect	Cess pool
WLD0425.53	The Branch	9/1/10	Questionable	Gray Water	Potential Indirect	Deperate system for graywater.
WLD0425.53	The Branch	9/1/10	Questionable	Holding Tank	Potential Indirect	HT S of house. Doesn't look like it's ever been pumped.
WLD0497.00		9/1/10	Yes	Other	Potential Indirect	Multiple issues
WLD0356.00	Totman Cove	9/15/10	Yes	Inground system	Potential Indirect	Tank directly in back of house, field up drive
WLD0356.00	Totman Cove	9/15/10	Yes	Stream	Potential Indirect	Tank directly in back of house, field up drive
WLD0240.00	New Meadows River	9/22/10	Yes	Inground system	Potential Indirect	IG, wet spot of field. Pipe has a rust hole at top but not leaking.
WLD0241.00	New Meadows River	9/22/10	Questionable	Inground system	Potential Indirect	IG currently disconnected, looks home-made
WLD0243.00	New Meadows River	9/22/10	Yes	Gray Water	Actual Indirect	Graywater discharge to shore
WLD0230.00	Round Cove	9/23/10	Yes	Drain	Potential Indirect	Edge of field wet with land drain next to it.
WLD0230.00	Round Cove	9/23/10	Yes	Inground system	Potential Indirect	IG, edge of field wet with land drain next to it.
WLD0539.00	New Meadows River	9/30/10	Questionable	Unknown	Potential Indirect	IG? not clear where tank or field is
WLC0608.00	New Meadows	10/5/10	Questionable	Inground system	Potential Indirect	Incinerator toilet (?) lots of greywater
WLD0069.00	Winnegance Bay	10/7/10	Questionable	Gray Water	Potential Indirect	Maybe grey water discharge?
WLD0077.00	Winnegance Bay	10/7/10	Yes	Holding Tank	Potential Indirect	Waste line disconnected under house.
WLD0082.00	Winnegance Bay	10/7/10	Yes	Inground system	Potential Indirect	wet around the field edge, strong sewage odor.
WLD0085.00	Winnegance Bay	10/7/10	Questionable	Holding Tank	Potential Indirect	Waste pumped uphill, HT above ground without alarm.
WLD0116.00	The Basin	10/7/10	Yes	Animal Waste	Potential Direct	2 horses, manure pile by road, drainage towards shore
WLD0116.00	The Basin	10/7/10	Yes	Stream	Potential Indirect	Stream
WLC0385.00	New Meadows River	10/20/10	Yes	Unknown	Potential Indirect	IG tank is completely full
WLC0601.00	New Meadows River	10/20/10	Yes	Outhouse	Potential Indirect	OH looks unused
WLC0601.00	New Meadows River	10/20/10	Yes	Unknown	Potential Indirect	not sure where or what system is, waste pipe from house
WLC0525.00	Brigham Cove	10/22/10	Yes	Gray Water	Potential Indirect	Graywater to shore.
WLC0525.00	Brigham Cove	10/22/10	Yes	Inground system	Potential Indirect	IG Malfunction. Closure expanded.
WLC0529.00	Brigham Cove	10/22/10	Yes	Inground system	Actual Indirect	IG roadside. Malfunctioning. Not likely to reach water
WLC0531.00	Brigham Cove	10/22/10	Questionable	Gray Water	Potential Indirect	IG for graywater only, no pump, waste line has a hole in it.
WLC0531.00	Brigham Cove	10/22/10	Questionable	Outhouse	Potential Indirect	shared outhouse
WLC0538.00	Brigham Cove	10/22/10	Questionable	Unknown	Potential Indirect	System could not be located.
WLC0548.01	Brigham Cove	10/22/10	Yes	Inground system	Potential Indirect	IG pump, tank and field in front lawn.
WLD0008.00		9/2/11	Yes	Inground system	Actual Indirect	black wet area with septic smell.
WLD0023.00		9/2/11	Questionable	Holding Tank	Potential Indirect	Cement tank NE of house.

There are 18 active licensed overboard discharges (OBDs) in growing area WL (Figure 4). An overboard discharge (OBD) is the discharge of wastewater from residential, commercial, and publicly owned facilities to Maine's streams, rivers lakes, and the ocean. Commercial and residential discharges of sanitary waste have been regulated since the mid-1970's when most direct discharges of untreated waste were banned. Between 1974 and 1987 most of the "straight pipes" were connected to publicly-owned treatment works or replaced with standard septic systems. Overboard discharge treatment systems were installed for those facilities that



were unable to connect to publicly-owned treatment works or unable to install a septic system because of poor soil conditions or small lot sizes.

All overboard discharge systems include a process to clarify the wastewater and disinfect it prior to discharge. There are two general types of treatment systems; mechanical package plants and sand filters. Sand filter systems consist of a septic tank and a sand filter. In such systems, the wastewater is first directed to a holding tank where the wastewater solids are settled out and undergo partial microbial digestion. The partially treated wastewater then flows from the tank into a sand filter, consisting of distribution pipes, layers of stone and filter sand, and collection pipes within a plastic liner. The wastewater is biologically treated as it filters down through the sand, and is then collected and discharged to a disinfection unit. Mechanical package plants consist of a tank, where waste is mechanically broken up, mixed and aerated; mechanical systems require electric power, and must have an operating alarm on a separate electrical circuit that will activate if the treatment unit malfunctions due to a power failure. The aerated treated wastewater is held in a calm condition for a time, allowing for solids to settle and for the waste to be partially digested by naturally occurring bacteria. The clarified water from the tank is then pumped off the top into a disinfection unit. There are two types of disinfection units, UV and chlorinators (most common). In a chlorinator, the treated water contacts chlorine tablets and remains in a tank for at least 20 minutes where bacteria and other pathogens are killed. The treated and disinfected water is discharged from the disinfection unit to below the low water mark of the receiving waterbody (the ocean, a river, or a stream) via an outfall pipe.

OBDs are licensed and inspected by the Maine Department of Environmental Protection. If an OBD is not properly maintained, or if the OBD malfunctions, it has the potential to directly discharge untreated wastewater to the shore, therefore, preventative closures are implemented surrounding every OBD located in growing area WL. The size of each closure is determined based on a dilution calculation, the permitted flow rate of the OBD, and the depth of the receiving water that each OBD discharges into; the fecal concentration used for this dilution calculation is 1.4×10^5 fc/100 ml. All OBDs in growing area WL are surrounded by closures that are larger than the required closures based on the dilution calculation (Table 2). Four of the remaining 18 OBDs in this growing area are on the priority removal list.



