GROWING AREA EG
Newbury Neck, Surry to Wonderland, Southwest Harbor

Triennial Report for 2008-2010

Report Date: 09/28/2011

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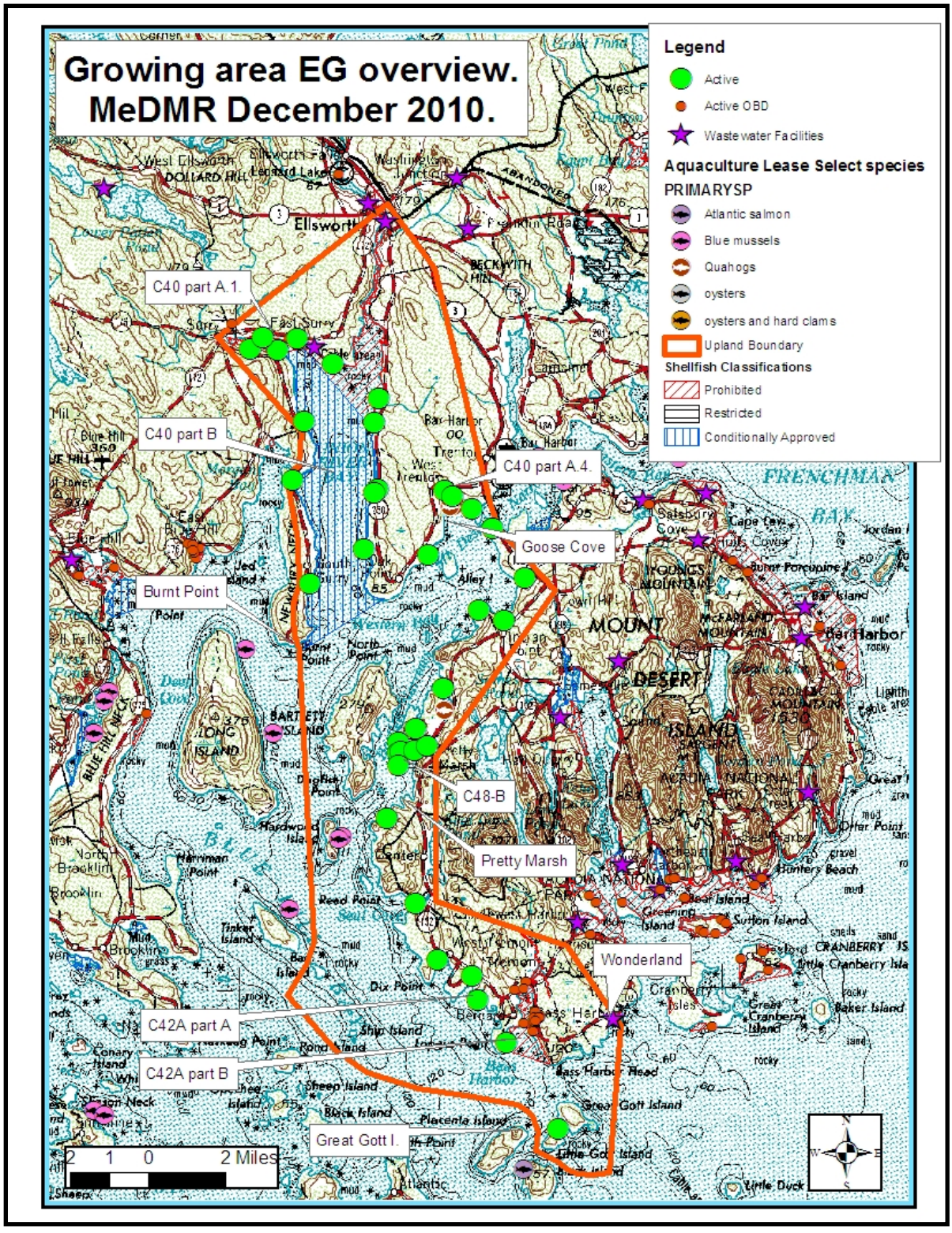

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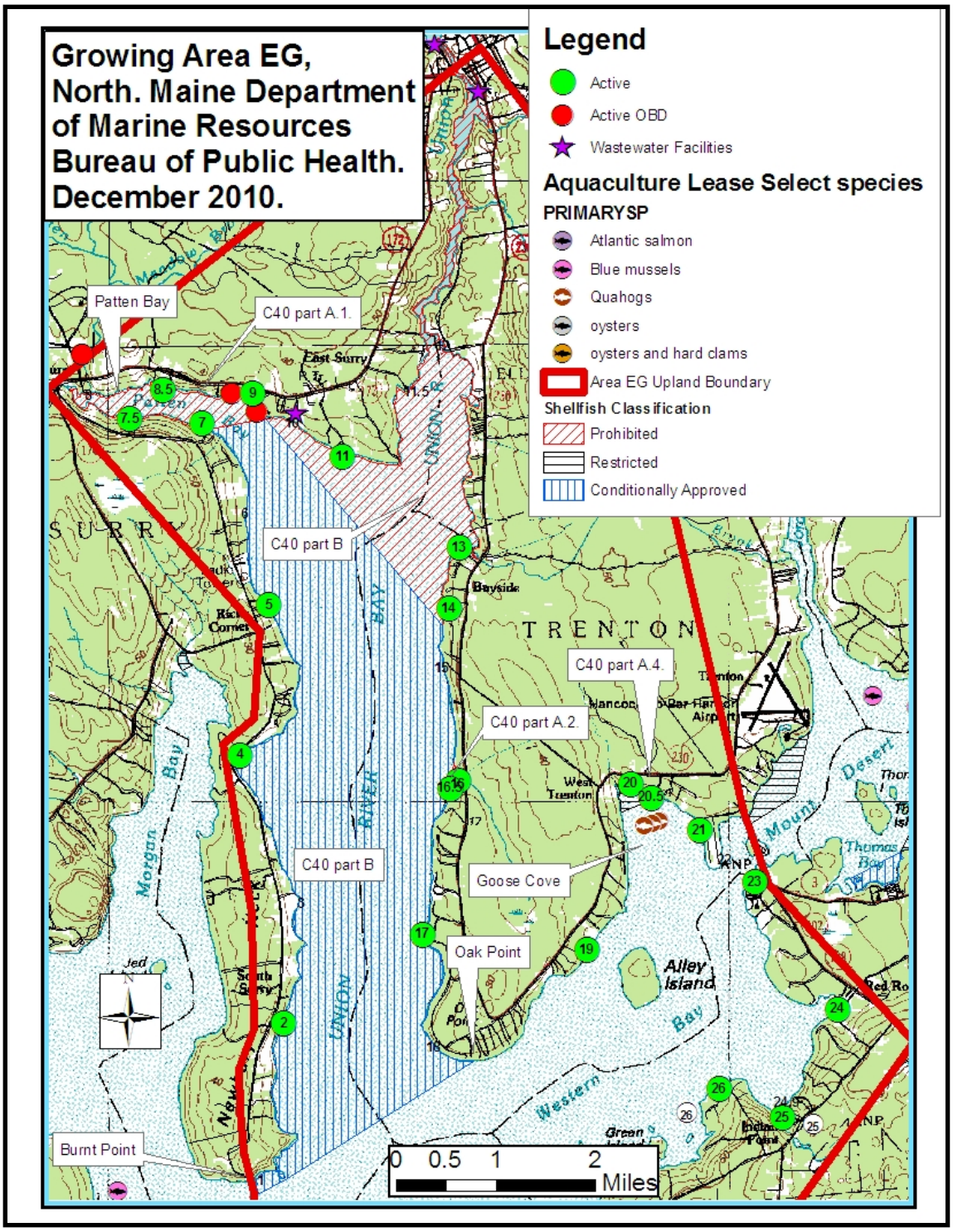

