



**SHELLFISH GROWING AREA WU**

**St George River**

**Annual Review of the Year 2006**

**Final Report Date: 10/15/07**

**Written By  
Fran Pierce**

**APPROVAL**

Division Director:

\_\_\_\_\_ Date: \_\_\_\_\_  
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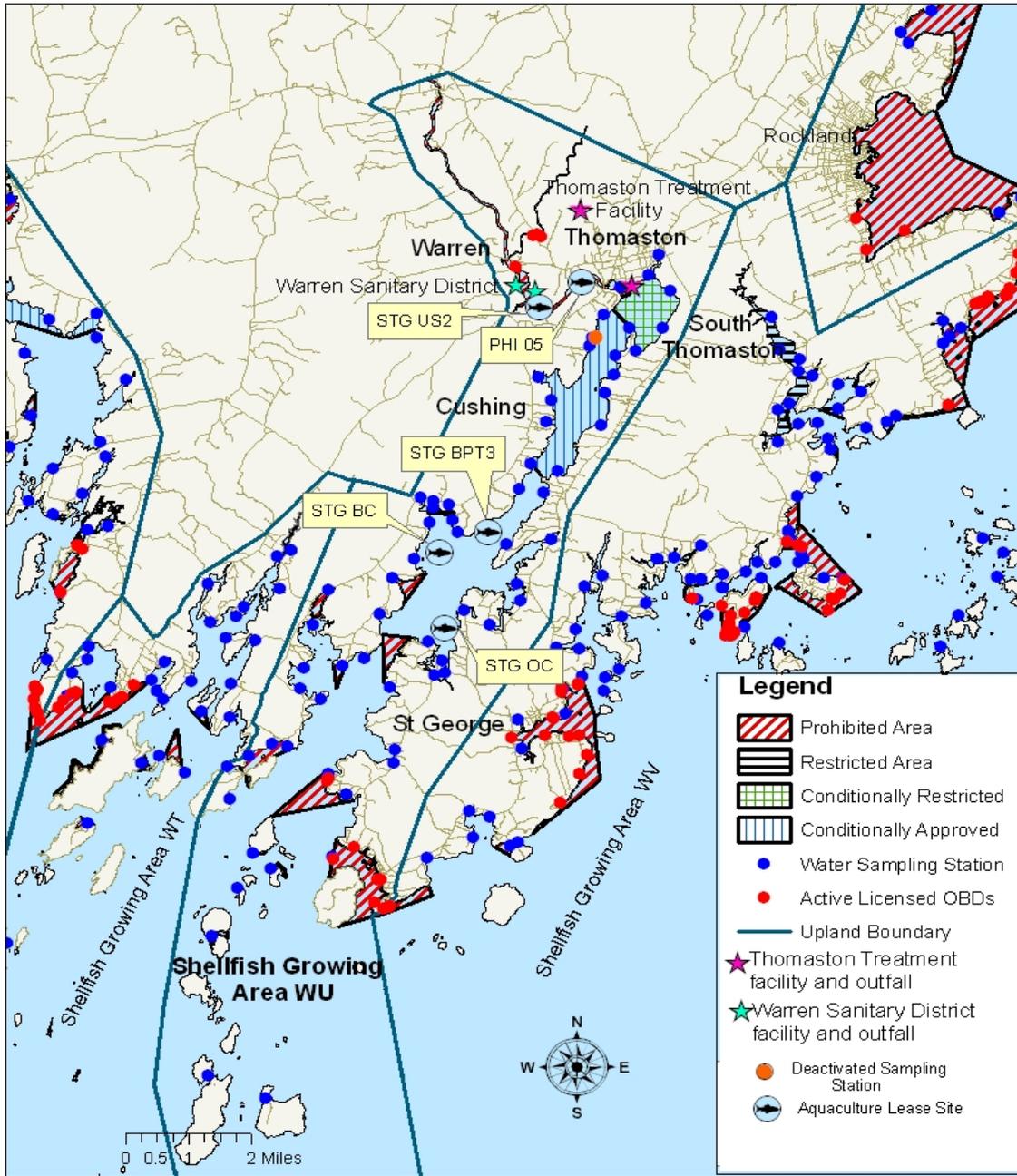
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Current Map



**Maine Department of Marine Resources**  
**2006 Annual Review Shellfish Growing Area WU**  
Towns of Cushing, Warren, Thomaston, South Thomaston and St George 2/16/07





## Executive Summary

Shellfish Growing Area WU covers the area from the southeastern tip of Gay Island, Cushing to the western tip of Marshall Point, Port Clyde. There are also numerous islands in the mouth of the St George River that are included in this growing area. The towns of Cushing, Warren, Thomaston, South Thomaston, and St George all have shore frontage in this growing area. The towns of Warren and Thomaston are the only towns in this growing area that have municipal treatment facilities. The Thomaston Treatment Facility and the Warren Sanitary District are both located at the head of the St George River nearby rich shellfish resources. There are no major industries along the shore in Shellfish Growing Area U. However, Dragon Cement is located nearby the St George River approximately 0.5 miles away. There are several marine-related businesses along the waterfront in Thomaston. All of these businesses are located along the immediate waterfront which is inside the closure zone for Thomaston Treatment Facility's outfall. The majority of the remaining shore frontage in this growing area is residential.

The resources in Shellfish Growing Area WU are managed by a five town management group which includes diggers from the towns of Cushing, Warren, Thomaston, South Thomaston and St George. The entire harvestable shore frontage in each of these towns is available to each of the licensed diggers from any of the five towns. In 2005 there were 107 resident licensed diggers, 11 non-resident, 9 junior resident, and 1 junior non-resident digger in this five town management group.

## Shellfish Growing Area WU Boundary Description

Area U lies inside a line extending from the south tip of Gay Island south and offshore following the shellfish management zone line and extending north to the north end of Gay Island, across the channel and north along Pleasant Pt Rd to the intersection with Stone's Pt Rd, then north to the intersection of Cross Rd and Ledge La, the east along Cross Rd to the intersection with Town House Rd, then northeast to the intersection of Spear Mill Rd and Cushing Rd, then north along Cushing Rd to Route 1, Atlantic Hwy, then northwest along Atlantic Hwy to Camden Rd, then northeast along Camden Rd to the intersection with Oyster River Rd, then southeast to the intersection of New County Rd and Buttermilk La, then southwest to the intersection of St. George Rd and Westbrook St, then southwest to the intersection of River Rd and Seal Harbor Rd, then south to the intersection of River Rd and Long Cove Rd, then southwest to the intersection of Ridge Rd and Church St, then south to the intersection of Drift Inn Rd and Marshall Pt Rd, then south along Marshall Point Rd to Marshall Pt, then south and offshore following the shellfish management zone line.

## Current Classifications

Shellfish growing area WU currently has the following shellfish classifications:

- 15 Prohibited stations
- 30 Approved stations
- 3 Restricted stations
- 11 Conditionally approved
- 4 Conditionally restricted

The four conditionally restricted stations are conditional on the operations at the Thomaston Treatment Facility and the Warren Sanitary District. The Thomaston Treatment Facility has not had a malfunction since 1997 when the plant was at its' former location on the Thomaston waterfront. The Warren Sanitary District has never had a malfunction that impacted the shellfish resources on the St George River. The management plans for the operations at the Thomaston Treatment Facility and the Warren Sanitary District are attached to the end of this document.



The conditionally approved stations are conditional on rainfall. These stations close whenever the area receives  $\geq 1.5$  inches of rainfall in a 24 hour period. The table below (page 5) shows the rainfall events that occurred during the 2006 sampling season. The management plan for the rainfall conditional area is attached to the end of this document.