Figure 4. Growing Area WL Over Board Discharges

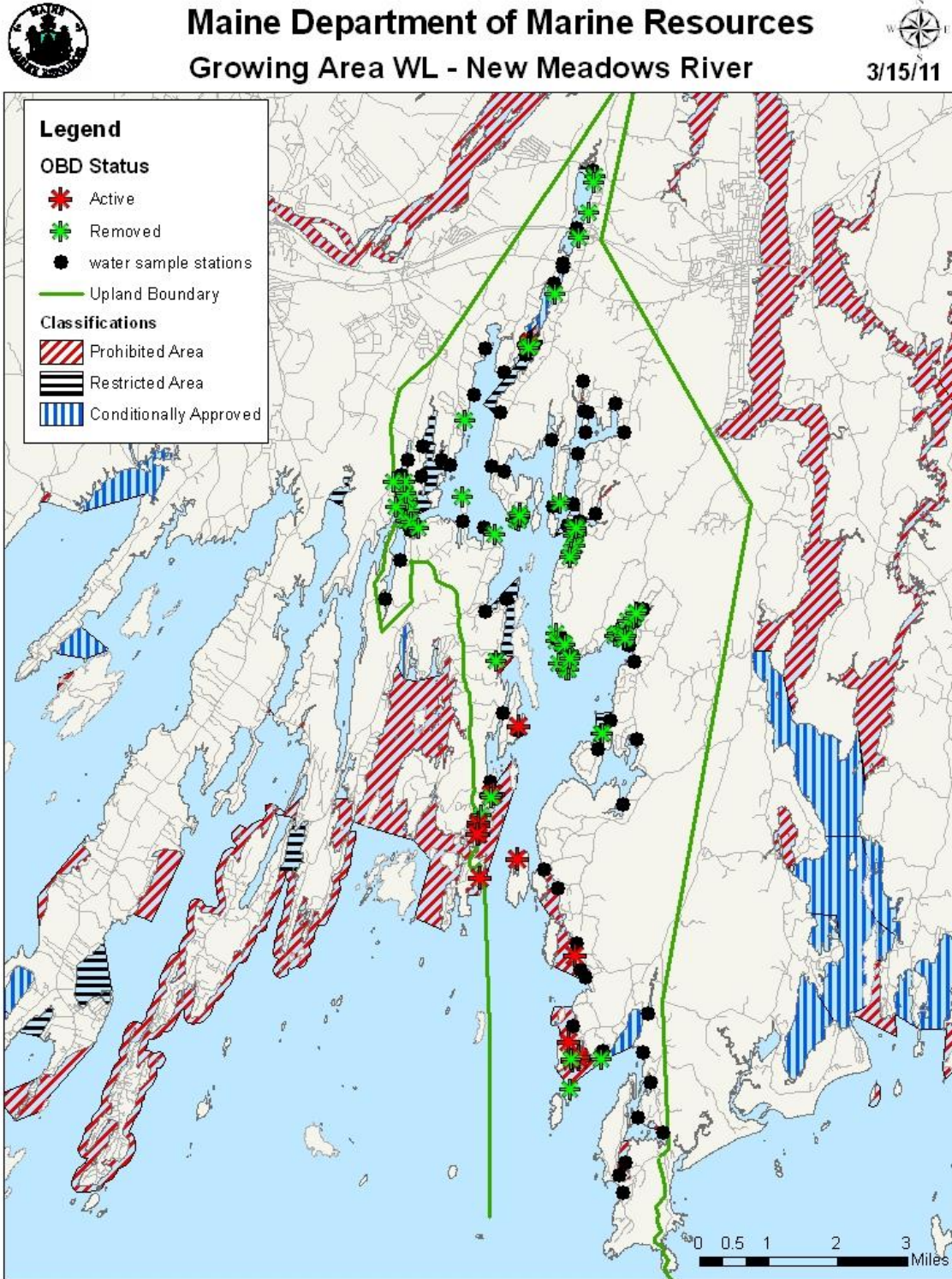




Table 2. Active OBDs in Growing Area WL, with Closure Sizes (in acres)

DEP ID	TOWN	FLOW (GPD)	Receiving Water Body	Depth of Receiving Water (ft)	PRIORITY REMOVAL	Required Closure acres	Actual Closure acres
4060	Harpswell	315	New Meadows River	11		0.88	1.7
3265		300	New Meadows River	18		0.51	213
3675		400	New Meadows River	18		0.68	
3986		300	New Meadows River	35		0.26	
4548		315	New Meadows River	18		0.54	
0896		1125	New Meadows River	18		1.92	
4191		315	New Meadows River	18		0.54	
3002		300	New Meadows River	18		0.51	
2331		330	New Meadows River	18		0.56	
1246	West Bath	500	New Meadows River	6	Y	2.56	10.5
1940		750	New Meadows River	6	Y	3.84	
1562		300	New Meadows River	6	Y	1.53	
2415	Phippsburg	600	New Meadows River	15		1.23	10.8
1010		20,000	Sebasco Harbor	20	Y	30.7	100+
1587		420	Sebasco Harbor	18		0.72	25+
7187		360	Small Pt Harbor	18		0.51	
6665		1000	Fish House Cove	18		1.71	17+
7232		300	Small Pt Harbor	18		0.51	

Municipal WWTP

There are no municipal waste water treatment facilities located in or near growing area WL.

Industrial Pollution

There are no permitted industrial discharges into the New Meadows River.

Marinas and Mooring Fields

The New Meadows marina, located on the upper New Meadows River in Brunswick, is a full service marina, offering 60 slips, with water and electricity provided to most slips; there are no moorings at this location. The marina operates from May 1 to October 15th, with peak season from June to September. Based on an interview with the marina operator, completed on June 9th, 2008, of the sixty boats that may be docked at the marina, 12 have heads, and none are used as primary residences. The marina offers pump-out services to its clients. This marina is located in the Casco Bay No Discharge Zone, and is a member of Clean Marinas. This marina



is located in a conditionally approved area; the area is in closed status from May 1st through November 15th, when the marina is in operation and more than 10 boats with heads may be present. A dilution calculation was completed to verify that the closure area is of adequate size. Based on 12 boats (2 people per boat) that are capable of discharging waste, and a mean discharge depth of 8 ft, a 35 acre closure is required to protect public health; the current closure is 87 acres.

The Sebasco Harbor Resort in Phippsburg has transient mooring space for 25 boats. Based on 25 boats (2 people per boat) that are capable of discharging waste, and a mean discharge depth of 15 ft, a 37 acre closure around this marina is required to protect public health. This marina is situated in a prohibited area, greater than 100 acres in size.

In addition to the two marinas, Basin Cove, Phippsburg is a popular anchorage spot for sailboats in the summer months. There are no pump-out stations or other sanitation facilities available at this location. For the next sanitary survey, seasonal boating activity in this cove should be monitored and assessed. While water quality at the three sampling stations that monitor the Basin (WL 75, 76 and 77) continues to meet approved classification standards, water quality trends for station WL 77 have shown an increase in scores over the past 2 years. The cause for this upward trend is unknown and discharge from boats may be contributing to higher scores, and thus seasonal use of this area should be monitored more closely.

Stormwater

Stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the runoff is discharged untreated (US EPA 2009). Thus, stormwater pollution is caused by the daily activities of people within the watershed. Currently, polluted stormwater is the largest source of water quality problems in the United States.

The primary method to control stormwater discharges is the use of best management practices (BMPs). In addition, most major stormwater discharges are considered point sources and require coverage under an NPDES permit. In 1990, under authority of the Clean Water Act, the U.S. EPA promulgated Phase I of its stormwater management program, requiring permitting through the National Pollution Discharge Elimination System (NPDES). The Phase I program covered three categories of discharges: (1) "medium" and "large" Municipal Separate Storm Sewer Systems (MS4s) generally serving populations over 100,000, (2) construction activity disturbing 5 acres of land or greater, and (3) ten categories of industrial activity. In 1999, US EPA issued Phase II of the stormwater management program, expanding the Phase I program to include all urbanized areas and smaller construction sites.

Although it is a federal program, in the state of Maine, the Phase II Stormwater permit is issued and regulated by the Maine DEP (Chapter 500 and 502). Under the MS4 regulations, each municipality must implement the following six Minimum Control Measures: (1) Public education and outreach, (2) Public participation, (3) Illicit discharge detection and elimination, (4) Construction site storm water runoff control, (5) Post-construction stormwater management, and



(6) Pollution prevention/good housekeeping. The permit required each city or town to develop a draft Stormwater Management Plan by September 3, 2003 that will establish measurable goals for each of the Minimum Control Measures. The Town must document the implementation of the Plan, and provide annual reports to the Maine DEP. Currently the discharge of stormwater from 28 Maine municipalities is regulated under the Phase II permit requirements, however, no municipalities located within the boundaries of growing area WL fall under these regulations. Additionally, the Maine Stormwater Management Law provides stormwater standards for projects located in organized areas that include one acre or more of disturbed area (Maine DEP 2009).

Non-Point Pollution Sources (*streams, etc*)

Streams are a source of fresh water to the New Meadows watershed, and carry stormwater, snowmelt and groundwater into the coastal estuaries. Waste, including that containing fecal matter, which is deposited on land, may be carried by streams to shellfish growing areas, contributing to elevated fecal counts in waters that are filtered by shellfish. In the 2008 triennial report, recent sampling of streams was discussed in detail. All streams were sampled multiple times, and under varying weather conditions. Flow rates were estimated on each day of collection.

Agricultural Activities

There are no large scale agricultural facilities on or near the shoreline of growing area WL. However, there are several smaller-scale family farms that have the potential to impact water quality along the shoreline of this growing area. There is a small, organic farm located on Thomas Bay, Brunswick. The farm grows organic vegetables and has approximately 30 laying hens and some rabbits. The farm was surveyed in 2008 by DMR and the town of Brunswick shellfish warden; at the time of survey, a manure pile was noted within 15 ft of the bank of a small stream that drains into Thomas Bay. Since the survey, the farm has agreed to implement best management practices, and have enclosed the manure pile with a wooden retaining wall, in order to minimize run-off after rain events. The manure is not produced at this farm; it is only used as an organic fertilizer on the vegetable plots.

There is another farm located in Brunswick, on the upper portion of New Meadows Lake. This farm has 20 to 30 heads of cattle, which are pastured on the west side of Peterson Lane, which runs parallel to the lake. The pasture is sloped away from the shoreline of the lake. There is another pasture area on the east side of the road (adjacent to lake shore), however, this pasture is rarely used for grazing (up to 1 week per year). Both pasture areas have buffer fencing that exclude cattle from low areas and gullies which may collect run-off from heavy rainstorms. Grass inside the buffer areas are not mowed, in order to slow water run-off. In 2008, several attempts were made to sample run-off draining from the farm towards shore after rain events; in both instances, no flow was observed in the gullies, and thus samples were not collected. Based on the information provided by the owner supported by a visual assessment of the property by DMR, this farm is not a likely source of pollution to the New Meadows Lake.