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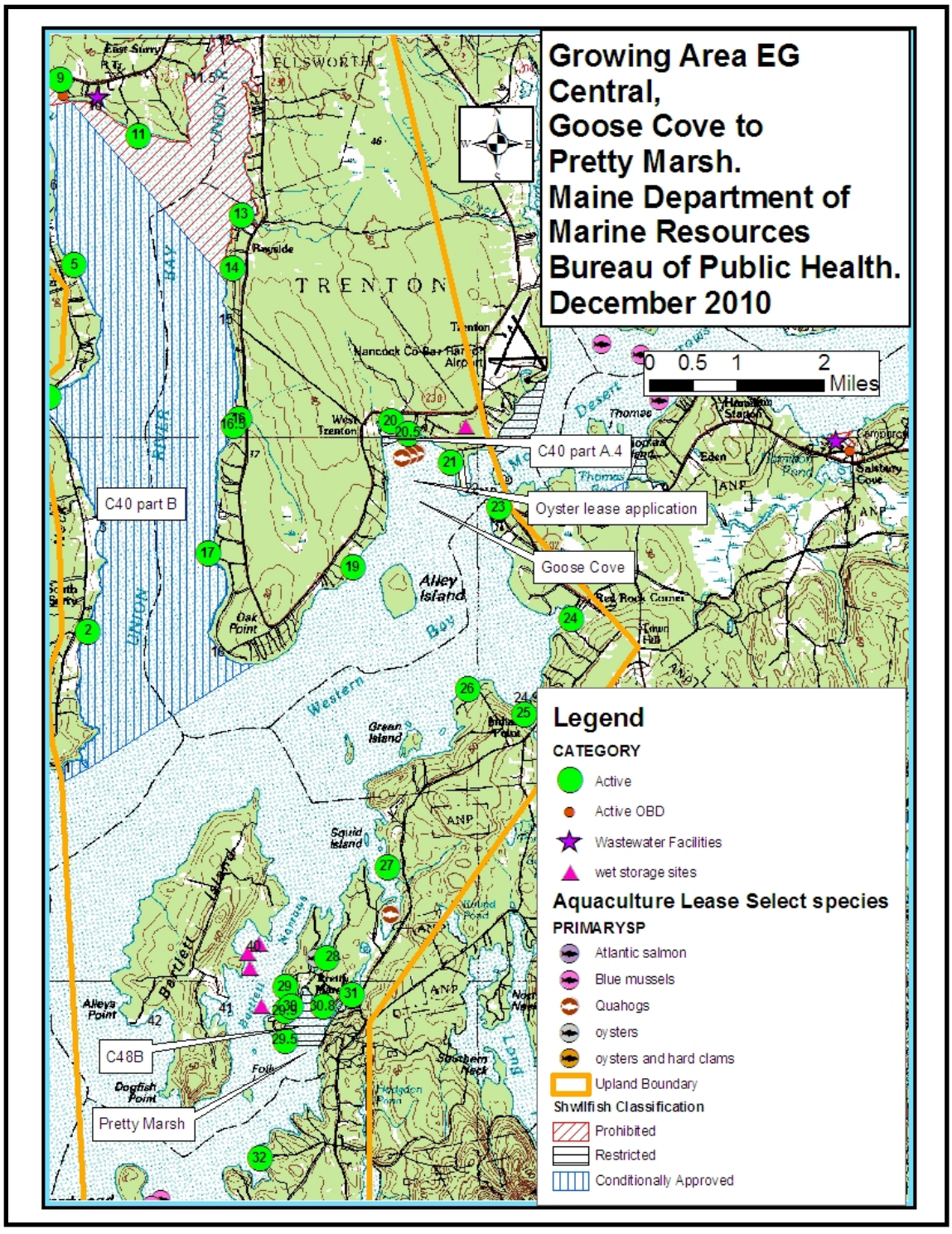

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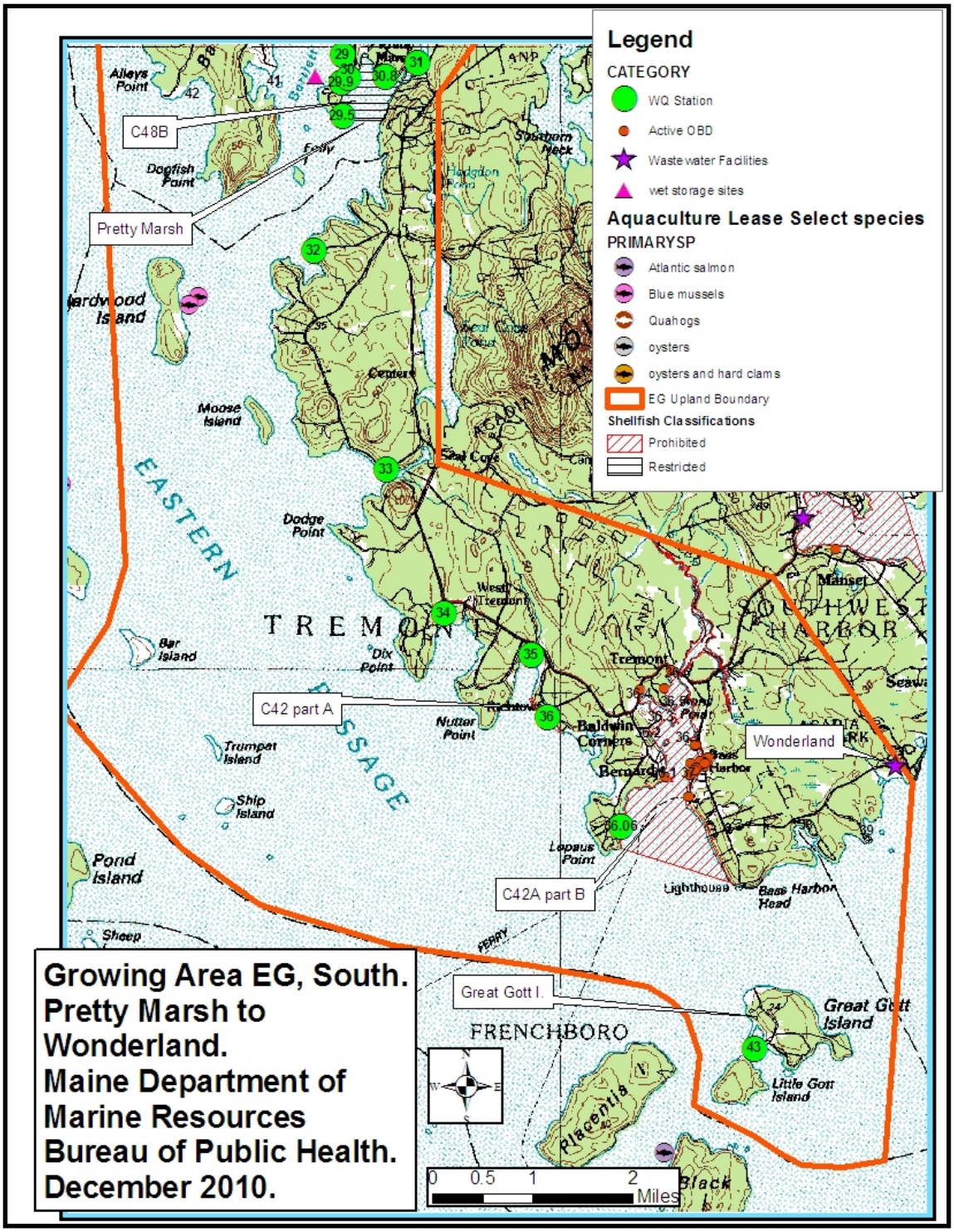


Executive Summary

This is a triennial report for growing area EG written in compliance with the requirements of the 2009 Model Ordinance and the National Shellfish Sanitation Program (NSSP). The next triennial report is due in 2013; the next sanitary survey report is due in 2019. Growing area EG is comprised of Union River Bay and the west side of Mount Desert Island and smaller nearby islands in Hancock County.

The Growing area includes Approved, Conditionally Approved, Restricted, and Prohibited sections. Area EG has two important/unique considerations for shellfish water quality management: 1. it is the terminus of the Union River and 2.it has the Ellsworth Waste Water Treatment Plant (WWTP) near head-of-tide on the Union River.

During the 2010 review year two new sample stations were added in Patten Bay half way between existing stations and the head of the bay. These stations, EG7.5 and EG8.5 are located in an area currently classified as prohibited due to water quality at EG8 not meeting approved standards.

There is a proposal for a shellfish growing facility in Goose Cove. The nearest water quality stations to the proposed facility are EG20, EG20.5 and EG21. There are seven aquaculture and five wet storage facilities in area WX. Construction of a new waste water treatment plant is scheduled to begin in Ellsworth during 2011.