### Legal notices

To view the most current legal notices and accompanying maps you can go to our website at:

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

### 2006 St George River Conditional Area Rainfall Closures

Date Closed Flood=F Rain>1.5=R	Additional rainfall events $\geq 1.5$ inches in 24 hours	Date area sampled: (Water samples only)	# Days closed	Date Opened	Open from (date-date)	# days open	Comments
12/27/05 R		1/9/06	14	1/11/06	1/11-1/15?	4	
1/15/06 R		1/29/06	16 or 14	1/31/06	1/31-2/4	4	weekend closure 1/15/06 legal notice dated 1/17/06
2/4/06 R		2/15/06	15	2/19/06	2/19-6/4	105	weekend closure 2/4/06 legal notice dated 2/6/06 First weekend opening
6/4/06 R 6/8/06 F flood closure dated 6/8/06	reported on 6/8/06 at 0900 $> 1.50$ " rain 6/30/06, at 1130 $\geq 1.50$ " rain	6/4/06 random run 6/11/06 flood samples 6/12/06 flood samples 6/13/06 flood samples 6/18/06 CA samples 6/22/06 CA samples 6/26/06 CA samples 6/28/06 CA samples 7/9/06 random run 7/11/06 CA samples 7/17/06 CA samples 7/19/06 CA samples	47	7/21/06	7/21-10/12	93	weekend closure 6/4/06 legal notice dated 6/5/06
10/12/06 R 10/28/06 F 11/9/06 R	10/21 1.36" 11/9 1.70" 10/28 2.47"	10/24, 10/25, 10/30F 10/31F 11/1F, 11/2F 11/5, 11/28	48	11/29	11/29-		

The closure in June was confusing. We closed the conditional area on 6/4 due to  $\geq 1.5$  inches of rain. The legal notice wasn't in effect until Monday 6/5. This was followed by a flood closure on 6/8 for the area from the Maine NH border to Isle Au Haut. The flood closure was pulled back in this area on 6/14 to only include East Point Biddeford to Martins Point Friendship. The conditional area stations didn't pass on any of the dates it was sampled in June. We then had another rainfall event on 6/30. The area was required to stay closed at least until 7/14. The scores remained above opening criteria until 7/19. The samples were read on 7/21 and the area reopened.

**Note:** Samples collected on 11/5 all passed, the earliest we could reopen would have been 11/12, but we received 1.7" of rainfall on 11/9.



### **Current Management plan**

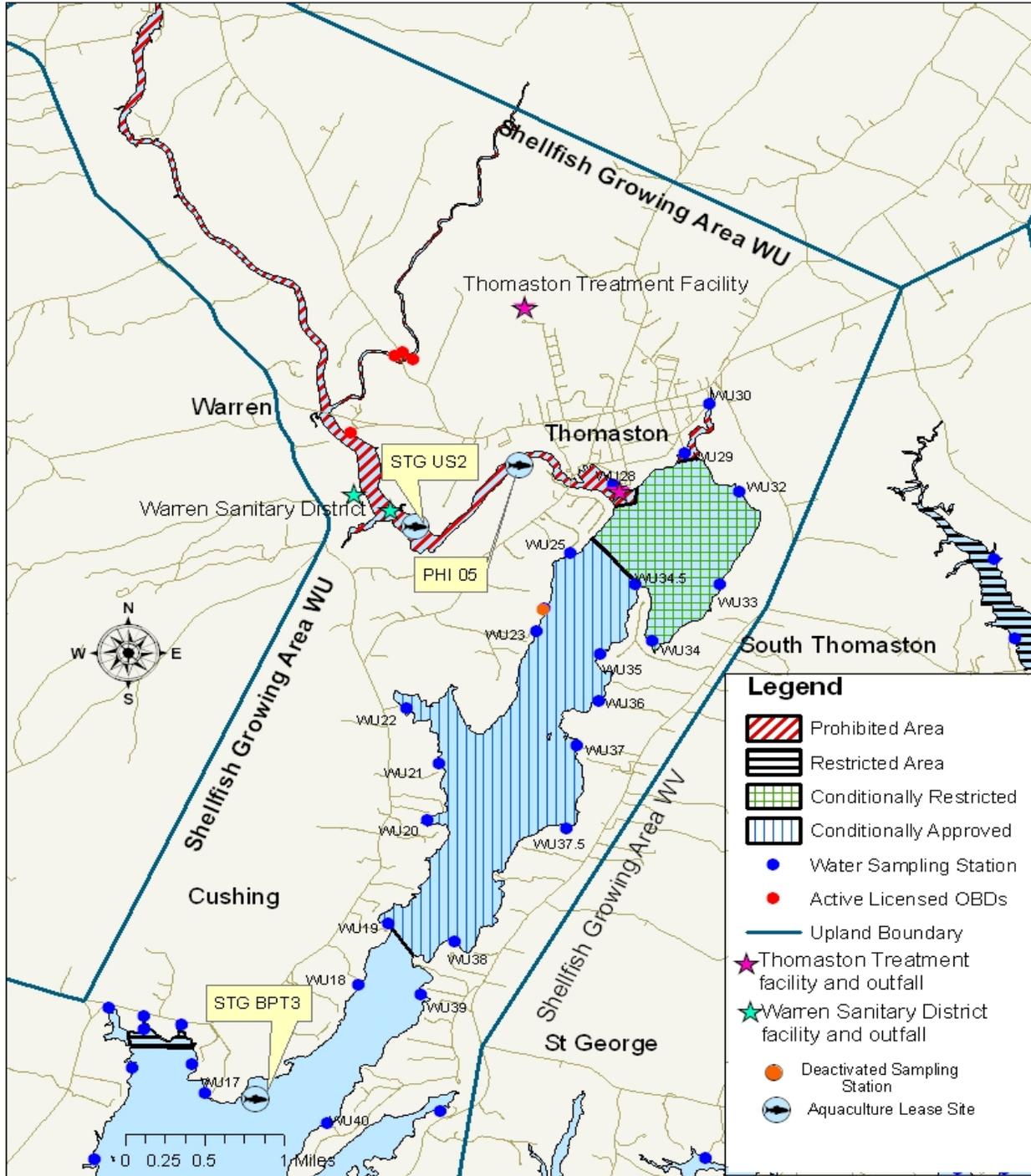
The management plans were re-written for the new sanitary survey report of the upper portions of the St George River. The management plans are attached to the end of this document.

### **Current Annual Review of Management Plan**

Annual reviews of the management plans were not done because the management plans were re-written.