There is a small, family owned farm located near the head of Tottman Cove, Phippsburg. This farm grows and sells organic produce, eggs, and flowers. Based on the current re-evaluation, this farm is not a source of pollution to Tottman Cove.

Domestic Animals and Wildlife Activity

Domestic animals can have an adverse impact on water quality if their waste is not properly managed and disposed of. During the survey activity over the past three years, there were several properties where the presence of animal waste was noted (description of these properties are provided in Table 1).

There is an equestrian training and boarding center located in the headwaters of the New Meadows River, in Brunswick. The facility has two barns, with boarding room for up to 20 horses. The facility also has an outdoor exercise arena. This facility is located well over 500 feet away from the shoreline of the upper New Meadows marsh area (prohibited area), and has no streams draining the property to shore; there is also a buffer of vegetation between the property and the marsh. There was an uncovered manure pile observed at the property, but it is improbable that any run-off generated on the property will drain into the marsh.

In addition to domestic animals, wildlife can also have an adverse impact on water quality. While wildlife, especially wildfowl, can be occasionally observed in small numbers throughout the entire New Meadows River Watershed, wildlife has been frequently noted in the area surrounding water quality stations WL 14 and WL 27; both of these stations meet their current NSSP Classification standard. Additionally, the marsh located north of New Meadows Lake has been identified as a suitable shorebird and wading bird habitat (Town of Brunswick, 2009). The entire marsh area, as well as the upper portion of the New Meadows Lake is currently classified as prohibited.

Conservation/Recreation Areas (beaches, trails, etc.)

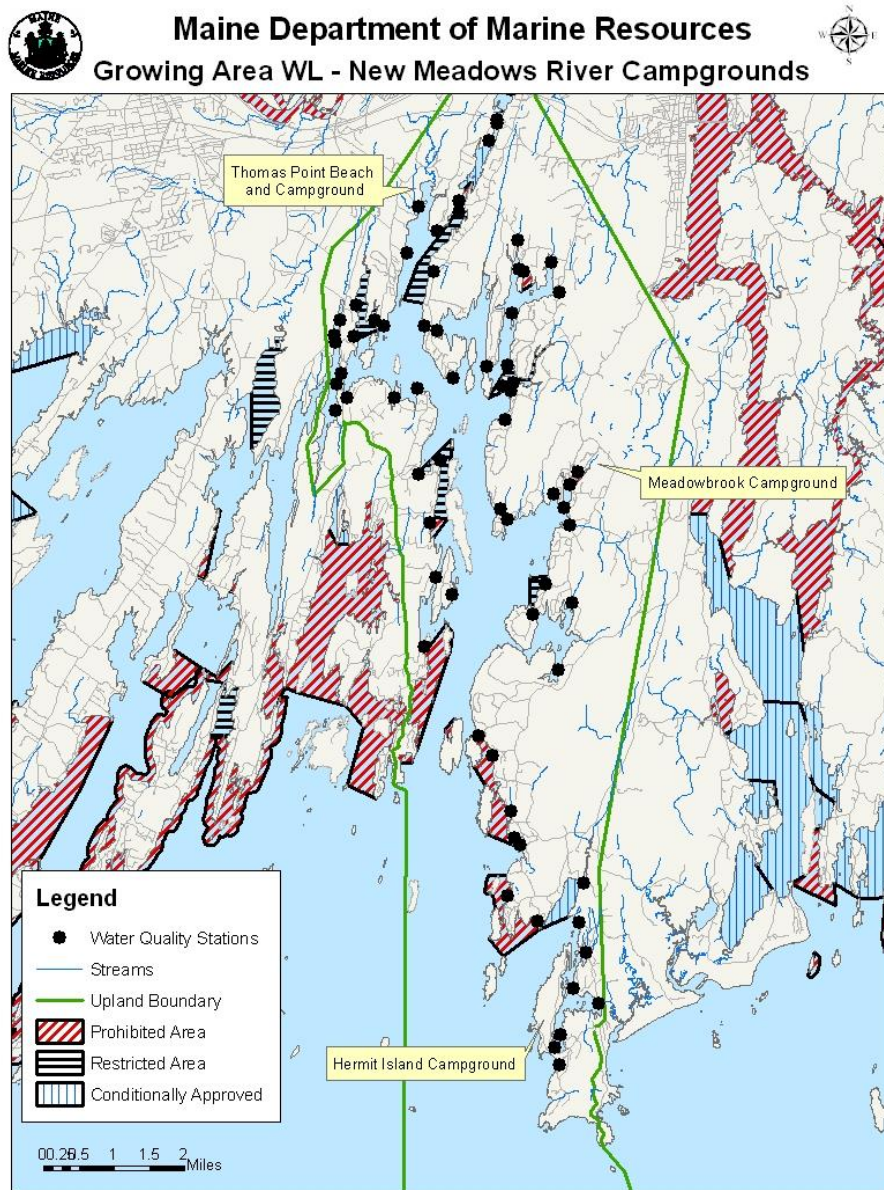
There are three recreational areas in growing area WL that have the potential to impact water quality due to increased shore use by people in the summer, and were reviewed as part of this report (Figure 5). Hermit Island Campground, located on a 255 acre peninsula in Small Point, at the southern tip of Phippsburg, has 225 campsites, as well as six beach access points, hiking trails, and a small marina and wharf. The campground does not allow pets. The campground has both flush toilets and dry vault toilets on site. A portion of the eastern shore of Hermit Island is classified as conditionally approved based on season, and is closed from June 1st through November 15th, when the campground is in operation.

The Meadowbrook campground is located at the head of Brighams Cove, on Winnegance Bay, in Phippsburg. It offers over 100 campsites, with power and water hookups; the campground also has flush toilets on site. The campsites are not located directly on the shore, and the campsite does not provide shore access to its guests. Pets are not prohibited at this campsite, however, due the lack of shorefront access, fecal pollution from animal waste is not of concern in this area. Additionally, the head of Brighams Cove is currently classified as prohibited.



Thomas Point Beach and Campground is located on Thomas Bay, in Brunswick. This facility offers 64 campsites from mid-May to September, as well as picnic spots, a playground and grounds for large gatherings (concerts, festivals, etc). Sanitation facilities are available on site for camping guest and day users; no sink or shower waste discharge onto the ground is allowed on the property, per park regulations. The sanitation facilities are maintained throughout the summer, and the septic tanks are pumped regularly. Pets less than 25 pounds are allowed at the campsites, however, no pets are permitted on the beach or any other public area of the park; immediate pet waste pick-up is required. Based on the current review, this area does not require any action to protect public health.

Figure 5. WL Recreation Areas





Hydrographic and Meteorological Assessment

The NSSP program requires, as part of the sanitary survey, the evaluation of hydrographic and meteorological factors in order to determine the factors that may affect distribution and persistence of pollutants throughout the study area (WT). Climate and weather can affect the distribution of pollutants or can be the cause of pollutant delivery to a growing area. Prevailing winds can determine the distribution of pollutants in a growing area. Rainfall patterns and intensity can affect water quality through pollutant delivery in runoff or cause flooding which can affect the volume and duration of pollutant delivery. Examples of hydrographic factors that are evaluated in this report are tidal transport, and rainfall.

Tides

Coastal Maine experiences a mixed, semi-diurnal tide, with diurnal inequalities that are more pronounced on spring tides. National Oceanic and Atmospheric Administration data for station at Portland, Maine indicate a mean tidal range of 9.2 ft. Currents in the area are predominantly driven by the tides. All along the coast of Maine, the tide flows generally to the north and east and ebbs to the south and west. Weather conditions effect tidal ranges and current speeds, sometimes very strongly.

In order to explore the effect of tide on water quality in growing area WL, samples collected at flood and ebb tides were analyzed and presented in the Tables 3 and 4. Only stations with 30 samples are presented. Scores that exceed the classification standard of the station are highlighted in yellow.