Growing Area Description

Growing area EG (Figures 1-4) includes numerous small harbors and small streams in the towns of Surry (pop. 1,361), Ellsworth (pop. 6,456), Trenton (pop. 1,370), Bar Harbor (pop. 4,820), Mount Desert (pop. 2,109), Tremont (pop. 1,529) and Southwest Harbor (pop. 1,966), all in Hancock County, Maine (Census 2000). There are about 74,200 acres of marine habitat with approximately 3,380 acres of intertidal zone along 108 miles of coastline (including larger islands) in growing area EG.

The growing area begins at the southern tip of Newbury Neck in the town of Surry, includes Patten Bay and Union River Bays (Figure 2) and continues around the west side of Mount Desert Island (MDI: Figure 3) to Wonderland in Southwest Harbor (Figure 4). The area includes Alley, Bartlett, Folly, Green and Squid Islands west of MDI (Figure 3) and Bar, Great Gott, Hardwood, Little Gott, Moose, Ship and Trumpet Islands south and west of MDI (Figure 4). The shoreline in this area is varied with extensive mud flats, sand beaches, cobble shores and ledge coast. Water quality in EG is monitored by 36 stations (Figures 1-4 and Table 5). Area EG has Approved, Conditionally Approved, Restricted and Prohibited waters. A complete growing area boundary description can be found in the DMR central files.

There are prohibited areas in Patten Bay and the Union River (Pollution Area No 40, Part A.1) Heath Brook (Pollution Area No 40, Part A.2; Figure 2), Duck Cove (Closed Area No. 42, Part 1a) and Bass Harbor (Closed Area No. 42, Part 1b; Figure 4). There are restricted areas in Goose Cove Trenton (Pollution Area No 40, Part A.4.; Figure 2) and Pretty Marsh Harbor (Area

No. 48-B; Figure 3). There is a conditional area in Union River Bay (Pollution Area No 40, Part B; Figure 2).

Known pollution sources for this area consist of one municipal wastewater treatment plant (WWTP) in Ellsworth, 29 licensed OBD's (MeDEP2010a), three seasonal campgrounds (Tables 2 & 3), small "hobby" size farms and several locations with horses. This growing area is influenced by one major river, the Union River which drains 537 square miles. Four significantly sized minor streams, Patten Stream (22 mi^2), Flood Stream (10 mi^2), Loids Brook (1.5 mi^2), and Heath Brook (1.8 mi^2) drain into Patten & Union River Bays. Five significantly sized minor streams, McFarland Brook (1.5 mi^2), Prays Brook (1.2 mi^2), Seal Cove Brook (5.7 mi^2) and Marshall Brook (7.9 mi^2) drain to Western Bay and the vicinity of Mount Desert Island in growing area EG. There are two listed marine pump out stations in area EG (Maine DEP 2010b).

There are seven aquaculture lease sites in this growing area. Two are suspended culture for blue mussels located near Hardwood Island and Tinker Island, one is a limited purpose site for the over-wintering of American and European oysters located in the Mill Pond in the town of Mt Desert, one is a bottom culture site for hard shell clams in Goose Marsh Pond in Mt Desert and the other three are adjacent bottom culture sites for hard shell clams located in Goose Cove, Trenton (Maine DMR 2010). There is also a pending application for two 25 acre lease sites to grow oysters in Goose Cove. There are five wet storage sites: four in Bartlett narrows and one in Western Bay near the Trenton Bridge.

Current Classifications

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

Approved- 16 sample stations: EG19, EG20.5*, EG21, EG23, EG24, EG25, EG26, EG27, EG28, EG29, EG29.5*, EG32, EG33, EG34, EG35, and EG43.

Conditionally Approved- 7 sample stations: Pollution Area 40B; stations EG2*, EG4, EG5, EG7*, EG14*, EG16.5, EG17* due to performance of Ellsworth WWTP.

Restricted- 5 sample stations: Pollution area 40A (4); station EG20 due to non-point sources. Pollution area 48B stations EG29.9, EG30, EG30.8, EG31 due to non-point sources.

Conditionally Restricted- No shores or waters of the growing area are classified conditionally restricted.

Prohibited- 6 sample stations:
Area 40A(1), station EG 9*, due to 2 OBDs.
Area 40A(1), Stations EG11 & EG13 due to the Ellsworth WWTP.
Area 40A(2), station EG16 due to water quality not meeting approved standard.
Area 42A & 42B; station EG36, EG36.06 due to OBDs.

New Stations (less than 30 samples and not evaluated against a NSSP standard)
Stations (EG7.5, EG8.5).

Asterisk * denotes boundary station.

Please visit the DMR website to view legal notices:

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

Activity during Review Period

- **Classification Changes**: none
- **OBD's Removed:** One, #2899 removal date 5/13/2010.
- **OBD's Re-licensed:** Twenty-six (Table 2).
- **Aquaculture/Wet Storage:**
  -Two wet storage permits were reviewed in 2010, four wet storage permits in 2009, and one wet storage permit in 2008.

  -One Experimental lease was reviewed in 2010, Three experimental and one limited aquaculture lease were reviewed in 2008.
- **MEPDES permits:** 3 permits were issued during review period.
- **Enforcement Actions:** No MEDEP enforcement action during review period.
- **WWTP Bypasses:** Several bypass events are listed in WWTP section.

Conditionally Managed Area(s)

Growing area EG has one conditionally managed area (Pollution Area 40B) which is managed based on discharges at the Ellsworth Waste Water Treatment Plant. During 2010, there were 15 internal and 10 external bypass events resulting in 6 closures of the conditional area for 117 days. During the three year review period, there were a total of 14 closures resulting in 398 days closed. Bypass events which occurred during closures extended the closure but are not counted as additional closures.

Area 40B stations EG2, EG4, EG5, EG7, EG16.5, EG17 due to performance of Ellsworth WWTP.

Documentation of Pollution Sources

The following sections include information on pollution sources which do or may impact water quality in growing area EG. 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. No new pollution sources were identified over the last three review years and since the last triennial report. Existing pollution sources were those that were identified in the previous triennial report.

Table 1. Pollution Area 40, days closed during 2008-20010.

EWWTP Bypass Events 2008-2010					
Year	Internal Bypass Events	External Bypass Events	Bypass Closures of Conditional Area	Days Closed due to Bypass	Concurrent Days Closed due to Rainfall Closure
2008	19	15	5	147	17
2009	16	10	3	134	12
2010	15	10	6	117	8
Triennium Total	50	35	14	398	37

Evaluation of New Pollution Sources

The new pollution sources are limited to the new home construction on previously undeveloped land. The construction is set back from the shoreline and is only considered t be a potential pollution source not and actual pollution source

Re-Evaluation of Existing Pollution Sources

The following sections are a review of existing pollution sources in growing area EG. Pollution problems associated with domestic waste, including OBDs, which were identified in the last triennial review, are evaluated in this section. Other pollution sources, including marinas and mooring fields, municipal wastewater treatment facilities, pollution associated with farms and agricultural activities, and farms which were present at the time of the last triennial review, are also reviewed.

Domestic Waste

There are 29 over board discharges (OBDs) that discharge their treated effluent into the waters of Growing Area EG. One OBD was removed over the past three review years (Table 2).

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. At each inspection, DEP looks for tags on each treatment unit identifying the service contractor and the last date of service. 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 EG (Table 2). The size of each closure is determined based on a dilution, using on the permitted flow rate of the OBD (in gallons per day, GPD), and the depth of the receiving water that each OBD discharges to; the fecal concentration used for this dilution calculation is $1.4X10^5$ FC /100 ml. All current closures are of adequate size to protect public health.

Table 2. Area EG OBDs.