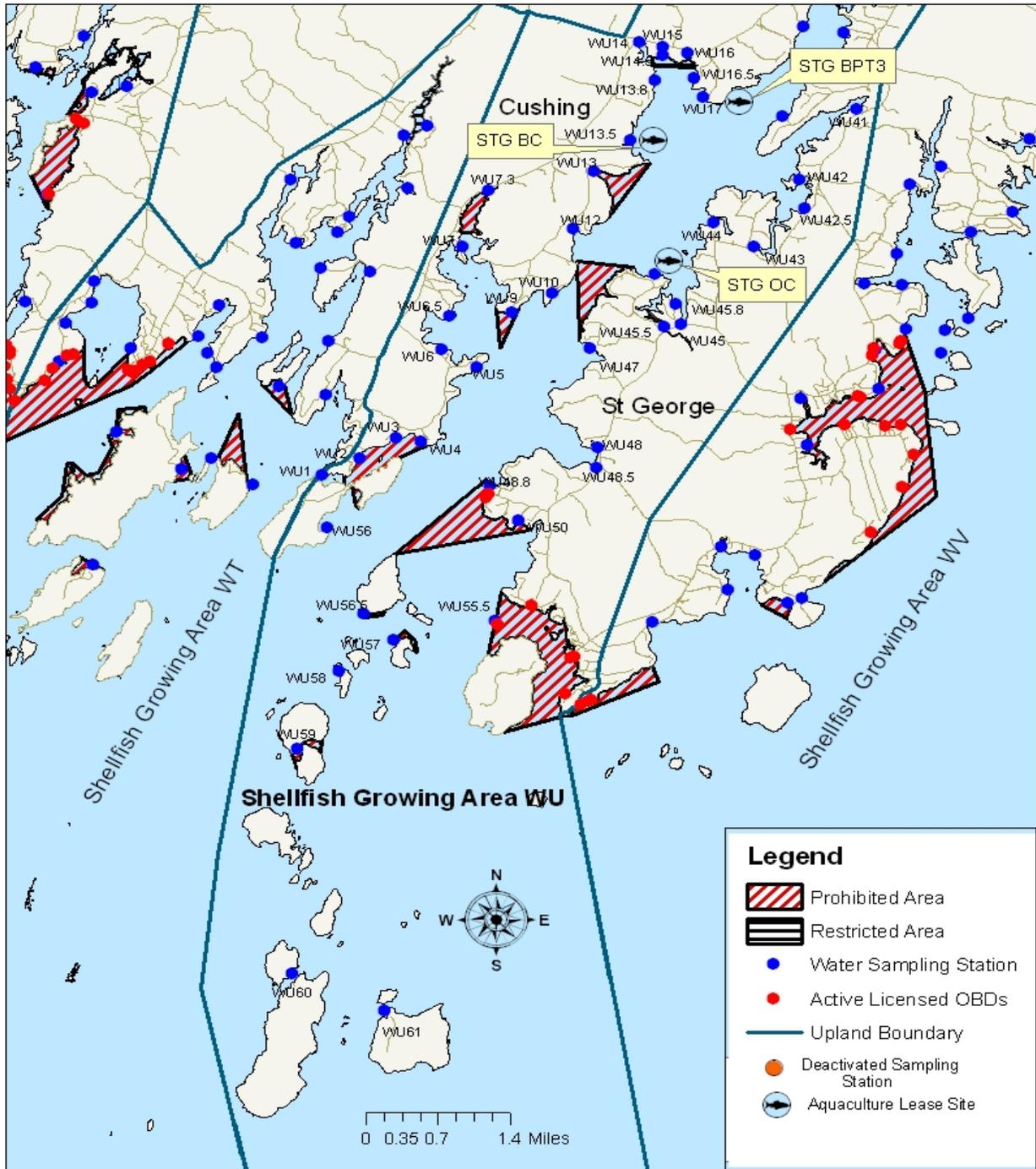


**Maine Department of Marine Resources**  
 2006 Annual Review Shellfish Growing Area WU Northern Portion  
 Towns of Cushing, Warren, Thomaston, South Thomaston and St George 2/16/07





**Maine Department of Marine Resources**  
 2006 Annual Review Shellfish Growing Area WU Southern Portion  
 Towns of Cushing and St George 2/16/07





## Review of Water Quality

Please refer to the maps on pages 8 and 9 showing the sampling stations and current shellfish classifications.

### Transitioning to Membrane Filtration for Seawater and Pollution Source Samples

The Maine Department of Marine Resources has chosen to switch to a fecal coliform method that was approved for use in the National Shellfish Sanitation Program (NSSP) at the Interstate Shellfish Sanitation Conference in 2003. This method is the Membrane Filtration (MF) for Fecal Coliforms using MTEC agar with a two hour resuscitation step. The geometric mean and the 90<sup>th</sup> percentile are calculated on 30 data points extending over a five year period. During the transition from MPN to MF, we will be accumulating MF data points. The statistical calculations will be a combination of MPN and MF data points. The FDA has determined that the best way to handle the data is to perform the calculations as always for the data set, but to compare the data set to a hybrid weighted 90<sup>th</sup> percentile. This hybrid standard is calculated by weighting the relative contributions of each method to the database. This will mean that as the number of MPN data points reduce and the number of MF data points increase the 90<sup>th</sup> percentile standard that the sample site is compared to will change over time. Once all 30 data points are analyzed using MF, the 90<sup>th</sup> percentile for approved classification will be 31 and for restricted (for depuration) will be 163. The geomean approved standard of 14 fecal coliforms per 100 ml and geomean restricted standard of 88 fecal coliforms per 100 ml will remain the same for both methods.

Reports that display 90<sup>th</sup> percentiles will show the number of data points derived from MF analysis and will show the appropriate 90<sup>th</sup> percentile standard for that MPN/MF combination for approved and restricted classifications. It must be remembered that this weighted standard is only used for data sets encompassing data from the two different test methods, MF and MPN (3 tube/3 dilution). If decisions are to be made on a single test result analyzed by the MF method or a multiple number of test results all exclusively analyzed by the MF method, the 90<sup>th</sup> percentile standard is 31 fecal coliforms per 100 ml.

All of the conditionally approved stations were sampled six times when the area was in the open status. These stations include: 19, 20, 21, 22, 23, 25, 35, 36, 37, 37.5, and 38.

All of the conditionally restricted stations were sampled each month that the area was in the open status. In 2006 the restricted area was open from May – December. The licensed discharge period for the plant is January 1-March 31. However, there have been many years that it has not been necessary to discharge until sometime in February or March due to the lagoon not being at capacity levels.

A clam sample was taken and all of the restricted stations were sampled prior to the area reopening on May 2, 2006. The clam sample received a score of <18. The water samples were collected on April 9<sup>th</sup> as part of a random run. The most elevated score was a 3.6 at station WU33.

All of the remaining stations in shellfish growing area WU were sampled six times over the course of the sampling season.

The data analysis for the stations in area WU is displayed in Table 1. The stations that are conditional on rainfall were occasionally sampled as part of the random run schedule when the area was in the CLOSED status due to a rainfall event of  $\geq 1.5$  inches in a 24 hour period. The data in this table includes some of the closed conditionally approved data. This data table is not intended to be used to determine if the rainfall conditional area (stations WU19-25 and WU 35-38) meets approved standards, that information can be found in Table 2. All stations classified approved met approved standards except for stations WU 5 and WU 42.5 which are highlighted in yellow in Table 1.