Table 3. Geometric Mean and P90 Report for Samples Collected at Ebb Tide

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL005.00	P	36	15	3	0.3	43	7.5	40	232	7/27/2000
WL006.00	A	31	14	3.2	0.31	23	8.1	39	227	5/31/2000
WL007.00	A	39	18	3.5	0.32	43	9.4	39	226	5/31/2000
WL010.00	P	40	19	3.6	0.36	43	10.6	39	224	5/31/2000
WL011.00	R	45	24	5.8	0.65	320	40.4	38	216	5/31/2000
WL012.00	A	36	16	4.2	0.43	93	15.1	39	228	5/31/2000
WL014.00	A	36	16	3.4	0.38	93	10.8	39	228	5/31/2000
WL015.00	A	36	16	3	0.22	23	5.9	39	228	5/31/2000
WL018.00	P	45	25	5	0.57	1700	27.6	37	213	5/31/2000
WL019.00	A	40	20	3.2	0.33	43	8.6	38	221	5/31/2000
WL020.00	A	37	18	3.9	0.4	130	12.8	39	222	5/31/2000
WL021.00	A	38	12	6	0.63	1100	39	42	247	2/16/2000
WL022.00	A	36	10	5.5	0.54	240	28	43	253	2/16/2000
WL023.00	A	35	12	4	0.45	240	15.6	41	243	12/10/2000
WL025.00	A	34	8	6.3	0.65	720	43.3	43	259	2/16/2000
WL026.00	A	33	9	7.4	0.55	460	37.8	43	254	2/16/2000
WL027.00	A	33	8	5.9	0.61	460	36.7	43	258	2/16/2000
WL028.00	A	35	9	5.7	0.67	1100	41.8	43	256	2/16/2000



WL030.00	A	35	9	4.8	0.4	93	16	43	256	2/16/2000
WL031.00	A	36	10	4.2	0.4	93	13.8	43	253	2/16/2000
WL033.00	A	35	9	3.6	0.38	93	11.3	43	256	2/16/2000
WL034.50	P	37	9	5	0.52	240	23.6	43	258	2/16/2000
WL035.00	CA	48	16	4.1	0.42	240	14.7	42	244	2/16/2000
WL036.00	CA	43	13	3.3	0.34	240	9.4	42	249	2/16/2000
WL036.10	CA	50	20	3.8	0.45	460	14.6	40	235	8/14/2000
WL036.50	A	47	17	3.8	0.34	93	10.6	41	240	2/16/2000
WL036.70	A	48	17	3.5	0.39	93	11.4	41	241	2/16/2000
WL036.90	R	47	16	5.7	0.55	460	29.2	41	243	2/16/2000
WL045.00	CA	31	11	3.9	0.46	140	15.2	41	241	7/5/2000
WL046.00	A	41	21	4	0.55	460	21.2	38	219	7/5/2000
WL047.00	A	35	13	5.7	0.63	460	37.1	41	239	7/5/2000
WL048.00	A	34	12	5.1	0.61	1200	31.3	41	241	7/5/2000
WL048.50	A	38	14	4.1	0.49	240	17.5	41	239	7/5/2000
WL049.00	A	40	14	4.3	0.55	460	22.6	41	242	7/5/2000
WL051.00	R	40	14	5.9	0.67	880	43	41	242	6/20/2000
WL052.00	R	41	16	6.6	0.8	1220	71.9	40	236	6/20/2000
WL053.00	A	39	16	5	0.57	240	27.6	40	233	6/20/2000
WL054.00	A	41	16	4.3	0.6	1100	25.9	40	236	6/20/2000
WL057.00	A	44	19	5.1	0.68	1200	39	40	230	6/20/2000
WL060.00	A	46	21	3.9	0.58	1200	22	39	227	6/20/2000
WL063.00	A	47	22	4.6	0.61	1200	28.2	39	225	6/20/2000
WL066.00	A	41	19	3.4	0.36	93	10	39	226	6/20/2000
WL068.00	P	45	21	5	0.61	1100	31.3	39	225	6/20/2000
WL070.00	A	36	16	3.3	0.32	95	8.7	39	228	7/25/2000
WL071.00	A	36	14	4.6	0.49	240	19.6	41	236	7/25/2000
WL073.00	R	36	14	7.2	0.68	460	54.2	41	236	7/25/2000
WL075.00	A	31	12	3.3	0.31	43	8.4	41	236	9/21/2000
WL076.00	A	30	14	4.3	0.44	43	16.1	39	225	5/22/2001
WL077.00	A	33	13	3.5	0.4	93	11.8	40	235	7/25/2000
WL079.00	A	36	14	3.4	0.44	460	12.7	41	236	7/31/2000
WL081.00	P	37	14	6.2	0.69	1200	48.2	41	238	7/31/2000
WL085.00	P	35	11	8.7	0.58	240	48.8	42	247	7/31/2000
WL087.00	R	35	9	5.8	0.62	240	36.6	43	256	1/3/2000
WL089.00	P	34	11	3.8	0.39	93	12.1	42	246	7/31/2000
WL096.00	CA	34	14	7.7	0.61	460	47.4	40	233	7/31/2000
WL099.00	A	31	9	3.8	0.32	34	10.1	42	251	7/31/2000
WL101.00	A	30	9	5.2	0.5	240	22.9	42	249	7/31/2000
WL102.00	P	33	14	5.3	0.66	460	37.9	40	231	8/2/2000
WL103.00	A	31	9	3.2	0.32	126	8.3	42	251	7/31/2000



Table 4. Geometric Mean and P90 Report for Samples Collected at Flood Tide

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL005.00	P	32	12	5.7	0.66	460	41.6	41	238	5/31/2000
WL006.00	A	30	12	4.4	0.66	1100	30.8	40	235	6/29/2000
WL011.00	R	32	11	3.6	0.34	76	10	41	243	6/29/2000
WL012.00	A	32	12	3.6	0.32	40	9.7	41	238	6/29/2000
WL014.00	A	31	11	5.6	0.67	1100	40.9	41	241	3/29/2001
WL015.00	A	31	11	5.7	0.63	1100	37.9	41	241	3/29/2001
WL018.00	P	33	13	5	0.42	70	17.7	40	235	3/29/2001
WL020.00	A	30	9	5.5	0.39	43	17.6	42	249	12/13/2000
WL021.00	A	45	14	4.8	0.49	140	20.8	42	248	1/10/2000
WL022.00	A	47	16	4.9	0.55	1100	25.1	41	243	1/10/2000
WL023.00	A	39	15	3.3	0.37	240	9.9	41	237	1/10/2000
WL025.00	A	40	18	3.3	0.28	25	7.7	39	227	1/10/2000
WL026.00	A	41	18	5.1	0.59	380	29.5	40	229	1/10/2000
WL027.00	A	41	18	3.4	0.35	150	9.6	40	229	1/10/2000
WL028.00	A	39	17	2.9	0.24	36	6	40	229	1/10/2000
WL030.00	A	40	18	3.6	0.34	56	10.2	39	227	1/10/2000
WL031.00	A	38	16	3.9	0.39	93	12.7	40	232	1/10/2000
WL033.00	A	39	17	3.4	0.3	42	8.5	40	229	1/10/2000
WL034.50	P	45	17	3.3	0.28	50	7.6	41	238	1/10/2000
WL035.00	CA	50	27	3	0.33	72	8.1	38	215	3/4/2002
WL036.00	CA	50	28	3.1	0.36	128	9.2	37	213	4/14/2003
WL036.10	CA	50	21	3.4	0.4	82	11.1	40	232	8/6/2001
WL036.50	A	47	10	4.3	0.39	93	13.9	44	263	1/10/2000
WL036.70	A	47	10	3.9	0.47	240	15.8	44	263	1/10/2000
WL036.90	R	42	10	6.4	0.58	130	36.4	43	259	1/10/2000
WL037.00	R	43	21	5.4	0.69	1700	42.4	39	222	6/20/2000
WL037.50	R	43	21	4.9	0.61	1100	30.1	39	222	6/20/2000
WL038.00	A	40	19	3.2	0.36	72	9.8	39	224	6/20/2000
WL040.00	A	42	19	3.8	0.46	150	15.2	39	227	6/20/2000
WL042.00	A	42	20	4.2	0.49	420	18.1	39	224	6/20/2000
WL044.00	A	39	18	2.8	0.24	29	5.8	39	226	6/20/2000
WL044.50	P	38	17	8.6	0.72	1700	73.5	39	228	6/20/2000
WL045.00	CA	36	16	5.3	0.6	1140	31.8	39	228	6/20/2000
WL046.00	A	40	20	4.8	0.61	1700	29.6	38	221	6/20/2000
WL047.00	A	33	14	5.4	0.48	102	22.5	40	231	6/20/2000
WL048.00	A	33	15	3.5	0.41	240	11.9	39	227	6/20/2000
WL070.00	A	31	10	4.7	0.62	1100	30.2	42	246	8/2/2000
WL071.00	A	30	12	6.3	0.56	118	33.9	40	235	8/2/2000
WL073.00	R	31	12	5.7	0.74	1700	50.8	41	236	8/2/2000
WL075.00	A	35	14	4	0.49	460	17.2	40	235	8/2/2000
WL076.00	A	31	12	4.3	0.44	43	16.1	41	236	6/26/2001
WL077.00	A	31	13	5.2	0.53	240	25.6	40	232	8/2/2000
WL079.00	A	31	12	2.8	0.21	21	5.3	41	236	8/2/2000
WL081.00	P	30	12	7.3	0.79	1200	77	40	235	8/2/2000