Waters and Municipality	OBD ATLASID	Dilution Zone (acres)	Permitted Flow gal/day	Permit Issue date	Permit Expiration date	Date Removed
Union River						
Ellsworth Falls*	6530	1	60	12/9/2009	12/9/2014	
Patten Stream						
Surry*	6006	100	1950	4/16/2009	4/16/2014	
Pattten & Union River Bays						
Surry	3554	9	420	3/26/2009	3/26/2014	
Surry	2899	7	300	3/26/2009	3/26/2014	5/13/2010

Waters and Municipality	OBD ATLASID	Dilution Zone (acres)	Permitted Flow gal/day	Permit Issue date	Permit Expiration date	Date Removed
Surry	2277	7	300	4/2/2009	4/2/2014	
Blue Hill Bay & Bass Harbor						
Tremont	3717	7	300	7/12/2010	7/12/2015	
Tremont	2368	7	300	4/2/2009	4/2/2014	
Tremont	4130	19	315	9/19/2007	9/19/2012	
Tremont	2858	18	300	1/21/2010	1/21/2015	
Tremont	1034	49	800	6/6/2008	6/6/2013	
Tremont	7221	18	300	3/27/2007	3/27/2012	
Tremont	7222	18	300	11/15/2010	11/15/2015	
Tremont	7313	18	300	8/27/2009	8/27/2014	
Tremont	6427	18	300	6/11/2007	6/11/2012	
Tremont	6800	18	300	10/16/2009	10/16/2014	
Tremont	3996	44	720	9/22/2008	9/22/2013	
Tremont	6305	18	300	12/29/2009	12/29/2014	
Tremont	5479	18	300	9/21/2010	9/21/2015	
Tremont	6799	18	300	2/20/2008	2/20/2013	
Tremont	7239	18	300	8/10/2010	8/10/2015	
Tremont	6582	55	900	12/4/2009	12/4/2014	
Tremont	7697	18	300	12/2/2008	12/2/2013	
Tremont	5109	18	300	11/3/2009	11/3/2014	
Tremont	2739	23	375	5/11/2010	5/11/2015	
Tremont	7238	6	300	10/27/2009	10/27/2014	
Tremont	2419	6	300	4/4/2009	4/1/2014	
Tremont	6674	6	300	2/8/2008	2/8/2013	
Tremont	7403	11	540	11/23/2010	11/23/2015	
Tremont	6108	37	1800	12/29/2008	12/29/2013	
Tremont	2982	11	900	5/11/1995	5/11/2005	

Municipal WWTP

The Ellsworth WWTP is the only municipal WWTP in area EG. It is a secondary treatment facility with rotating biological contacts (RBCs). The average annual flows were 551,000 gallons per day in 2008, 418,000 gallons per day in 2009, 367,000 gallons per day in 2010 for a

triennium average of 448,000 gallons per day. It holds NPDES permit No. ME0102593 and has a design flow of 850,000 gallons per day and discharges into the Union River. The permit issue date is 11/1/2009 and the expiration date is 10/31/2014. An internal bypass exists when incurrent water bypasses the RBCs and goes directly to the chlorine contact chamber. An external bypass exists when hydraulic conditions cause sewage to flow out a manhole on Water Street or at an overflow pipe in a sewer system chamber located at the WWTP. In both cases raw sewage flows into the Union River. External bypass events at this plant trigger closing of Pollution Area CA40B. There have been 85 internal and external bypass events during this triennium. Most external bypass events are concurrent with internal bypass events. The reasons for bypasses were as follows: 68 Rain, 12 Snow Melt/Rain, 4 Mechanical, 3 Unknown (not indicated in weekly report), 1 other (ruptured water main). Thirty-seven days of the closures were concurrent with flood closures of the area.

Industrial Pollution

There are NPDES permits for four “industrial” pollution sources in area EG (Table 3). The discharge at the fish hatchery is 6 miles upriver of head-of-tide on the Union River in a Prohibited area (C40 Area A). The surface spray irrigation system location is on land 5 miles upriver of head-of-tide on Patten Stream in (C40 Area A). Both of these discharges are unlikely to be a concern due to the distance from the growing area and final confluence in Prohibited areas. The permit ME0036641 is a hydro-electric facility and unlikely to adversely affect water quality. The Ellsworth WWTP is addressed in the Municipal WWTP section of this report.

Table 3. Industrial Pollution Sources.

Industrial NPDES permits in area EG.						
Water Body and Industry	**NPDES Permit No.**	**Me Liscence**	**Average Design permitted**	**Permit Issue date**	**Permit Expiration date**	**Comment**
Union River.						
PPL Maine, LLC	ME0036641	8065	200,000	5/1/2009	4/30/2014	Electric Services
CBNFH	ME0002623	721	19,400,000	10/1/2009	9/30/2014	Fish Hatchery effulent
Ellsworth WWTP	ME0102593	3801	1,900	9/23/2009	9/22/2014	Secondary Treated Sanitary Wastewater
Patten Drainage.						
Stanley Patten Pond LLC	MEU503294	3294	no data	1/1/2007	12/31/2011	Surface Spray Irrigation Secondary Treated Sanitary Wastewater
Pattten, Union River & Western Bays and Eastern Passage						
Ralph Jacobsen DBA Gatherings	MEU507234	7234	no entry	no entry	no entry	System removed 2003.
Acadia National Park	ME0090034	982	100,000	no entry	no entry	System removed 2004.

Marinas

There is one marina in area EG embedded in the Ellsworth prohibited area (C40 Area A) about 2000 feet from the WWTP discharge and 4.7 miles upriver of the seaward boundary of the 1,649 acre closed area. No marina evaluation is necessary because of the isolation of the marina deep in the prohibited area. Sample stations EG11 and EG14 are the boundary stations for that prohibited area. Bass Harbor (prohibited area C42 part B) is a major anchorage with no marina. The anchorage is 0.6 miles from the closure line with two marine pump-out stations (Morris Yachts and Red Fern Boat/Up Harbor Marina). Approximately 130 boats can be observed in a summer aerial photograph of the marina. Most are day use fishing or recreational boats. Based on ten percent occupation of vessels with two persons on each vessel the anchorage dilution is estimated to be 20 acres. Sample station EG36.06 is the boundary station for that prohibited area. The 690 acre area is closed because of the 24 licensed OBDs in the harbor and poor water quality at stations (now inactive) in the harbor.

There are minor anchorages at Seal Cove (Tremont, EG33), Bartlett Island and Bartlett Island Landing (MDI, EG29), and Carrying Place (Surry, EG04). The minor anchorages serve as mooring areas for day use lobster fishing boats and day use sail boats. These boats are generally unoccupied while anchored so a conditional area based on marina presence is not necessary. Sample stations are located at each of the minor anchorages.

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 EG fall under these regulations. Additionally, the Maine Stormwater Management Law provides stormwater standards for projects located in organized areas that include one acre of more of disturbed area (Maine DEP 2009).

Non-Point Pollution Sources

The drainage has the Union river, seven major streams, 59 minor streams, road and parking lot runoff. Stream scores and the nearest water quality station are shown in Table 4. Streams EG162.101, Flood Stream, Patten Stream, EG00202.501 and Mill Brook all discharge into the Patten bay Prohibited area. Mill Brook discharges into the Union River Prohibited area. Heath Brook discharges into the Heath Brook Cove Prohibited Area. McFarland Brook and its tributaries, EG711.002, EG711.021, EG711.031 and alternate discharge EG711.101 drains into the Goose Cove Restricted Area. Stream EG784.501 and upriver stations EG784.502 and EG782.504 along with Stream EG787.501 and upriver station 787.502 all discharge into Clark Cove. Prays Brook discharges into Northwest Cove and EG971.001 discharges into Seal Cove.

There is a beaver or muskrat dam at head tide in the stream at the head of Clark Cove. The average score at the head of tide is lower than the score at Rt. 102 about 1000 feet upriver suggesting a pollution source between the two sample locations. The presence of the dam suggests wildlife as the most likely cause of the elevated scores

Agricultural Activities

There are no commercial livestock activities in the growing area (MDAFRR 2005, MOFGA 2011) in proximity to seawater.

Domestic Animals and Wildlife Activity

There are numerous hobby (animal) farms throughout the growing area. Stations EG2,EG4, EG5, EG9, EG16, EG16.5, EG24, EG29.5, EG29.9, EG30, EG31, EG36 fall in small drainages with hobby (animal) farms. The Acadia National Park and undeveloped land around on Mount Desert Island provides ample wildland to support thriving wildlife populations. Like domestic animals the wildlife can be a source of fecal coliforms in the stream drainages flowing into all the coves in the area. Stations EG27, EG33, EG35, EG36.06.

Conservation/Recreation Areas

Area EG upland includes about 2,600 acres of Acadia National Park including one of the national park campgrounds. There are three active private campgrounds and one inactive campground in the area. The campgrounds are on ocean front or uplands draining into the growing area. Pets and people in the recreational areas have the potential to contribute feces in the area.

Table 4. Stream water quality. Green highlights are upstream sample locations.