**Table 1 Shellfish Growing Area WU All Stations**  
 MAINE DEPARTMENT OF MARINE RESOURCES

As of: February 15, 2007

Fecal Coliform Geometric Mean and Percent Variability  
 For the Years 2002 Through 2006 - (01/01 - 12/31) ( - )  
 Status = **Open and Closed Stations**  
 Strategy = Random Only  
 Excludes Flood Data  
 Excludes Inactive Stations  
 Samples Limited to Latest 30  
 Salinity >= 0 ‰

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WU001.00	A	30	3	5.5	0.37	31	16.2	47	282
WU002.00	P	30	3	5.2	0.53	460	24.7	47	282
WU003.00	P	30	3	10.6	0.73	540	90.2	47	282
WU004.00	A	30	3	5.7	0.53	93	27.3	47	282
WU005.00	A	30	3	6.5	0.68	1200	48.5	47	282
WU006.00	A	30	3	6.2	0.50	93	27.1	47	282
WU006.50	A	30	3	5.1	0.47	240	20.6	47	282
WU007.00	A	30	3	4.5	0.39	150	14.1	47	282
WU007.30	P	30	3	12.7	0.70	1100	98.3	47	282
WU009.00	P	30	3	7.7	0.69	1100	58.5	47	282
WU010.00	P	29	3	5.5	0.44	93	20.0	47	282
WU012.00	A	30	3	9.1	0.56	93	47.8	47	282
WU013.00	P	30	3	10.8	0.80	1200	115.0	47	282
WU013.50	A	30	3	6.2	0.61	1200	37.3	47	282
WU013.80	A	30	3	6.3	0.64	1100	41.1	47	282
WU014.00	A	30	3	8.6	0.51	93	38.6	47	282
WU014.50	R	30	3	10.6	0.76	460	98.0	47	282
WU015.00	R	30	3	11.3	0.54	150	54.5	47	282
WU016.00	R	30	3	24.8	0.68	1100	186.3	47	282
WU016.50	A	30	3	5.9	0.53	240	28.4	47	282
WU017.00	A	30	3	6.7	0.59	240	37.3	47	282
WU018.00	A	30	4	6.2	0.46	93	24.2	46	277
WU019.00	CA	30	3	4.9	0.44	240	18.2	47	282
WU020.00	CA	30	3	6.8	0.55	240	34.5	47	282
WU021.00	CA	30	3	8.1	0.59	240	45.8	47	282
WU022.00	CA	30	4	8.1	0.52	240	36.9	46	277
WU023.00	CA	30	3	7.3	0.54	460	36.0	47	282
WU025.00	CA	30	3	7.9	0.53	210	37.6	47	282
WU028.00	P	30	4	8.0	0.59	1200	45.7	46	277
WU029.00	P	30	3	21.7	0.65	1200	148.7	47	282
WU030.00	P	30	3	25.6	0.72	1100	215.2	47	282
WU032.00	CR	30	4	11.6	0.54	150	57.4	46	277
WU033.00	CR	30	4	12.2	0.56	460	63.7	46	277
WU034.00	CR	30	4	9.5	0.48	93	39.2	46	277
WU034.50	CR	30	4	7.9	0.49	240	33.9	46	277
WU035.00	CA	30	4	4.7	0.35	93	13.4	46	277
WU036.00	CA	30	3	6.7	0.46	240	25.7	47	282
WU037.00	CA	30	3	8.7	0.63	1100	55.3	47	282
WU037.50	CA	30	3	8.3	0.63	460	53.3	47	282
WU038.00	CA	30	3	5.9	0.69	1380	45.8	47	282
WU039.00	A	30	3	4.5	0.37	93	13.3	47	282
WU040.00	A	30	3	4.1	0.29	23	9.6	47	282
WU041.00	A	30	3	5.0	0.38	93	15.4	47	282
WU042.00	A	30	3	3.7	0.24	23	7.4	47	282
WU042.50	A	30	3	7.6	0.63	460	48.3	47	282
WU043.00	A	30	3	5.7	0.47	93	23.0	47	282



WU044.00	A	30	3	5.5	0.45	93	20.6	47	282
WU045.00	A	30	3	4.7	0.48	290	19.6	47	282
WU045.50	P	30	3	12.0	0.62	240	74.9	47	282
WU045.80	A	30	3	4.4	0.44	240	16.3	47	282
WU046.00	A	30	3	4.1	0.36	93	11.9	47	282
WU047.00	A	30	3	3.7	0.29	33	8.7	47	282
WU048.00	A	30	3	5.8	0.49	240	24.2	47	282
WU048.50	A	30	3	5.7	0.59	240	32.6	47	282
WU048.80	P	12	3	3.8	0.27	14	8.5	44	258
WU050.00	P	30	3	6.3	0.63	1100	40.9	47	282
WU055.50	P	11	2	3.0	0.18	9.1	5.2	45	269
WU056.00	A	29	3	2.8	0.07	3.6	3.5	47	282
WU056.50	P	29	3	2.9	0.07	3.6	3.6	47	282
WU057.00	P	29	3	3.7	0.29	43	8.6	47	282
WU058.00	A	29	3	3.1	0.25	58	6.5	47	282
WU059.00	P	29	3	3.1	0.11	9.1	4.3	47	282
WU060.00	A	29	3	3.1	0.15	9.1	4.7	47	282
WU061.00	A	29	3	2.9	0.11	9.1	4.1	47	282

The data in table 2 shows the P90 results for all of the conditionally approved stations when they were sampled in the open status. All data collected when the area was closed due to rainfall events of  $\geq 1.5$ " in a twenty four hour period has been removed .All of the Rainfall Conditional stations met approved standards when the area was in the open status.

**Table 2 Rainfall Conditional Area in Open Status**  
 MAINE DEPARTMENT OF MARINE RESOURCES

As of: February 15, 2007

Fecal Coliform Geometric Mean and Percent Variability  
 For the Years 2002 Through 2006 - (01/01 - 12/31) ( - )  
 Excludes Dates:  
 Status = **Open** Stations Only  
 Strategy = Random Only  
 Excludes Flood Data  
 Excludes Inactive Stations  
 Samples Limited to Latest 30  
 Salinity  $\geq 0$  %

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WU019.00	CA	30	3	3.7	0.26	43	8.0	47	282
WU020.00	CA	30	3	5.2	0.42	93	17.6	47	282
WU021.00	CA	21	3	4.9	0.32	23	12.9	46	275
WU022.00	CA	30	4	6.5	0.43	93	23.3	46	277
WU023.00	CA	30	3	5.6	0.37	43	16.7	47	282
WU025.00	CA	30	3	6.4	0.43	43	22.8	47	282
WU032.00	CR	30	4	11.3	0.52	150	51.7	46	277
WU033.00	CR	30	4	12.0	0.55	460	61.1	46	277
WU034.00	CR	30	4	9.3	0.48	93	38.4	46	277
WU034.50	CR	30	4	8.3	0.51	240	37.7	46	277
WU035.00	CA	30	4	4.6	0.30	23	11.0	46	277
WU036.00	CA	30	3	5.6	0.38	43	16.8	47	282
WU037.00	CA	30	3	6.9	0.57	1100	36.4	47	282
WU037.50	CA	30	3	6.0	0.49	460	25.8	47	282
WU038.00	CA	30	3	4.3	0.51	1380	19.2	47	282



Stations 32-34.5 are conditional on the operations at the Thomaston Treatment facility and the Warren Sanitary District. These stations were often sampled when the conditionally approved stations were sampled to see if the area could be reopened after a rainfall event. This was done to see if these stations (32-34.5) reacted similarly to the rainfall conditional stations. This data table shows the P90 scores for the conditionally restricted stations with rainfall samples collected following  $\geq 1.5$  inches of rain having been removed. This data was calculated manually using the NSSP P90 data program in excel. All of these stations have three data points derived from MF analysis therefore the P90 standard for approved criteria would be 47. All of the conditionally restricted stations currently meet approved standards when data collected following  $\geq 1.5$  inches of rainfall is removed. The data used in the P90 calculation was collected in the period from 2002-2006.