WL085.00	P	32	15	5.5	0.62	1200	35.5	39	225	8/2/2000
WL087.00	R	41	17	4.1	0.5	150	18.6	40	232	2/7/2000
WL089.00	P	33	15	4.4	0.43	48	15.9	39	227	8/2/2000
WL096.00	CA	49	28	3.9	0.41	43	13.6	37	211	8/2/2000
WL097.00	A	33	15	3.3	0.45	240	12.8	39	227	9/21/2000
WL098.00	P	38	19	5.6	0.54	93	28.1	38	221	9/21/2000
WL099.00	A	35	17	3	0.28	43	7	39	223	9/21/2000
WL101.00	A	36	17	3.8	0.39	43	12.2	39	224	9/21/2000
WL102.00	P	45	26	3.8	0.51	400	17.4	37	210	9/21/2000
WL103.00	A	35	17	3.1	0.25	23	6.7	39	223	9/21/2000

Rainfall

In order to investigate how water quality is impacted by rainfall events which do not necessitate an emergency flood closure, a rainfall assessment for all stations in growing area WL was completed. For this assessment, the geometric mean and P90 scores were recalculated using only data points which were collected after 0.50 or more inches of cumulative rainfall were recorded up to 72 hours prior to sample collection (sum of rainfall recorded in the AM on day of sample, day before sample and two days before sample was taken; Table 5) and for stations with at least 10 samples. In this calculation, all random data collected between 2003 and 2010 were included. In completing this assessment, the data collected under dry or near dry conditions (<0.50 inches of rainfall in 72 hours), were omitted from the calculation. While the results of this calculation show that all stations that are classified as approved retain geometric mean scores of less than 14 when using data collected after rainfall, the P90 scores for multiple stations increase, indicating that multiple approved stations are impacted by intermittent pollution that occurs after rain events.

Table 5. Geometric Mean and P90 Report for Samples Collected after >0.5 in. of Rainfall

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL011.00	A	12	7	6.2	0.76	320	61.2	37	210	6/26/2003
WL012.00	A	10	5	7.9	0.6	93	48.7	38	221	6/26/2003
WL014.00	A	11	6	4.7	0.54	60	24.1	38	215	6/26/2003
WL015.00	A	10	5	5.3	0.5	80	24.3	38	221	6/26/2003
WL018.00	P	13	8	5.7	0.46	70	23.2	36	206	6/26/2003
WL019.00	A	10	5	6.3	0.51	43	30.4	38	221	6/26/2003
WL020.00	A	11	6	8.9	0.57	130	50.3	38	215	6/26/2003
WL021.00	A	14	5	8.3	0.58	140	48.4	41	241	5/12/2003
WL022.00	A	14	5	9.1	0.68	240	70.5	41	241	5/12/2003
WL023.00	A	14	5	5.1	0.4	23	17.1	41	241	5/12/2003
WL025.00	A	14	5	5.6	0.5	93	25.6	41	241	5/12/2003
WL026.00	A	15	6	11.3	0.64	380	79.6	40	235	5/12/2003
WL027.00	A	14	5	5.7	0.42	43	20.3	41	241	5/12/2003
WL028.00	A	14	5	4.1	0.32	23	11.1	41	241	5/12/2003
WL030.00	A	14	5	6.1	0.38	29	19.1	41	241	5/12/2003
WL031.00	A	14	5	4.9	0.41	40	17.3	41	241	5/12/2003
WL033.00	A	14	5	5.6	0.5	93	26	41	241	5/12/2003
WL034.50	P	14	5	4.6	0.48	50	19.3	41	241	5/12/2003



WL035.00	CA	21	7	5.1	0.4	72	17.3	42	244	5/12/2003
WL036.00	CA	21	7	5.3	0.48	128	22.8	42	244	5/12/2003
WL036.10	CA	20	6	4.4	0.45	68	17.3	42	249	5/12/2003
WL036.50	A	17	5	4.1	0.28	18	9.8	42	250	5/12/2003
WL036.70	A	17	5	6.3	0.68	240	49.1	42	250	5/12/2003
WL036.90	R	17	5	9.5	0.65	98	66.5	42	250	5/12/2003
WL037.00	R	10	6	8.8	0.94	1700	154.4	37	208	11/4/2003
WL044.00	A	10	6	3.6	0.45	43	14.4	37	208	11/4/2003
WL044.50	P	11	6	12.4	0.91	1700	195.1	38	215	10/1/2003
WL045.00	CA	10	6	8.9	0.63	140	61.3	37	208	10/1/2003
WL046.00	A	12	7	4.3	0.49	35	19.1	37	210	10/1/2003
WL047.00	A	11	6	6	0.61	200	38.5	38	215	10/1/2003
WL048.00	A	10	6	5	0.6	128	31.9	37	208	10/1/2003
WL048.50	A	10	6	3.8	0.36	24	11.4	37	208	11/4/2003
WL053.00	A	11	6	5.3	0.61	93	33.7	38	215	10/1/2003
WL054.00	A	10	6	3.3	0.35	15	9.8	37	208	11/4/2003
WL068.00	P	12	7	6.2	0.58	128	35.8	37	210	10/1/2003
WL077.00	A	10	6	11.2	0.7	240	95.6	37	208	3/31/2003
WL087.00	R	12	5	5.7	0.66	150	41.6	40	232	3/31/2003
WL096.00	CA	10	6	5.3	0.55	44	28.4	37	208	3/31/2003
WL098.00	P	10	6	7	0.62	78	46.3	37	208	3/31/2003
WL102.00	P	10	6	7.2	0.82	400	88.3	37	208	3/31/2003

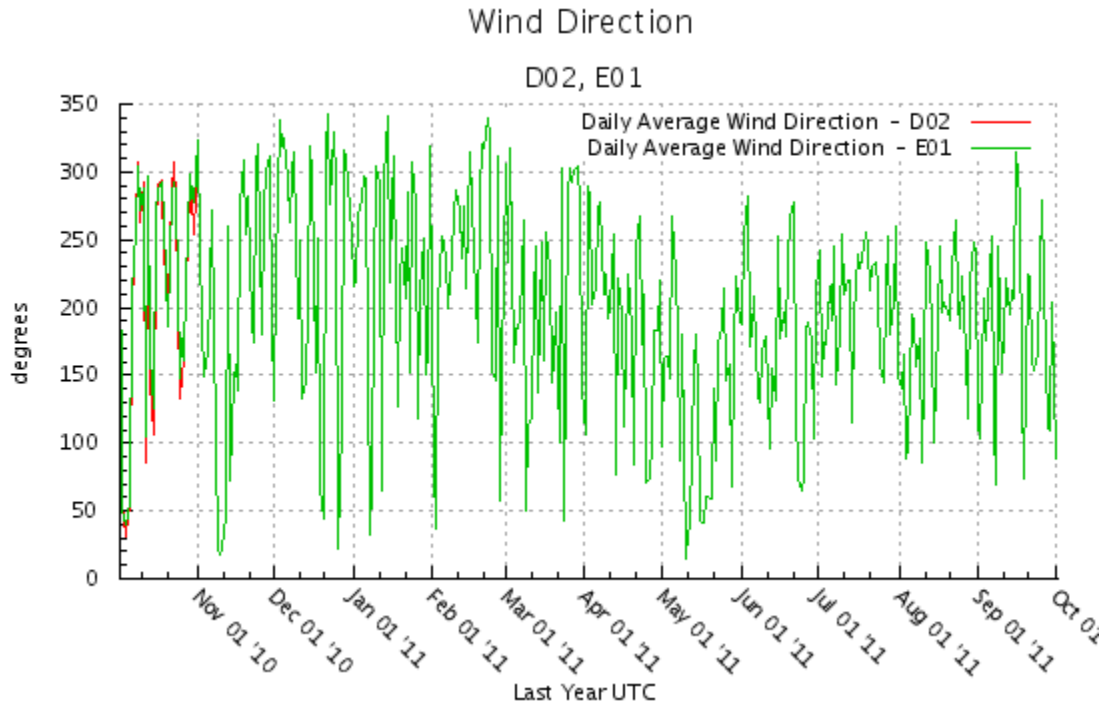
Winds

Wind direction data has been recorded at the time of sample collection since 2005 and is now being collected at each station at the time of sample collection. Wind speed is not being noted. Wind directions can vary greatly throughout the day, and among the stations. Stations that are located in long narrow coves often have little to no wind impact, due to the protected nature of the cove. Stations located in more open areas tend to be impacted by ocean breezes. The time of the day that the station is sampled can also impact the wind reported. Samples collected in the early morning hours often are collected during calm wind conditions. Since there are no sewage treatment facilities, major industries, or large point sources of pollution located along the shores of this growing area, it is unlikely that wind direction would have a significant impact on major pollution dispersal within this growing area.