Stream Location ID	Nearest Station	Stream, common name	Area Class	Sample Date	Flow (gpm)	Runnoff Condition	CFU / 100ml
EG00162.101	EG007.5	Stream @ McGraw Farm.	P	25-Aug-10	1	Low	92
EG00171.001	EG008.0	Floods Stream.	P	18-Aug-10	180	Low	31
	EG008.0	Floods Stream.	P	28-Sep-10	600	Medium	220
	EG008.0	Floods Stream.	P	05-Oct-10	900	Medium	12
	EG008.0	Patten Stream	P	25-Aug-10	1687	Low	42
EG00186.001	EG008.0	Patten Stream	P	28-Sep-10	900	Medium	56
	EG008.0	Patten Stream	P	05-Oct-10	3900	Medium	34
EG00202.501	EG008.5	Stream @ shipwreck, Rt 172	P	18-Aug-10	90	Low	114
	EG008.5	Stream @ shipwreck, Rt 173	P	05-Oct-10	60	Medium	42
EG00231.001	EG009.0	Mill Brook, Rt 172 @ head of Contention Cove	P	18-Aug-10	163	Low	31
EG00395.001	EG013.0	Loids Brook, Rt230 @ Mill Cove	P	25-Aug-10	45	Low	460
	EG013.0	Loids Brook, Rt230 @ Mill Cove	P	05-Oct-10	600	Medium	29
	EG013.0	Loids Brook, Rt230 @ Mill Cove	P	01-Dec-10	785	Medium	1.9
EG00479.001	EG016.0	Heath Brook, Rt 230.	P	25-Aug-10	60	Low	28
	EG016.0	Heath Brook, Rt 230.	P	05-Oct-10	420	Medium	42
	EG016.0	Heath Brook, Rt 230.	P	15-Nov-10	400	Medium	1.9
	EG016.0	Heath Brook, Rt 230.	P	01-Dec-10	619	Medium	1.9
EG00711.001	EG020.0	McFarland Brook, east culvert, Goose Cove, Rt 230	R	21-Jul-10	66	Low	98
	EG020.0	McFarland Brook, east culvert, Goose Cove, Rt 231	R	25-Aug-10	24	Low	220
	EG020.0	McFarland Brook, east culvert, Goose Cove, Rt 232	R	15-Nov-10	600	Medium	20
	EG020.0	McFarland Brook, east culvert, Goose Cove, Rt 233	R	01-Dec-10	930	Medium	12
EG00711.002	EG020.0	McFarland Brook, east culvert, mainstem upriver	R	21-Jul-10	40	Low	31
EG00711.021	EG020.0	McFarland Brook, east culvert, center tributary	R	21-Jul-10	6	Low	30
EG00711.031	EG020.0	McFarlandBrook, east culvert, east tributary	R	21-Jul-10	6	Low	30
EG00711.101	EG020.0	McFarland Brook, west culvert, Goose Cove, Rt 230	R	21-Jul-10	56	Low	420
	EG020.0	McFarland Brook, west culvert, Goose Cove, Rt 231	R	25-Aug-10	2	Low	94
	EG020.0	McFarland Brook, west culvert, Goose Cove, Rt 232	R	01-Dec-10	764	Medium	15
EG00784.501	EG024.0	Stream @ head of Clark Cove, confluence.	A	28-Sep-10	60	Medium	1520
	EG024.0	Stream @ head of Clark Cove, confluence.	A	05-Oct-10	60	Medium	124
EG00784.502	EG024.0	Stream, head of Clark Cove, Rt 102.	A	28-Sep-10	60	Medium	12
	EG024.0	Stream, head of Clark Cove, Rt 102.	A	05-Oct-10	60	Medium	500
	EG024.0	Stream, head of Clark Cove, Rt 102.	A	15-Nov-10	546	Medium	18
	EG024.0	Stream, head of Clark Cove, Rt 102.	A	07-Dec-10	1638	Medium	40
EG00784.504	EG024.0	Stream, culvert on Gilbert Farm Rd	A	28-Sep-10	20	Medium	44
EG00787.501	EG024.0	Stream, Southwest shore Clark Cove, head tide.	A	28-Sep-10	60	Medium	2
	EG024.0	Stream, Southwest shore Clark Cove, head tide.	A	05-Oct-10	60	Medium	25
EG00787.502	EG024.0	Stream, Southwest shore Clark Cove, upland.	A	28-Sep-10	20	Medium	86
	EG024.0	Stream, Southwest shore Clark Cove, upland.	A	05-Oct-10	60	Medium	38
EG00802.001	EG025.0	Pray's Brook, Indian Pt. Rd.	A	05-Oct-10	420	Medium	46
	EG025.0	Pray's Brook, Indian Pt. Rd.	A	01-Dec-10	651	Medium	2
EG00971.001	EG33.0	Stream from Seal Cove Pond @ Rt 102.	A	01-Dec-10	3151	Medium	2

Water Quality Review and Discussion

All stations in area EG met their NSSP classification standard in 2010. All “Approved”, “Restricted” and “Prohibited” stations were sampled at least six times in the open status during 2010 following a systematic random sampling (SRS) schedule (Table 5). The “Conditionally Approved” area was sampled in accordance with the conditional area management plan. All

stations that were active at the beginning of 2010 were sampled the required number of times under the 2009 NSSP guidelines.

Table 5. Area EG Sample Count.

Sample Collection Counts									
		Adverse		Extra		Random			
Station	CLASS	Closed	Open	Closed	Open	Closed	Open	Total	Comments
EG002.00	CA	6					12	18	
EG004.00	CA	8					12	20	
EG005.00	CA	6					12	18	
EG007.00	CA	6					12	18	
EG007.50	P			1		5		6	New station 9-29-2010. First sample 9/28/10.
EG008.50	P					2		2	New station 11-30-10
EG009.00	P					6		6	
EG011.00	P					6		6	
EG013.00	P			1		6		7	
EG014.00	CA	6					12	18	Reactivated 12-04
EG016.00	P			1		6		7	
EG016.50	CA	6					12	18	New station on edge of closure 6-06
EG017.00	CA	6					12	18	
EG019.00	A	27					6	33	
EG020.00	R				1		6	7	Reclass-A to R due to failing water NP 10/2/03
EG020.50	A						6	6	New Station 12-04; Reclass April 2007 R to A
EG021.00	A						6	6	
EG023.00	A	1					6	7	
EG024.00	A	31	2		1		8	42	
EG025.00	A	1					7	8	Reclass R to A improved WQ 1/25/08
EG026.00	A	21	2				6	29	
EG027.00	A						6	6	
EG028.00	A	21					7	28	
EG029.00	A						6	6	
EG029.50	A						7	7	New Station 12-04
EG029.90	R						7	7	This was activated 1/30/08
EG030.00	R						7	7	Reclass-OA to CR due to failing water NP 10/2/03
EG030.80	R						6	6	This station was activated 1/30/08 to defend proposed line change
EG031.00	R						6	6	Reclass-OA to CR due to failing water NP 10/2/03
EG032.00	A						6	6	
EG033.00	A	21	2				6	29	
EG034.00	A						6	6	Reclass-P to A OBD removed and improved water quality P 11/24/04
EG035.00	A						6	6	
EG036.00	A	21	2				6	29	
EG036.06	A						6	6	New Station 12-04
EG043.00	A						6	6	

Table 6 and Table 7 list all active “Approved”, “Restricted”, and “Prohibited” stations in Growing Area EG, with their respective Geo-mean and P90 calculations for 2010. Appendix B lists a key to interpreting the headers on the columns of the columns of Table 6 and Table 7. The approved and restricted standards for each station are also displayed in Table 6 and Table 7. 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.

Table 6. Area EG, Surry and Trenton, P90s.