**Table 3 Stations WU 32 - 34.5 Evaluated Excluding Rainfall Data  $\geq 1.5$  Inches of Rain**

Station 32			Station 33		
	Score	Log Score		Score	Log score
1	7.3	0.863323	1	4	0.60206
2	1.9	0.278754	2	12	1.079181
3	6	0.778151	3	14	1.146128
4	43	1.633468	4	3.6	0.556303
5	23	1.361728	5	93	1.968483
6	2.9	0.462398	6	3.6	0.556303
7	9.1	0.959041	7	9.1	0.959041
8	23	1.361728	8	9.1	0.959041
9	43	1.633468	9	3.6	0.556303
10	9.1	0.959041	10	43	1.633468
11	2.9	0.462398	11	23	1.361728
12	2.9	0.462398	12	2.9	0.462398
13	2.9	0.462398	13	3.6	0.556303
14	3.6	0.556303	14	7.3	0.863323
15	23	1.361728	15	23	1.361728
16	43	1.633468	16	3	0.477121
17	43	1.633468	17	23	1.361728
18	9.1	0.959041	18	3.6	0.556303
19	9.1	0.959041	19	9.1	0.959041
20	43	1.633468	20	3.6	0.556303
21	9.1	0.959041	21	3.6	0.556303
22	23	1.361728	22	9.1	0.959041
23	3.6	0.556303	23	43	1.633468
24	3.6	0.556303	24	15	1.176091
25	2.9	0.462398	25	2.9	0.462398
26	3.6	0.556303	26	3.6	0.556303
27	2.9	0.462398	27	2.9	0.462398
28	3.6	0.556303	28	9.1	0.959041
29	21	1.322219	29	2.9	0.462398
30	2.9	0.462398	30	9.1	0.959041
Log Standard Deviation	0.457		Log Standard Deviation	0.416236	
Log Score Mean	0.92234		Log Score Mean	0.890626	
Geometric Mean	8.362578		Geo. Mean		7.773661
	90th %	32.15884		90th %	26.50988

Station 34			Station 34.5		
	Score	Log Score		Score	Log score
1	7.3	0.863323	1	4	0.60206
2	2	0.30103	2	4	0.60206
3	36	1.556303	3	62	1.792392
4	3.6	0.556303	4	7.3	0.863323
5	43	1.633468	5	5.7	0.755875
6	2.9	0.462398	6	2.9	0.462398
7	3.6	0.556303	7	9.1	0.959041
8	21	1.322219	8	15	1.176091
9	9.1	0.959041	9	2.9	0.462398
10	23	1.361728	10	21	1.322219
11	9.1	0.959041	11	23	1.361728
12	2.9	0.462398	12	2.9	0.462398
13	3.6	0.556303	13	3.6	0.556303



14	9.1	0.959041	14	3.6	0.556303
15	23	1.361728	15	2.9	0.462398
16	9.1	0.959041	16	7.3	0.863323
17	43	1.633468	17	9.1	0.959041
18	23	1.361728	18	2.9	0.462398
19	2.9	0.462398	19	43	1.633468
20	23	1.361728	20	3.6	0.556303
21	3	0.477121	21	3.6	0.556303
22	43	1.633468	22	7.3	0.863323
23	43	1.633468	23	3.6	0.556303
24	23	1.361728	24	2.9	0.462398
25	93	1.968483	25	2.9	0.462398
26	9.1	0.959041	26	2.9	0.462398
27	2.9	0.462398	27	3.6	0.556303
28	3.6	0.556303	28	3.6	0.556303
29	3.6	0.556303	29	2.9	0.462398
30	2.9	0.462398	30	9.1	0.959041
Log Standard Deviation	0.485175		Log Standard Deviation	0.36992	
Log Score Mean	0.990657		Log Score Mean	0.758956	
Geo. Mean		9.787161	Geometric Mean	5.740585	
	90th %	40.89599		90th %	17.07866

### Shoreline Survey Activity

The upper portion of the St George River was surveyed in 2005. This area includes the shore on both sides of the river north of a line drawn across the river from Bradford Point on the western side in Cushing to Watts Point on the eastern side in the town of St George. The new Sanitary Survey Report of this area will be completed in early 2007. The completion date was delayed in order for a more comprehensive rainfall assessment to be completed.

A shoreline survey is ongoing on the lower portion of the river which includes both the western and eastern shores of the river south of a line drawn across the river from Bradford Point on the western side in Cushing to Watts Point on the eastern side in the town of St George. This survey will be completed in 2007. The new sanitary survey of this portion of the river will be written at the close of the 2007 sampling season.

No shoreline survey information is shown in this document because both surveys are extensive and current and can be viewed in the Sanitary Survey Reports for each area.

### Shellfish Aquaculture Leases

There are currently five lease sites on the St George River. The information on these lease sites is shown below.

#### **STG BPT3**

**Original Date:** 1/29/2004 **Effective Date:** 1/29/2004 **Expiration Date:** 1/28/2014

**NOAA Chart:** 13301

**Description:** Bradford Point St. George River Cushing Knox County

**Acreage:** 15.9

**Conditions:**

**Transfer/Renewal History:**

**Species Cultivated:** oyster eastern / american (*Crassostrea virginica*) - oyster european flat (*Ostrea edulis*) - clam surf / hen (*Spisula solidissima*) - clam northern quahog / hard (*Mercenaria mercenaria*) - clam soft (*Mya arenaria*) - mussel blue sea (*Mytilus edulis*)

**Cultivation Technique(s):** Suspended

**Marshall Point Sea Farm, LLC**



Ashlee Stanley  
PO Box 285  
Port Clyde, ME 04855  
207-372-8443 Fax:

Navigation, lobster fishing and recreational boating and fishing shall be allowed in the open areas of the lease; the lease area shall be marked in accordance with U.S. Coast Guard and Department of Marine Resources regulations Chapter 2.80.

Formerly experimental leases MPTS BPT1 and BPT2.  
Chart and lease boundaries not to be used for legal purposes.

**PHI 05**

**Original Date:** 6/27/2005 **Effective Date:** 1/30/2007 **Expiration Date:** 12/31/2007

**NOAA Chart:** 13301

**Description:** St. George River Thomaston Knox County

**Acreage:** 0.01

**Conditions:**

**Transfer/Renewal History:**

**Species Cultivated:** oyster eastern / american (*Crassostrea virginica*)

**Cultivation Technique(s):** Upweller or Flupsy

**Phillips, Weatherly**

Weatherly Phillips

PO Box 285

Port Clyde, ME 04855

207-372-8443 Fax:

Formerly LPA 2005-34.

Chart and lease boundaries not to be used for legal purposes.

**STG US2**

**Original Date:** 5/17/2003 **Effective Date:** 5/17/2003 **Expiration Date:** 5/16/2013

**NOAA Chart:** 13301

**Description:** St. George River Warren Knox County

**Acreage:** 0.17

**Conditions:**

**Transfer/Renewal History:**

**Species Cultivated:** oyster eastern / american (*Crassostrea virginica*)

**Cultivation Technique(s):** Suspended

**Pemaquid Oyster Company Inc.**

Christopher Davis

PO Box 302

Waldoboro, ME 04572

207-832-6067 Fax:

Commercial and recreational fishing and boating activities shall be allowed on the open areas of the lease; and the lease area shall be marked in accordance with U.S. Coast Guard and Department of Marine Resources regulations Chapter 2.80.

Chart and lease boundaries not to be used for legal purposes.

**STG BC**

**Original Date:** 1/29/2004 **Effective Date:** 1/29/2004 **Expiration Date:** 1/28/2014

**NOAA Chart:** 13301

**Description:** Broad Cove St. George River Cushing Knox County

**Acreage:** 5

**Conditions:**

**Transfer/Renewal History:**

**Species Cultivated:** oyster eastern / american (*Crassostrea virginica*)

**Cultivation Technique(s):** Suspended



**McBean, Peter and Susan**

Peter McBean  
238 Pleasant Point Road  
Cushing, ME 04563  
207-354-8064 Fax:

Navigation, lobster fishing and recreational fishing and boating shall be allowed in the open areas of the lease; the lease area shall be marked in accordance with U.S. Coast Guard and Department of Marine Resources regulations Chapter 2.80.