There is currently not enough DMR wind data available to assess wind impact at each station. Figure 6 illustrates the 2010 daily average wind directions for Harpswell and Portland (GOMOOS weather buoy data system).



Figure 6. Average Daily Wind Direction in the Vicinity of Growing Area WL



River Discharge

There are no river systems that drain into this growing area.

Water Quality Review

Table 2 lists all active approved, restricted and prohibited stations in Growing Area WL, with their respective Geomean and P90 calculations for 2010. Please refer to Appendix C for a key to interpreting the headers on the columns of Table 6. The approved and restricted standards for each station are also displayed in Table 6. 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.

With the exception of station WL 45, all approved stations, met their NSSP classification standard in 2010. All restricted stations met their NSSP classification. Station WL 45 has



exceeded the approved standard; a review of the data at this stations showed a seasonal impact at this station, justifying a classification downgrade from approved to conditionally approved based on season. This change was completed on January 7, 2010. Please see Water Quality Discussion and Classification Determination section of this report for more details on this classification change.

Table 6. Growing Area WL Geometric Mean and P90 Report

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL005.00	P	30	27	2.4	0.28	37	5.6	32	173	3/27/2006
WL006.00	A	30	26	2.2	0.16	9.1	3.6	32	176	11/29/2004
WL007.00	A	30	26	2.9	0.33	28	8	32	176	3/27/2006
WL010.00	P	30	26	3	0.37	34	9.2	32	176	3/27/2006
WL011.00	R	30	30	5.3	0.68	300	39.9	31	163	6/25/2007
WL012.00	A	30	28	3.3	0.36	40	9.8	31	169	3/27/2006
WL014.00	A	30	27	3.4	0.54	200	17.1	32	173	3/27/2006
WL015.00	A	30	27	2.9	0.35	80	8.3	32	173	3/27/2006
WL018.00	P	30	30	6.6	0.7	1700	52.3	31	163	10/30/2007
WL019.00	A	30	27	2.6	0.28	22	6.1	32	173	3/27/2006
WL020.00	A	30	27	4.4	0.48	130	18.5	32	173	3/27/2006
WL020.50	A	6	6	3.3	0.38	16	10.7	31	163	4/14/2010
WL021.00	A	30	26	3.1	0.4	140	10.4	32	176	3/27/2006
WL022.00	A	30	26	3.9	0.51	146	18.3	32	176	3/27/2006
WL022.50	A	16	16	3.7	0.54	96	18.4	31	163	8/5/2008
WL023.00	A	30	27	3	0.36	44	8.9	32	173	5/8/2006
WL025.00	R	30	26	4.1	0.58	720	23.5	32	176	3/27/2006
WL026.00	R	30	27	6.7	0.63	380	43.9	32	173	3/27/2006
WL027.00	R	30	26	3.4	0.34	31	9.5	32	176	3/27/2006
WL028.00	A	30	26	3.1	0.38	52	9.5	32	176	3/27/2006
WL030.00	A	30	27	4.1	0.46	56	16	32	173	5/8/2006
WL031.00	A	30	26	3.7	0.42	40	13.1	32	176	3/27/2006
WL033.00	A	30	26	3.1	0.38	42	9.7	32	176	3/27/2006
WL034.50	P-boundary	30	26	3.6	0.5	240	16.1	32	176	3/27/2006
WL036.50	A	30	27	3.1	0.32	18	8.4	32	173	5/8/2006
WL036.70	A	30	27	3	0.45	98	12	32	173	5/8/2006
WL036.80	New-boundary	8	8	3.4	0.52	54	17	31	163	9/16/2009
WL036.90	R	30	26	4.9	0.58	130	27.8	32	176	3/27/2006
WL037.00	R	30	27	4.2	0.67	1700	31.2	32	173	5/8/2006
WL037.50	R-boundary	30	27	3.3	0.42	39	11.7	32	173	5/8/2006
WL038.00	A	30	27	2.5	0.36	72	7.4	32	173	5/8/2006
WL040.00	A	30	27	2.5	0.25	11	5.4	32	173	5/8/2006
WL042.00	A	30	27	2.9	0.46	420	11.3	32	173	5/8/2006
WL043.10	New-A	1	1	1.9		1.9		31	163	10/5/2010



Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL044.00	A	30	27	2.4	0.26	29	5.3	32	173	5/8/2006
WL044.50	P	30	27	4.9	0.66	1700	35.9	32	173	5/8/2006
WL045.00	A	30	27	4.6	0.69	1140	36.3	32	173	5/8/2006
WL046.00	A	30	30	3.3	0.63	1700	22.2	31	163	6/17/2008
WL046.50	A	25	25	2.5	0.33	52	7	31	163	2/24/2009
WL047.00	A	30	27	4.2	0.54	200	20.8	32	173	5/8/2006
WL048.00	A	30	27	3.2	0.43	128	11.4	32	173	5/8/2006
WL048.50	A	30	27	2.8	0.33	26	7.4	32	173	5/8/2006
WL049.00	A	30	27	2.3	0.22	18	4.5	32	173	5/8/2006
WL050.00	New-P	1	1	2		2		31	163	10/5/2010
WL051.00	R	30	27	4.2	0.6	880	25.7	32	173	5/8/2006
WL052.00	R	30	27	4.3	0.68	1220	32.2	32	173	5/8/2006
WL053.00	A	30	27	3.3	0.42	54	11.6	32	173	5/8/2006
WL054.00	A	30	27	2.6	0.28	15	6	32	173	5/8/2006
WL057.00	A	30	27	3.4	0.57	160	18.5	32	173	5/8/2006
WL060.00	A	30	27	2.6	0.43	260	9.5	32	173	5/8/2006
WL063.00	A	30	27	3.4	0.53	620	16.6	32	173	5/8/2006
WL066.00	A	30	24	3.9	0.52	240	18.3	33	184	8/5/2004
WL068.00	P	30	26	4.4	0.57	128	24.2	32	176	3/27/2006
WL070.00	A	30	26	2.7	0.29	29	6.6	32	176	3/27/2006
WL071.00	A	30	26	3.2	0.44	118	11.8	32	176	3/27/2006
WL073.00	R	30	26	4.8	0.74	1700	43.4	32	176	3/27/2006
WL075.00	A	30	26	2.5	0.24	14	5.1	32	176	3/27/2006
WL076.00	A	30	26	3.2	0.39	36	10.3	32	176	3/27/2006
WL077.00	A	30	26	3.7	0.54	240	18.7	32	176	12/6/2005
WL079.00	A	30	26	2.3	0.25	43	5	32	176	3/27/2006
WL081.00	P	30	26	3.7	0.53	150	18.3	32	176	3/27/2006
WL085.00	P	30	26	5.5	0.57	100	30	32	176	3/27/2006
WL087.00	R	30	26	4.4	0.62	150	28.5	32	176	3/27/2006
WL087.20	R	18	18	2.7	0.35	38	7.7	31	163	2/27/2008
WL089.00	P	30	26	3.2	0.4	48	10.7	32	176	3/27/2006
WL095.50	P	30	26	2.4	0.2	9.1	4.5	32	176	3/27/2006
WL097.00	A	30	26	2.1	0.13	9.1	3.1	32	176	8/30/2004
WL098.00	P	30	27	4.3	0.53	100	20.9	32	173	3/27/2006
WL099.00	A	30	26	2.4	0.25	34	5.3	32	176	3/27/2006
WL101.00	A	30	26	2.7	0.25	11	5.7	32	176	3/27/2006
WL101.80	P	30	30	2.6	0.33	56	7	31	163	4/23/2008
WL102.00	P	30	30	2.2	0.22	24	4.4	31	163	4/23/2008
WL103.00	A	30	26	2.8	0.36	126	8.4	32	176	3/27/2006



Geomean and P90 scores for conditionally approved stations in WL are presented in Tables 7 and 8; data reflects open status only. All conditional station in area WL met the NSSP approved standards in 2010.