Area EG, Surry & Trenton, P90									
Station	Class	Count	MFCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EG002.00	CA	30	30	2.1	0.15	8	3.3	31	163
EG004.00	CA	30	30	2.3	0.18	10	3.9	31	163
EG005.00	CA	30	30	2.5	0.25	16	5.4	31	163
EG007.00	CA	30	30	2.7	0.27	14	6.1	31	163
EG007.50	P	6	6	3.5	0.22	8	6.9	31	163
EG008.50	P	2	2	3.2	0.3	5.4	8.2	31	163
EG009.00	P	30	26	5.2	0.62	136	32.7	32	176
EG011.00	P	30	26	3.2	0.36	34	9.4	32	176
EG013.00	P	30	27	4.3	0.57	340	23.5	32	173
EG014.00	CA	30	30	2.6	0.34	66	7.2	31	163
EG016.00	P	30	28	6.9	0.62	300	44.8	31	169
EG016.50	CA	30	30	3.1	0.38	27	9.6	31	163
EG017.00	CA	30	30	2	0.1	6	2.7	31	163
EG019.00	A	30	26	2.6	0.36	144	7.7	32	176
EG020.00	R	30	27	4.4	0.51	140	20	32	173
EG020.50	A	30	26	3.4	0.38	45	10.6	32	176
EG021.00	A	30	26	2.9	0.28	12	7	32	176

The Pretty Marsh area (stations EG29.5, EG29.9, EG30, EG30.8, EG31) now meet the approved standard. The new stations (EG29.9 and 30.8) have 22 and 21 samples respectively. These stations will be continued through 2011 to develop a base of 30 samples to defend a possible line change. The rack line noted in 2009 has dissipated and horses in a pasture at the head of the cove have not been observed during 2010. A survey of the shoreline in Pretty Marsh and re-evaluation of the data will be conducted during 2011 to determine if a re-opening will be justified. If bacterial scores remain stable and the survey indicates nothing objectionable re-opening will be initiated during 2011.

The water quality for stations in the Union River Bay Conditional Area are shown in Table 8. Table 8 lists all “Conditionally Approved” stations in the Union River WWTP conditional area with their respective Geomean and P90 calculations for 2010 in the “Open” status. Data for conditionally approved stations reflects only the open status. All stations met the approved standard during “Open” status. Station EG16.5 has achieved 30 samples since it was activated in September of 2009 but only 19 samples were taken in the “Open” status. The P90 at boundary station EG16.5 meets the “Approved” standard. Stations EG7.5 and EG8.5 were established during 2010 to more closely monitor conditions in Patten Bay and have 6 and 2 samples respectively.

Contention Cove, Surry, (station EG9) is at 100% of the approved standard. Station EG9 along with Station EG11serve as the boundary stations for the Prohibited area in Patten Bay and Union river Bay. If the bacterial water quality scores continue to decrease, it may be necessary to adjust the closure lines based on station EG11.

Table 7. Area EG, Mount Desert Island and Great Gott Island, P90.

Area EG, Mount Desert & Great Gott Islands, P90									
Station	Class	Count	MFCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EG023.00	A	30	26	3	0.39	56	9.6	32	176
EG024.00	A	30	29	4	0.51	94	18.9	31	166
EG025.00	A	30	27	4	0.65	1340	27.3	32	173
EG026.00	A	30	26	2.1	0.12	6	3.1	32	176
EG027.00	A	30	26	2.5	0.32	43	6.7	32	176
EG028.00	A	30	27	2.8	0.54	1240	14.3	32	173
EG029.00	A	30	26	2.6	0.34	82	7.4	32	176
EG029.50	A	30	27	2.7	0.37	122	8.1	32	173
EG029.90	R	22	22	2.5	0.36	72	7.4	31	163
EG030.00	R	30	27	4.2	0.61	340	25.7	32	173
EG030.80	R	21	21	2.8	0.32	20	7.4	31	163
EG031.00	R	30	26	3.8	0.54	300	19.5	32	176
EG032.00	A	30	26	2.5	0.25	20	5.3	32	176
EG033.00	A	30	26	4	0.57	204	22.2	32	176
EG034.00	A	30	26	4.1	0.54	138	20.7	32	176
EG035.00	A	30	26	4.8	0.55	320	24.8	32	176
EG036.00	A	30	26	2.9	0.58	1700	16.9	32	176
EG036.06	A	30	26	2.4	0.27	46	5.4	32	176
EG043.00	A	30	30	1.9	0.05	4	2.3	31	163

Table 8. Conditional area CA-40, Open Status, P90.

EG Conditionally Approved Area P90 - Open Status									
Station	Class	Count	MFCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
EG002.00	CA	30	30	2.1	0.15	8	3.5	31	163
EG004.00	CA	30	30	2.4	0.21	10	4.6	31	163
EG005.00	CA	30	30	2.5	0.24	16	5.2	31	163
EG007.00	CA	30	30	2.6	0.24	14	5.4	31	163
EG014.00	CA	30	30	2.6	0.34	66	7.4	31	163
EG016.50	CA	19	19	2.4	0.28	20	5.8	30	163
EG017.00	CA	30	30	2	0.16	13	3.3	31	163

Goose Cove Trenton, Stations EG20 and EG20.5 have shown steady improvements in water quality. The culverts at the east branch of McFarland Brook were replaced during 2010. Pollution abatement measures may have improved water quality scores (reducing bacterial scores) so Goose Cove will be monitored during summer 2011 and if the improved scores continue the process to upgrade area will be initiated during late 2011. Extra water samples in

the stream discharging into Goose Cove were taken during 2010 and the results are shown in the "Non-Point Pollution" section.

Figure 5. Area EG five year P90 Trend, Surry and Trenton.

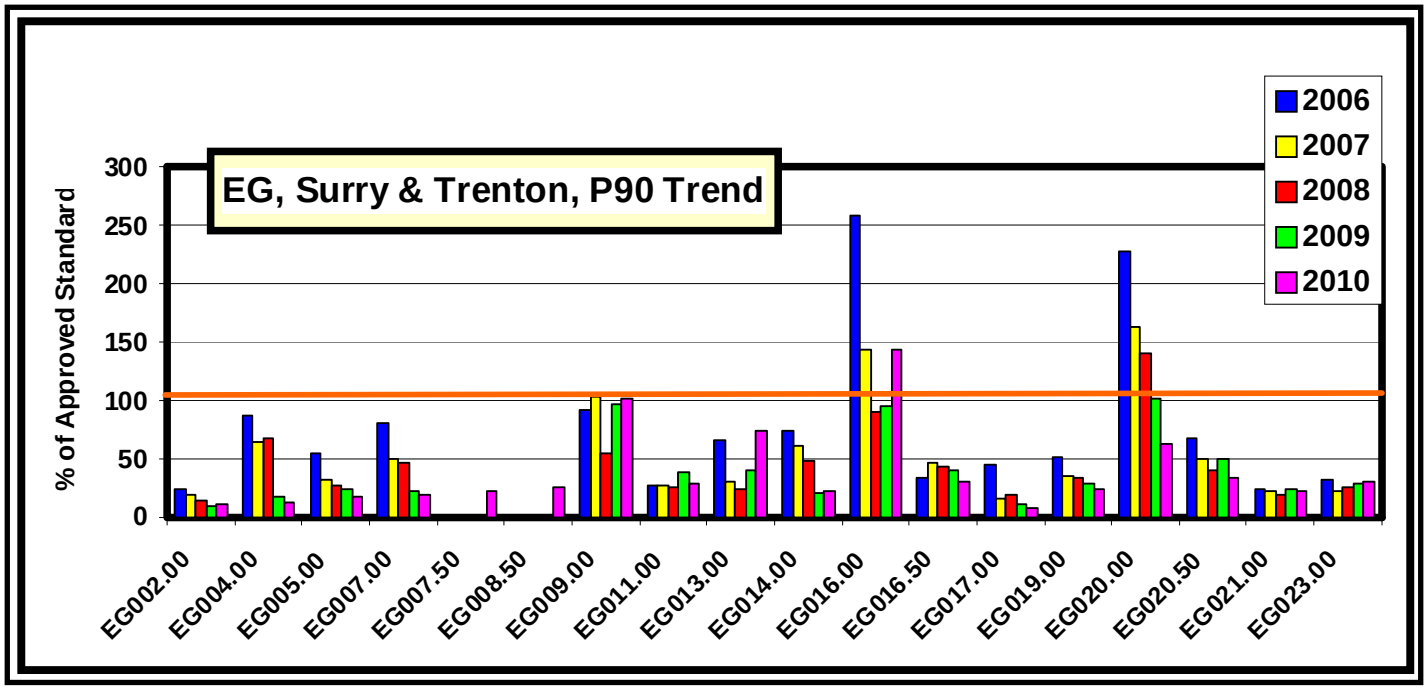
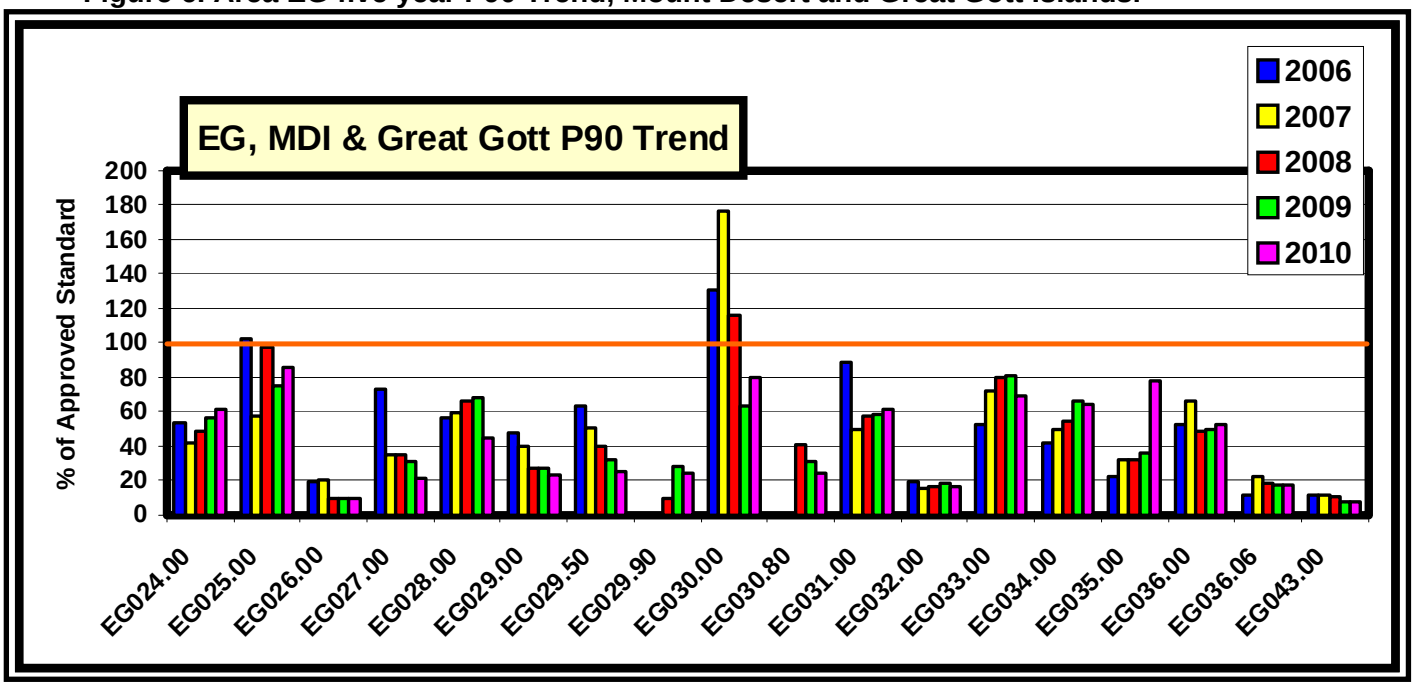