Formerly experimental lease MCBN CK.

Chart and lease boundaries not to be used for legal purposes.

**STG OC**

**Original Date:** 5/14/2004 **Effective Date:** 5/14/2004 **Expiration Date:** 5/13/2014

**NOAA Chart:** 13301

**Description:** Otis Cove St. George River Tenants Harbor Knox County

**Acreage:** 2

**Conditions:**

**Transfer/Renewal History:**

**Species Cultivated:** oyster eastern / american (*Crassostrea virginica*) - clam northern quahog / hard (*Mercenaria mercenaria*) - mussel blue sea (*Mytilus edulis*)

**Cultivation Technique(s):** Suspended

**Port Clyde Oyster Company**

Timothy Dowling  
25 Ridge Road  
Tenants Harbor, ME 04860  
207-372-8575 Fax:

Navigation, lobster fishing and recreational boating and fishing shall be allowed on the lease; the lease area shall be marked in accordance with U.S. Coast Guard and Department of Marine Resources regulations Chapter 2.80.

Chart and lease boundaries not to be used for legal purposes.

To receive additional information on these lease sites you can go to the aquaculture website at:

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

**Classification Changes Required or Requested**

Sampling station WU 5 no longer meets approved standards. This site will be reclassified to restricted for shellfish harvest. This area was surveyed in 2006. No point sources were identified during the survey.

Sampling station WU 42.5 in Watts Cove, no longer meets approved standards. This area was surveyed in 2006. No point sources were identified at that time; however several of the streams in the immediate area received elevated scores. I recommend closing this area and re-surveying the area during the 2007 sampling season. If this second survey still reveals no point sources then the area will be reclassified to restricted for shellfish harvest. Three new sampling stations will be added to monitor the water quality at the ends of the proposed closure lines.

Two sites were found in non-compliance during the 2005 FDA review of the growing area. These sites are Broad Cove in Cushing and Otis Cove in St George. Both of these areas were identified as having inadequate closure lines.

The southern section of Otis Cove will be reclassified to prohibited and will have an additional sampling station placed at the end of the current closure line. If it can be shown that the present closure line is appropriate, the area will reopen for shellfish harvest.



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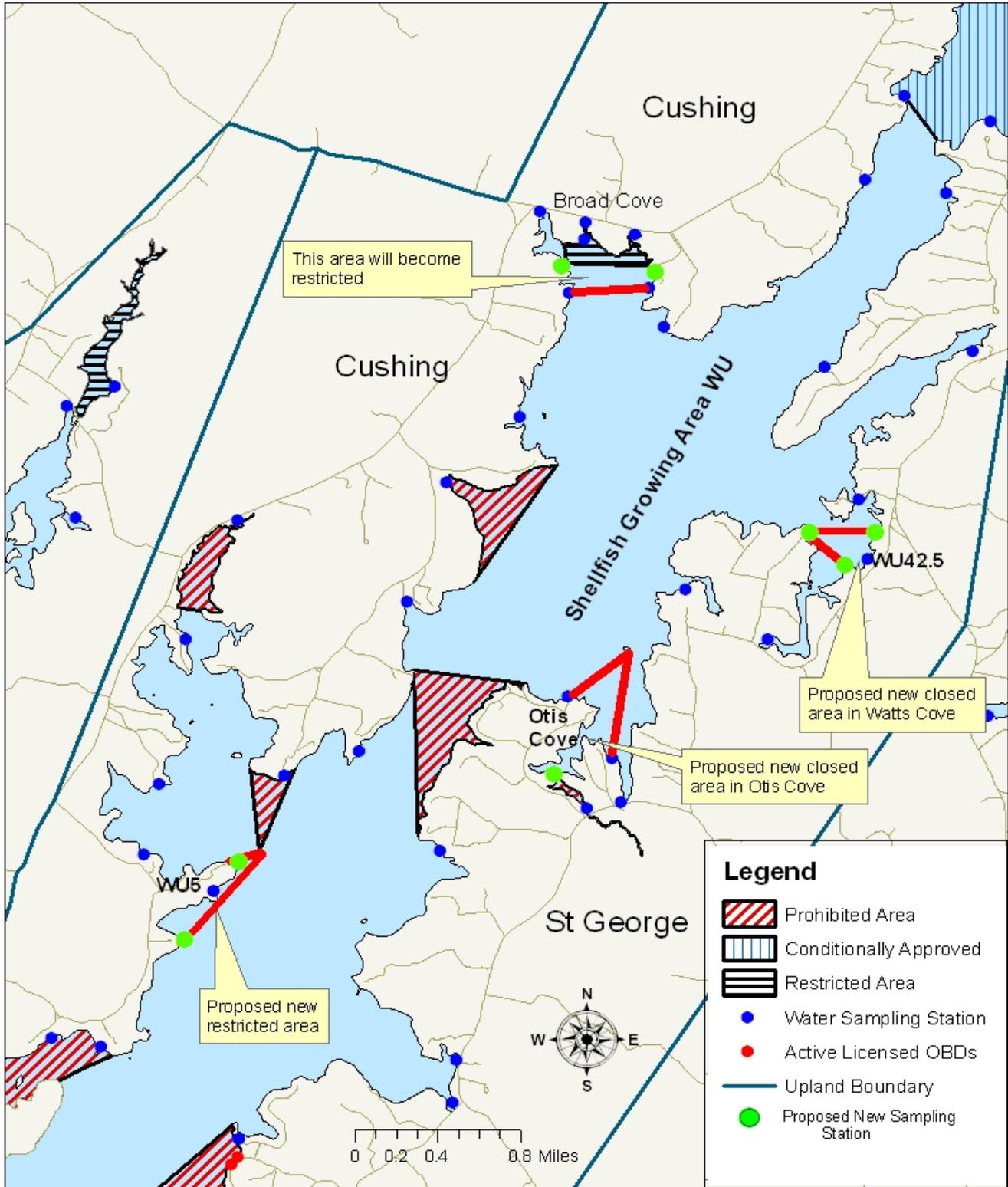
Broad Cove will be reclassified to restricted for shellfish harvest. Two new sampling stations will be added at the ends of the present closure line. If it can be shown that the present closure line is appropriate, the area will reopen for shellfish harvest. Please refer to the map on page 16 showing the proposed new closure lines.



**Maine Department of Marine Resources**  
 2006 Annual Review Shellfish Growing Area WU Southern Portion  
 Proposed Classification Changes Towns of Cushing and St George



2/16/07





**Legal notices**

To view the most current legal notices and accompanying maps you can go to our website at:

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

**Discussion and summary**

Shellfish Growing Area WU has continued to be a high resource area. When the rainfall conditional area is closed there are usually several approved flats available for digging in the lower portion of the river. In 2006, clammers observed a good set of seed clams on the river which should assure future resource potential.

During the 2007 sampling season DMR staff is planning to start collecting rainfall data following rainfall events of  $\geq .5$  inches. Due to the number of sampling stations on the river, the limited staff and the number of samples the lab staff can run on any given day, we will initially collect rainfall data only in the rainfall conditional portion of the river. This area will be targeted first so that a more comprehensive assessment of the rainfall impact on this area can be done. After data has been collected on the upper portion of the river, the lower portion will also be assessed for rainfall impact.