Table 7. New Meadows River Marina Conditional Area, Open Status

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL035.00	CA	30	25	2.3	0.18	13	4.1	33	180	12/6/2005
WL036.00	CA	30	25	2.7	0.36	128	8	33	180	12/6/2005
WL036.10	CA	30	24	2.9	0.44	82	10.9	33	184	3/21/2005

Table 8. Tottman Cove Seasonal Conditional Area, Open Status

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL096.00	CA	30	30	3.2	0.45	54	12.5	31	163	4/9/2007

All approved and restricted stations that were active at the beginning of 2010 were sampled at least 6 times following the SRS schedule (Table 9). All prohibited stations were sampled 6 times following SRS schedule. Marina conditional stations were sampled six times in the open status as were seasonal conditional areas. Stations WL043.1 and WL050 were new stations and therefore did not meet the 6 sample minimum.

Table 9. WL 2010 Sampling Effort

Station	Class	Adverse		Extra		Random		Total	Comments
		Closed	Open	Closed	Open	Closed	Open		
WL005.00	P					6		6	
WL006.00	A						6	6	
WL007.00	A						6	6	
WL010.00	P					6		6	
WL011.00	R		3		9		6	18	
WL012.00	A						6	6	
WL014.00	A						6	6	
WL015.00	A	15					6	21	
WL018.00	P	3		9		6		18	
WL019.00	A						6	6	
WL020.00	A						6	6	
WL020.50	A						6	6	
WL021.00	A						6	6	
WL022.00	A	16	1				6	23	
WL022.50	A		2				6	8	
WL023.00	A				1		6	7	
WL025.00	R						6	6	
WL026.00	R						6	6	
WL027.00	R						6	6	
WL028.00	A						6	6	
WL030.00	A				1		6	7	
WL031.00	A						6	6	



Station	Class	Adverse		Extra		Random		Total	Comments
		Closed	Open	Closed	Open	Closed	Open		
WL033.00	A						6	6	
WL034.50	P					6		6	
WL035.00	CA					4	6	10	
WL036.00	CA					4	6	10	
WL036.10	CA					4	6	10	
WL036.50	A				1		6	7	
WL036.70	A	16			1		6	23	
WL036.80	A	3					6	9	
WL036.90	P					5		5	
	R						1	1	
WL037.00	R				1		6	7	
WL037.50	R				1		6	7	
WL038.00	A				1		6	7	
WL040.00	A				1		6	7	
WL042.00	A				1		6	7	
WL043.10	A						2	2	
WL044.00	A				1		6	7	
WL044.50	A				1		4	5	
	P					2		2	
WL045.00	A				1		6	7	
WL046.00	A				6		1	7	
	P			8		5		13	
WL046.50	A			1	12		6	19	
WL047.00	A				1		6	7	
WL048.00	A				1		6	7	
WL048.50	A				1		6	7	
WL049.00	A				1		6	7	
WL050.00	P					2		2	
WL051.00	R	12			1		6	19	
WL052.00	R				1		6	7	
WL053.00	A				1		6	7	
WL054.00	A				1		6	7	
WL057.00	A				1		6	7	
WL060.00	A				1		6	7	
WL063.00	A				1		6	7	
WL066.00	A	15			1		6	22	
WL068.00	P			1		6		7	
WL070.00	A						6	6	
WL071.00	A						6	6	
WL073.00	R						6	6	
WL075.00	A						6	6	
WL076.00	A						6	6	
WL077.00	A	18					6	24	



Station	Class	Adverse		Extra		Random		Total	Comments
		Closed	Open	Closed	Open	Closed	Open		
WL079.00	A						6	6	
WL081.00	P					6		6	
WL085.00	P					6		6	
WL087.00	R						6	6	
WL087.20	R						6	6	
WL089.00	P					6		6	
WL095.50	P					6		6	
WL096.00	CA			2	6	1	6	15	
WL097.00	A						6	6	
WL098.00	P					6		6	
WL099.00	A						6	6	
WL101.00	A						6	6	
WL101.80	A			1	6		6	13	
	P			1		1		2	
WL102.00	CA			1	5	2	4	12	
	P			1		1		2	
WL103.00	A						6	6	

Water Quality Discussion and Classification Determination

Browns Cove (West Bath)

On December 31, 2008, Brown's Cove was reclassified from approved to prohibited due to a malfunctioning septic system. The problem was remediated and sampling showed an improvement in water quality scores. On August 30, 2010, Brown's Cove was again reclassified from prohibited to approved, due to a remediation of a known pollution source and water quality returning to the approved standard.

Table 10. Browns Cove Stations

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL046.00	A	30	30	3	0.6	1700	18	31	163	8/6/2008
WL046.50	A	26	26	2.5	0.33	52	6.8	31	163	2/24/2009

Long Cove (West Bath)

Station WL 44.5 to remain prohibited, due to a holding tank (seasonal use) within 15 feet of shore with history of malfunctioning, as well as a to provide a dilution area for a stream that drains at the head of the cove. Station WL 45 to be downgraded from approved to conditionally approved based on season, with an open status from October 1 to May 31.

Table 11. Long Cove Stations, Seasonal Open Status, Oct 1 to May 31

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL044.50	P	30	16	4.2	0.43	43	15.4	38	216	12/17/2002
WL045.00	A	30	15	3.4	0.35	43	9.8	38	221	10/15/2001



Table 12. Long Cove Stations, Seasonal Scores

Date	Tide	Sum 3 Day Rain	Sum 4 Day Rain	Strat	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
22-Apr-02	E	0.02	0.02	R				<3								
01-Jul-02	F	0.63	0.73	R							9.1					
30-Jul-02	HF	0.5	0.5	R							43					
12-Aug-02	HF	0	0	R								3.6				
25-Sep-02	HF	1.48	1.48	R									9.1			
19-Nov-02	H	1.85	1.87	R											<3	
09-Apr-03	F	0.01	0.01	R				<3								
05-Jun-03	F	0.64	0.64	R						<3						
19-Aug-03	F	0	0.04	R								<3				
01-Oct-03	F	0.11	1.51	R										9.1		
04-Nov-03	E	1.64	1.64	R											7.3	
02-Dec-03	E	0	0.26	R												<3
24-Feb-04	HE	0.27	0.54	R		<3										
01-Apr-04	E	0.3	0.3	R				<3								
02-Jun-04	HF	0.44	0.44	R						<3						
05-Aug-04	F	0	0.26	R								<3				
28-Sep-04	E	0.1	0.1	R									9.1			
22-Nov-04	E	0.05	0.05	R											<3	
07-Feb-05	E	0	0.13	R		<3										
21-Mar-05	E	0	0	R			<3									
13-Jul-05	LE	0	0.04	R							3.6					
29-Aug-05	E	1.06	1.06	R								93.0				
22-Sep-05	F	0.59	0.59	R									<3			
16-Nov-05	E	0.52	0.52	R											<3	
27-Mar-06	HE	0	0	R			<3									
08-May-06	E	0	0	R					<3							
17-Jul-06	E	0	0	R							23					
14-Aug-06	F	0	0	R								<3				



WL Sanitary Survey 2010
Effective Date 9/30/2011

Date	Tide	Sum 3 Day Rain	Sum 4 Day Rain	Strat	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
25-Sep-06	F	0.42	0.42	R									22			
07-Nov-06	H	0	0	R											2	
28-Mar-07	HE	0.09	0.11	R			<2									
02-May-07	HF	0.34	1.36	R					<2							
04-Jun-07	H	2.44	2.45	R						70						
25-Jun-07	HE	0	0.06	R						<2						
20-Aug-07	E	0	0	R								<2				
23-Oct-07	HE	0	0.34	R										2		
05-Mar-08	HE	0.75	0.75	R			<2									
22-Apr-08	HF	0	0	R				<2								
17-Jun-08	H	0.16	0.16	R						2						
06-Aug-08	F	0.3	0.42	R								1140				
15-Oct-08	H	0.03	0.03	R										2		
29-Oct-08	HF	0.29	1.22	R										16		
23-Mar-09	HE	0	0	R			<2									
20-Apr-09	HE	0	0	R				<2								
08-Jun-09	HF	0	0	R						<2						
10-Aug-09	H	0	0	R								<2				
16-Sep-09	HF	0	0	R									<2			
27-Oct-09	E	0.03	0.7	R										10		
08-Feb-10	E	0	0	R		<2										
23-Mar-10	F	2.48	2.48	R			25									
12-May-10	HF	0	0	R					<2							
30-Jun-10	H	1.1	1.21	R						<2						
14-Jul-10	HE	0.85	1.87	E							140					
17-Aug-10	HE	0.2	0.2	R								<2				
05-Oct-10	H	0	0.01	R										<2		
Monthly Geometric Mean						2.52	3.4	2.45	2.19	3.6	21.45	7.36611	6.314	4.72	3.2382	2.9



Aquaculture/Wet Storage Activity

There is one wet storage permits in growing area WL, located of Wallace Shore Rd. There are currently two shellfish lease sites in this growing area. One is located in the upper New Meadows River, north of the train tracks in the approved area. The second lease site is located in Mill Cove, West Bath, off the peninsula that is monitored by stations WL 45.0 and WL 46.0.