Figure 6. Area EG five year P90 Trend, Mount Desert and Great Gott Islands.



Clark Cove, Bar Harbor (EG24), has had slight increases in P90 scores over four years and, during some flood closures Clark Cove recovered more slowly than other areas. Extra water samples in the stream discharging into Clark Cove were taken during 2010 and the results are shown in the “Non-Point Pollution” section of this report.

Figures 5 and 6 show the P90 trends, expressed as percents of approved and restricted standards, for the past five review years. All approved stations for this growing area are within the standard for approved harvest. Station EG33 exceeded 81% of the standard in 2009 but has receded below 80% of the standard.

Figure 5 & 6 show that all the restricted stations for area EG are well within the limits for the restricted classification.

Upward Classification Changes

There are no upward classifications proposed for this report period.

Shoreline Survey Activity

In preparation for upgrades in classification, the restricted area at Goose Cove (Pollution Area 40, A.4.) and Goose Cove stream and McFarland Brook were surveyed for pollution sources and pollution source samples were drawn from the stream and tributaries. No pollution sources were observed and the results of stream samples are shown in Table 4

In response to lingering high scores following heavy rains, the streams around Clark Cove were sampled and the wetland serving as the headwater of one stream was observed for pollution sources (Table 4).

In Patten Bay, new stations mid way between the current prohibited boundary and the head of the bay were established and pollution source testing of streams discharging to Patten Bay conducted (Table 4).

Aquaculture/Wet Storage Activity

There are seven aquaculture lease sites and five wet storage sites in this growing area (Tables 9 & 10). Two of the aquaculture sites are suspended culture blue mussel sites near Hardwood Island and Tinker Island. One site is a limited purpose site for over-wintering American and

European oysters in the Mill Pond in the town of Mount Desert. One site is a bottom culture site for hard shell clams in Goose Marsh Pond in Mount Desert. There are three bottom culture sites for hard shell clams located in Goose Cove, Trenton. There is also a pending application for two 25 acre lease sites to grow oysters in Goose Cove.

Table 9. Aquaculture Sites Area EQ.

Area EG Aquaculture locations								
Site Identifier	Leaseholder	Receiving Water Body	Town	Acres	Common Name	Initial Liscence	Liscence Expire	Type
BHB GC1	Egypt Bay Seafarms	Blue Hill Bay	Trenton	1.99	Goose Cove	5/1/2008	4/30/2011	Experimental
BHB GC2	Egypt Bay Seafarms	Blue Hill Bay	Trenton	1.99	Goose Cove	5/1/2008	4/30/2011	Experimental
BHB GC3	Egypt Bay Seafarms	Blue Hill Bay	Trenton	1.99	Goose Cove	5/1/2008	4/30/2011	Experimental
GMP MDI	Egypt Bay Seafarms	Blue Hill Bay	Mount Desert	1.62	Marsh Pond	4/1/2010	3/31/2013	Experimental
EML 08	Emlen, Jay	Blue Hill Bay	Mount Desert	0.01	Mill Cove	6/20/2008	12/31/2010	Limited Purpose
BHB HI2	Maine Cultured Mussels	Blue Hill Bay	Tremont	15	Hardwood Island	3/29/1993	3/25/2013	Standard Shellfish
BHB HI	Blue Hill Bay Mussels	Blue Hill Bay	Tremont	2.3	Young Site	7/25/2005	7/24/2015	Standard Shellfish

There are five wet storage sites in the area; four are for processing mussels or mussels and clams in Bartlett Narrows and one in Western Bay near the Trenton Bridge (Table 10).

Table 10. Wet Storage Area EQ.

Area EG Wet Storage Locations					
Certificate Number	Leaseholder	Number of Sites	Receiving Water Body	Town	Common Name
ME105SS	Trenton Bridge Lobster pound	1	Blue Hill Bay	Trenton	Western Bay
ME167SS	Maine Cultured Mussels	3	Blue Hill Bay	Mount Desert	Bartlett Narrows
ME157SS	Blue Hill Bay Mussels	1	Blue Hill Bay	Mount Desert	Bartlett Narrows

Recommendation for Future Work

Goose Cove water quality (EG20 & EG20.5) is improving, based on water quality scores. Culvert reconstruction during 2009 forced consideration of the possibility that the improved water quality scores observed this year were an artifact caused by sedimentation control measures. During 2011 the cove will be re-surveyed and stream water quality monitored for a possible upgrade.

Clark Cove (EG24) showed slow recovery following some rain storms during 2010. The stream will continue to be monitored for bacterial levels during 2011.

Pretty Marsh water quality (EG29.5. EG29.9, EG30, EG30.8 & EG31) has shown improvement. During 2011, the shoreline of the restricted area will be surveyed and an upgrade will be considered.

The water quality results at new stations in Patten Bay (EG7.5 & EG8.5) are favorable enough to continue to sample during 2011.

The water quality at Contention Cove (EG9) is approaching the P90 limit. The sampling station and Mill Stream which discharges into the Head of Contention Cove will be monitored closely.