Table 4 shows the water quality score results for each station for every date that the station was sampled during the 2006 sampling season. All of the stations in shellfish growing area WU were sampled the required number of times. Approved active stations were sampled six times over the course of the year. All conditionally restricted stations were sampled each month that the area was in the open status.

**Table 4 Tabulated Data for WU 2006**

**MAINE DEPARTMENT OF MARINE RESOURCES**

As of: February 15, 2007

Tabulated Station Data for Area(s): WU - WU  
 For the Years 2006 Through 2006 - (01/01 - 12/31) ( - )  
 Exclude Dates:  
 Status = Open and Closed Stations  
 Strategy = Random Only  
 Excludes Flood Data = Y  
 Excludes Inactive Stations

Station	Date	Collector	Tide	Temp	Weather	Sal	Strat	ADV	Stat	CL	FECOL	A1COL	MFCOL	WIND
WU001.00	03/13/06	JB	E	1.5	O	32	R	-	O	A		<3.0	-	S
WU001.00	07/11/06	FP	F	9	-	29	R	-	O	A		23	-	SW
WU001.00	08/07/06	FP	E	10	O	31	R	-	O	A		5.7	-	SW
WU001.00	09/06/06	FP	E		O	31	R	P	O	A		-	18	CL
WU001.00	10/25/06	JXK	F	12	P	32	R	P	O	A		-	31	N
WU001.00	11/13/06	LL	LE	9	O	28	R	P	O	A		-	2	NE
WU002.00	03/13/06	JB	E	2	O	32	R	B	C	P		<3.0	-	CL
WU002.00	07/11/06	FP	F	9	-	29	R	-	C	P		23	-	SW
WU002.00	08/07/06	FP	E	10	O	30	R	-	C	P		<3.0	-	SW
WU002.00	09/06/06	FP	E		O	31	R	P	C	P		-	94	S
WU002.00	10/25/06	JXK	F	13	P	32	R	P	C	P		-	2	N
WU002.00	11/13/06	LL	LE	9	O	28	R	P	C	P		-	7.3	NE
WU003.00	03/13/06	JB	E	2	O	30	R	-	O	A		<3.0	-	CL
WU003.00	07/11/06	FP	F	9	-	29	R	-	O	A		93	-	SW
WU003.00	08/07/06	FP	E	10	O	30	R	N	O	A		15	-	SW
WU003.00	09/06/06	FP	E		O	30	R	P	O	A		-	540	S
WU003.00	10/25/06	JXK	F	12	P	30	R	PN	O	A		-	7.3	N
WU003.00	11/13/06	LL	LE	9	O	28	R	P	O	A		-	5.5	NE
WU004.00	03/13/06	JB	E	2	O	32	R	-	O	A		3.6	-	CL
WU004.00	07/11/06	FP	F	9	-	29	R	-	O	A		<3.0	-	SW
WU004.00	08/07/06	FP	HE	10	O	30	R	-	O	A		3.6	-	SW
WU004.00	09/06/06	FP	HE		O	30	R	P	O	A		-	13	S
WU004.00	10/25/06	JXK	F	12	P	31	R	P	O	A		-	2	N
WU004.00	11/13/06	LL	LE	9	O	28	R	P	O	A		-	2	NE
WU005.00	03/13/06	JB	E	1.5	O	30	R	-	C	P		<3.0	-	CL
WU005.00	07/11/06	FP	F	11	-	29	R	-	C	P		<3.0	-	SW



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WU005.00	08/07/06	FP	HE	10	O	30	R	-	C	P	460	-	SW
WU005.00	09/06/06	FP	HE		O	31	R	P	C	P	-	11	CL
WU005.00	10/25/06	JXK	F	12	P	29	R	P	C	P	-	<2.0	CL
WU005.00	11/13/06	LL	LE	9	O	26	R	P	C	P	-	<2.0	NE
WU006.00	03/13/06	JB	E	1	O	31	R	-	C	P	<3.0	-	CL
WU006.00	07/11/06	FP	F	9	-	29	R	N	C	P	43	-	SW
WU006.00	08/07/06	FP	HE	10	O	29	R	B	C	P	23	-	SW
WU006.00	09/06/06	FP	HE		O	30	R	PN	C	P	-	12	CL
WU006.00	10/25/06	JXK	F	13	P	28	R	P	C	P	-	48	N
WU006.00	11/13/06	LL	L	9	O	22	R	P	C	P	-	20	NE
WU006.50	03/13/06	JB	E	2	O	31	R	-	O	A	<3.0	-	S
WU006.50	07/11/06	FP	F	9	-	29	R	-	O	A	43	-	SW
WU006.50	08/07/06	FP	HE	10	O	29	R	B	O	A	<3.0	-	SW
WU006.50	09/06/06	FP	HE		O	30	R	P	O	A	-	14	CL
WU006.50	10/25/06	JXK	F	13	P	30	R	P	O	A	-	8	CL
WU006.50	11/13/06	LL	L	9	O	26	R	P	O	A	-	8	NE
WU007.00	03/13/06	JB	E	2	O	31	R	-	O	A	3.6	-	CL
WU007.00	07/11/06	FP	F	9	-	30	R	-	O	A	43	-	SW
WU007.00	08/07/06	FP	HE	10	O	29	R	-	O	A	<3.0	-	SW
WU007.00	09/06/06	FP	HE		O	30	R	P	O	A	-	4	CL
WU007.00	10/25/06	JXK	HF	13	P	24	R	P	O	A	-	14	CL
WU007.00	11/13/06	LL	L	9	O	25	R	P	O	A	-	4	NE
WU007.30	03/13/06	JB	E	3	O	5	R	NW	C	P	<3.0	-	CL
WU007.30	07/11/06	FP	F	12	-	0	R	N	C	P	75	-	SW
WU007.30	08/07/06	FP	HE	11	O	2	R	N	C	P	15	-	SW
WU007.30	09/06/06	FP	HE		O	29	R	PN	C	P	-	28	CL
WU007.30	10/25/06	JXK	HF	10	P	4	R	PN	C	P	-	50	CL
WU007.30	11/13/06	LL	L	9	O	0	R	P	C	P	-	20	NE
WU009.00	03/13/06	JB	E	2	O	31	R	-	C	P	3.6	-	SW
WU009.00	07/11/06	FP	F	10	-	25	R	-	C	P	23	-	SW
WU009.00	08/07/06	FP	H	10	O	29	R	-	C	P	3.6	-	SW
WU009.00	09/06/06	FP	HE		O	31	R	PW	C	P	-	12	CL
WU009.00	10/25/06	JXK	HF	13	P	30	R	P	C	P	-	<2.0	CL
WU009.00	11/13/06	LL	L	9	O	28	R	PW	C	P	-	2	NE
WU010.00	03/13/06	JB	E	2	O	31	R	-	O	A	<3.0	-	CL
WU010.00	07/11/06	FP	F	10	-	27	R	-	O	A	3.6	-	SW
WU010.00	08/07/06	FP	H	10	O	29	R	-	O	A	93	-	SW
WU010.00	09/06/06	FP	H		O	30	R	P	O	A	-	10	CL
WU010.00	10/25/06	JXK	HF	13	P	29	R	P	O	A	-	2	N
WU010.00	11/13/06	LL	LF	9	O	26	R	P	O	A	-	22	NE
WU012.00	03/13/06	JB	E	3	O	24	R	-	O	A	7.3	-	S
WU012.00	07/11/06	FP	F	10	-	15	R	N	O	A	93	-	SW
WU012.00	08/07/06	FP	H	10	O	25	R	N	O	A	15	-	SW
WU012.00	09/06/06	FP	H		O	30	R	PN	O	A	-	54	CL
WU012.00	10/25/06	JXK	HF	13	P	8	R	PN	O	A	-	18	N
WU012.00	11/13/06	LL	LF	9	O	2	R	P	O	A	-	34	NE
WU013.00	03/13/06	JB	E	3	O	26	R	N	C	P	<3.0	-	CL
WU013.00	07/11/06	FP	F	10	-	26	R	N	C	P	3.6	-	SW
WU013.00	08/07/06	FP	H	9	O	28	R	N	C	P	3.6	-	SW
WU013.00	09/06/06	FP	H		O	30	R	PN	C	P	-	11	CL
WU013.00	10/25/06	JXK	HF	13	P	26	R	PN	C	P	-	9.1	N
WU013.00	11/13/06	LL	LF	9	O	0	R	P	C	P	-	36	NE
WU013.50	03/13/06	JB	E	3	O	30	R	-	O	A	<3.0	-	CL
WU013.50	07/11/06	FP	F	10	-	26	R	N	O	A	9.1	-	SW
WU013.50	08/07/06	FP	H	10	O	28	R	N	O	A	3.6	-	SW
WU013.50	09/06/06	FP	H		O	30	R	PN	O	A	-	2	CL
WU013.50	10/25/06	JXK	H	13	P	25	R	PN	O	A	-	4	N
WU013.50	11/13/06	LL	LF	9	O	15	R	P	O	A	-	35	NE
WU013.80	03/13/06	JB	HE	4	O	30	R	-	O	A	<3.0	-	S
WU013.80	07/11/06	FP	F	10	-	27	R	-	O	A	3.6	-	SW
WU013.80	08/07/06	FP	H	10	O	29	R	-	O	A	43	-	SW