Please visit the Aquaculture website for more information:

<http://www.maine.gov/dmr/aquaculture/leaseinventory2006/newmeadowsriver.htm>

Recommendation for Future Work

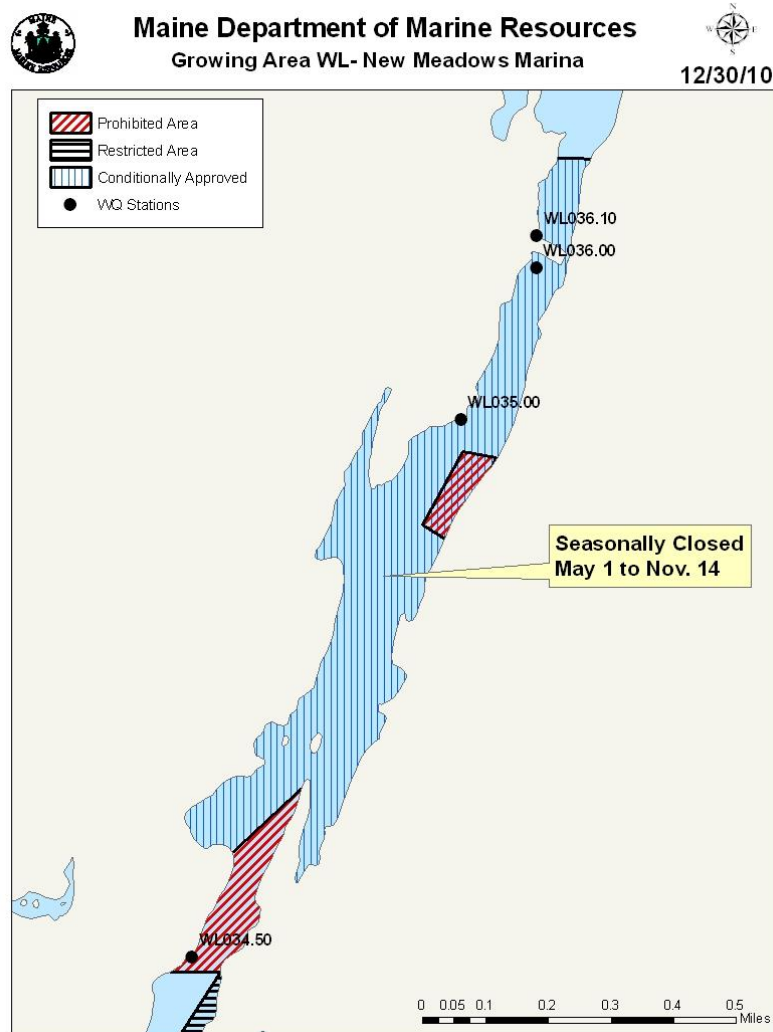
Continue stream evaluations and follow up on mitigation work that was completed.



Appendix A. 2010 Annual Review of Management Plan-New Meadows River Marina Conditional Area, Area 19A

Scope

The seasonal portion of the Upper New Meadows River is located between Rosedale Point and the railroad trestle north of the Bath Road, in the New Meadows River, between Brunswick and West Bath. This seasonal conditional area is based on the presence of a marina, and is closed to shellfish harvest from May 1 through November 15, due to the presence of boats at the New Meadows Marina. Monitoring stations WL 35, 36 and 31.1 are located within this conditional area, and monitor water quality both in the open and closed status. Typically, water quality data meets approved standards year-round, however the area is classified as conditionally approved because of the potential pollution from boats in the river at the marina during the times of operation late spring through mid-fall.





Compliance with management plan

Per management plan, in 2010, this conditional area closed to shellfish harvest on May 1st and reopened on November 16th. Prior to re-opening, a data check was completed to verify that the area was meeting NSSP approved water quality standards in the open status. DMR is also required to complete a visual check prior to the area seasonal closure and seasonal re-opening, to confirm the presence/absence of 10 or more boats with heads, which are capable of discharging waste to the conditional area. In 2010, a seasonal closure check was conducted on April 26th; no boats with heads were present. The fall re-opening marina check was completed on November 2nd; less than 10 boats with heads were present and the marina was closing for the season and the docks and slips were being removed from the water.

Adequacy of reporting and cooperation of involved persons

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

Compliance with approved growing area criteria

All stations in this conditional area met their NSSP standard during the open status.

Table 1. Geomean and P90 Scores, New Meadows Marina Conditional Area, Open Status 11/16 to 4/30

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL035.00	CA	30	25	2.3	0.18	13	4.1	33	180	12/6/2005
WL036.00	CA	30	25	2.7	0.36	128	8	33	180	12/6/2005
WL036.10	CA	30	24	2.9	0.44	82	10.9	33	184	3/21/2005

Water sampling compliance history

In 2010, stations WL 35, 36 and 36.1 were sampled six times in the open status.

Analysis-Recommendations

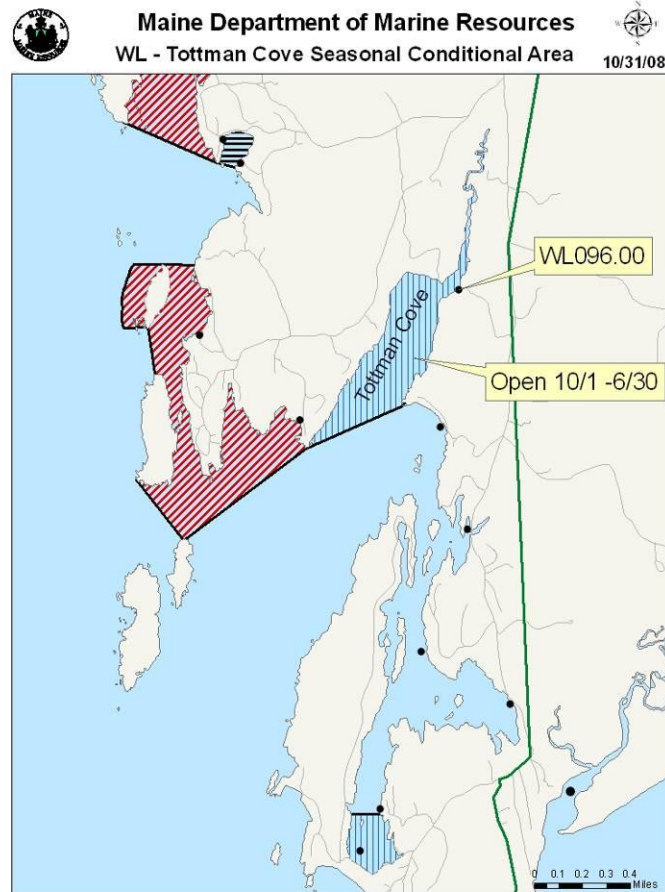
No recommendations for changes to the current management plan or conditional area classification status are required at this time.



Appendix B. 2010 Annual Review of Management Plan-Tottman Cove Seasonal Conditional Area, Area No. 19C

Scope

Tottman Cove is located in Phippsburg, in the New Meadows River Growing Area. The area was classified as conditionally approved based on season on May 30, 2008; previously to the reclassification, the area was classified as restricted. Water quality in the area is monitored by station WL 096.00. Tottman Cove is closed from July 1 through September 30 because of occasional seasonal non-point pollution, possibly due to an increase in shore usage in the summer months.



Compliance with management plan

In 2010, the area reopened on October 1st, after a review of water quality data confirmed that the area met the approved standards during the open status.



Adequacy of reporting and cooperation of involved persons

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

Compliance with approved growing area criteria

All stations in this conditional area met their NSSP standard during the open status.

Table 1. Geomean and P90 Scores, Tottman Cove Conditional Area, Open Status 10/1 to 6/30

Station	Class	Count	MFCCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std	Min_Date
WL096.00	CA	30	30	3.2	0.45	54	12.5	31	163	4/9/2007

Water sampling compliance history

In 2010, this area was sampled a total of twelve times in the open status.

Analysis-Recommendations

No recommendations for changes to the current management plan or conditional area classification status are required at this time.



Appendix C. 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.