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Appendix A. Annual Review of C40 Conditional Area Management Plan

Scope

There is only one conditional area for this growing area (Figure 1 & 2). This area is "Conditionally Approved" based on the performance of the Ellsworth Wastewater Treatment Facility which discharges treated, year-round chlorinated effluent into the Union River. The conditional area includes a portion of the Union River Bay and Patten Bay, upstream (northerly) of a line beginning at the southeast tip of Burnt Point on Newbury Neck, Surry and running northeasterly to a red painted post at the south prominence of Oak Point, Trenton; AND west of a line beginning at a red painted post located on the south shore of Heath cove (approximately 350 yards west of where State Route 230 crosses Heath Brook), then extending north to a red painted post on the north shore of the mouth of Heath cove (approximately 450 yards northwest of where State Route 230 crosses Heath Brook); AND south of a line beginning at a red painted post located 500 yards south of Bluff Point, Trenton, extending northwest to a red painted post on the most southern prominence of the east side of Contention Cove, Surry, then west to the boat landing at the mouth of Patten Stream then south 150 yards to the nearest point on the south shore of Patten Bay (Figure 2). A closure of the conditional area is enacted in the event of a deliberate or accidental release into the Union River of untreated, partially treated or non-chlorinated sewage from the wastewater treatment facility, collection system or pump stations due to meteorological/climatic conditions, operator error, mechanical/design failure or routine maintenance.

Compliance with management plan

The wastewater treatment facility met compliance criteria that included peak effluent flow, fecal coliform levels, physical and chemical effluent quality, lack of mechanical failures and effective sewage treatment during conditionally open and approved periods. Reporting of noncompliance events was in accordance with the management plan with closures enacted immediately upon DMR notification.

Adequacy of reporting and cooperation of involved persons

Review of WWTP and DMR records show management plan violations have been reported by the municipal treatment plant staff to the Department of Marine Resources public health laboratory staff within acceptable time limits and with adequate detail to initiate action. The effectiveness of this management plan is excellent due to the close working relationship between the treatment plant staff, local law enforcement agencies and the Maine Department of Marine Resources Water Quality Laboratory, Lamoine. The timetable of events, details of noncompliance issues, estimates of repair intervals and update of plant's treatment effectiveness reporting fall within management plan compliance limits. Maine Marine Patrol officers have alerted local shellfish harvesters to any regulation changes. Legal closure of the area is automatically enacted immediately at the time of notification, with written regulation amendment dependent on administrative staffing and violation event timing (regular work hours, nighttime hours, weekends, and holidays). No anecdotal evidence (failing water testing criteria,

shoreline survey, and reported illness) suggests that a public health risk exists when the treatment plant is operating correctly.

Compliance with approved (or restricted) growing area criteria

This conditionally approved area is monitored by 7 sample sites; EG2, EG4, EG5, EG7, EG14, EG16.5 and EG17. In the event of a plant bypass an additional 6672 acres closes. The conditionally approved samples meet the standard for approved harvest during its open status (Table 1).

Table 1. Conditional Area 40 P90 Scores, Open Status

Station	Class	Count	GM	SDV	MAX	P90	Appd_Std
EG002.00	CA	30	2.1	0.15	8	3.5	31
EG004.00	CA	30	2.4	0.21	10	4.6	31
EG005.00	CA	30	2.5	0.24	16	5.2	31
EG007.00	CA	30	2.6	0.24	14	5.4	31
EG014.00	CA	30	2.6	0.34	66	7.4	31
EG016.50	CA	19	2.4	0.28	20	5.8	30
EG017.00	CA	30	2	0.16	13	3.3	31

Water sampling compliance history

All CA sample stations were collected 12 times during the open status in 2010.

Table 2. 2010 CA sample count open status.

Station	Date	Strategy	Status	Coliform Score	Total	Total Samples
EG002.00	04-Jan-10	R	O	1.9	1.9	12
	17-Feb-10	R	O	1.9	1.9	
	23-Mar-10	R	O	2	2	
	21-Apr-10	R	O	2	2	
	04-May-10	R	O	1.9	1.9	
	02-Jun-10	R	O	1.9	1.9	
	07-Jul-10	R	O	1.9	1.9	
	03-Aug-10	R	O	1.9	1.9	
	27-Sep-10	R	O	1.9	1.9	
	05-Oct-10	R	O	8	8	
	02-Nov-10	R	O	1.9	1.9	
	07-Dec-10	R	O	1.9	1.9	

Station	Date	Strategy	Status	Coliform Score	Total	Total Samples
EG004.00	04-Jan-10	R	O	1.9	1.9	12
	17-Feb-10	R	O	1.9	1.9	
	23-Mar-10	R	O	1.9	1.9	
	21-Apr-10	R	O	1.9	1.9	
	04-May-10	R	O	1.9	1.9	
	02-Jun-10	R	O	1.9	1.9	
	07-Jul-10	R	O	2	2	
	03-Aug-10	R	O	1.9	1.9	
	27-Sep-10	R	O	10	10	
	05-Oct-10	R	O	2	2	
	02-Nov-10	R	O	1.9	1.9	
	07-Dec-10	R	O	1.9	1.9	
EG005.00	04-Jan-10	R	O	1.9	1.9	12
	17-Feb-10	R	O	1.9	1.9	
	23-Mar-10	R	O	4	4	
	21-Apr-10	R	O	1.9	1.9	
	04-May-10	R	O	1.9	1.9	
	02-Jun-10	R	O	2	2	
	07-Jul-10	R	O	1.9	1.9	
	03-Aug-10	R	O	2	2	
	27-Sep-10	R	O	4	4	
	05-Oct-10	R	O	1.9	1.9	
	02-Nov-10	R	O	1.9	1.9	
	07-Dec-10	R	O	1.9	1.9	
EG007.00	04-Jan-10	R	O	2	2	12
	17-Feb-10	R	O	1.9	1.9	
	23-Mar-10	R	O	3.6	3.6	
	21-Apr-10	R	O	1.9	1.9	
	04-May-10	R	O	1.9	1.9	
	02-Jun-10	R	O	1.9	1.9	
	07-Jul-10	R	O	1.9	1.9	
	03-Aug-10	R	O	1.9	1.9	
	27-Sep-10	R	O	4	4	
	05-Oct-10	R	O	4	4	
	02-Nov-10	R	O	1.9	1.9	
	07-Dec-10	R	O	2	2	
EG014.00	04-Jan-10	R	O	2	2	12

Station	Date	Strategy	Status	Coliform Score	Total	Total Samples
	17-Feb-10	R	O	1.9	1.9	
	23-Mar-10	R	O	1.9	1.9	
	21-Apr-10	R	O	1.9	1.9	
	04-May-10	R	O	1.9	1.9	
	02-Jun-10	R	O	1.9	1.9	
	07-Jul-10	R	O	1.9	1.9	
	03-Aug-10	R	O	4	4	
	27-Sep-10	R	O	1.9	1.9	
	05-Oct-10	R	O	2	2	
	02-Nov-10	R	O	1.9	1.9	
	07-Dec-10	R	O	12	12	
EG016.50	04-Jan-10	R	O	1.9	1.9	12
	17-Feb-10	R	O	1.9	1.9	
	23-Mar-10	R	O	1.9	1.9	
	21-Apr-10	R	O	6	6	
	04-May-10	R	O	1.9	1.9	
	02-Jun-10	R	O	1.9	1.9	
	07-Jul-10	R	O	1.9	1.9	
	03-Aug-10	R	O	1.9	1.9	
	27-Sep-10	R	O	1.9	1.9	
	05-Oct-10	R	O	1.9	1.9	
	02-Nov-10	R	O	1.9	1.9	
	07-Dec-10	R	O	1.9	1.9	
EG017.00	04-Jan-10	R	O	2	2	12
	17-Feb-10	R	O	1.9	1.9	
	23-Mar-10	R	O	1.9	1.9	
	21-Apr-10	R	O	1.9	1.9	
	04-May-10	R	O	1.9	1.9	
	02-Jun-10	R	O	1.9	1.9	
	07-Jul-10	R	O	1.9	1.9	
	03-Aug-10	R	O	1.9	1.9	
	27-Sep-10	R	O	1.9	1.9	
	05-Oct-10	R	O	1.9	1.9	
	02-Nov-10	R	O	1.9	1.9	
	07-Dec-10	R	O	1.9	1.9	

Analysis-Recommendations

A re-evaluation of this conditional area should be completed when the new Ellsworth WWTP comes on line. Construction of the new facility is in progress. Until construction of the new plant is complete no changes or recommendations are necessary.

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).

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.