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WU013.80	09/06/06	FP	H		O	30	R	P	O	A	-	100	CL
WU013.80	10/25/06	JXX	H	13	P	30	R	P	O	A	-	2	N
WU013.80	11/13/06	LL	LF	9	O	24	R	P	O	A	-	16	NE
WU014.00	03/13/06	JB	HE	3	O	20	R	N	O	A	<3.0	-	CL
WU014.00	07/11/06	FP	HF	12	-	27	R	N	O	A	23	-	SW
WU014.00	08/07/06	FP	H	10	O	28	R	N	O	A	23	-	SW
WU014.00	09/06/06	FP	H		O	30	R	PN	O	A	-	16	CL
WU014.00	10/25/06	JXX	H	13	P	28	R	PN	O	A	-	2	CL
WU014.00	11/13/06	LL	F	9	O	0	R	P	O	A	-	31	NE
WU014.50	03/13/06	JB	HE	3	O	30	R	-	O	R	<3.0	-	SW
WU014.50	07/11/06	FP	HF	11	-	27	R	-	O	R	93	-	SW
WU014.50	08/07/06	FP	HF	10	O	28	R	W	O	R	460	-	SW
WU014.50	09/06/06	FP	HF		O	30	R	PNW	O	R	-	25	CL
WU014.50	10/25/06	JXX	H	13	P	28	R	P	O	R	-	4	N
WU014.50	11/13/06	LL	LF	9	O	10	R	P	O	R	-	40	NE
WU015.00	03/13/06	JB	HE	2	O	30	R	N	O	R	3.6	-	SW
WU015.00	07/11/06	FP	HF	12	-	26	R	N	O	R	150	-	SW
WU015.00	08/07/06	FP	HF	10	O	25	R	N	O	R	39	-	SW
WU015.00	09/06/06	FP	HF		O	28	R	PW	O	R	-	64	CL
WU015.00	10/25/06	JXX	H	13	P	28	R	PN	O	R	-	11	N
WU015.00	11/13/06	LL	F	9	O	1	R	P	O	R	-	48	NE
WU016.00	03/13/06	JB	HE	2	O	18	R	N	O	R	460	-	CL
WU016.00	07/11/06	FP	HF	12	-	23	R	N	O	R	43	-	SW
WU016.00	08/07/06	FP	HF	10	O	21	R	N	O	R	93	-	SW
WU016.00	09/06/06	FP	HF		O	24	R	PN	O	R	-	18	CL
WU016.00	10/25/06	JXX	H	13	P	15	R	PN	O	R	-	36	N
WU016.00	11/13/06	LL	F	9	O	2	R	P	O	R	-	148	NE
WU016.50	03/13/06	JB	HE	2	O	30	R	-	O	A	<3.0	-	CL
WU016.50	07/11/06	FP	HF	10	-	27	R	-	O	A	<3.0	-	SW
WU016.50	08/07/06	FP	HF	9	O	28	R	-	O	A	21	-	SW
WU016.50	09/06/06	FP	HF		O	30	R	P	O	A	-	18	CL
WU016.50	10/25/06	JXX	H	13	P	25	R	P	O	A	-	10	N
WU016.50	11/13/06	LL	F	9	O	27	R	P	O	A	-	<2.0	NE
WU017.00	03/13/06	JB	H	2	O	30	R	-	O	A	<3.0	-	CL
WU017.00	07/11/06	FP	HF	10	-	27	R	-	O	A	23	-	SW
WU017.00	08/07/06	FP	HF	10	O	28	R	-	O	A	23	-	SW
WU017.00	09/06/06	FP	HF		O	30	R	P	O	A	-	2	CL
WU017.00	10/25/06	JXX	HE	13	P	28	R	P	O	A	-	2	N
WU017.00	11/13/06	LL	F	9	O	25	R	P	O	A	-	14	NE
WU018.00	03/13/06	JB	H	2	O	30	R	-	O	A	<3.0	-	CL
WU018.00	07/11/06	FP	HF	10	-	27	R	-	O	A	5.7	-	SW
WU018.00	07/31/06	FP	F	11	C	24	R	-	O	A	23	-	CL
WU018.00	08/07/06	FP	F	10	O	28	R	-	O	A	43	-	SW
WU018.00	09/06/06	FP	HF		O	30	R	P	O	A	-	8	CL
WU018.00	10/25/06	JXX	HE	13	P	25	R	P	O	A	-	4	N
WU018.00	11/13/06	LL	F	9	O	24	R	P	O	A	-	56	NE
WU018.00	12/05/06	FP	H	3	-	26	R	-	O	A	-	2	CL
WU019.00	04/09/06	GRTA	HF	3	C	25	R	HN	O	CA	<3.0	-	NW
WU019.00	06/04/06	GRTA	E	10	R	26	R	P	C	CA	23	-	NE
WU019.00	07/09/06	GRTA	F	16	C	26	R	-	C	CA	9.1	-	-
WU019.00	07/31/06	FP	F	11	C	25	R	-	O	CA	<3.0	-	N
WU019.00	08/06/06	GRTA	H	16.5	-	27	R	NH	O	CA	<3.0	-	CL
WU019.00	09/10/06	GRTA	F	16	C	30	R	-	O	CA	-	6	NW
WU019.00	10/01/06	GRTA	E	12	C	30	R	HN	O	CA	-	4	NE
WU019.00	12/05/06	FP	HE	3	-	25	R	-	O	CA	-	<2.0	N
WU020.00	04/09/06	GRTA	HF	2.5	C	20	R	HN	O	CA	<3.0	-	CL
WU020.00	06/04/06	GRTA	E	10	R	20	R	P	C	CA	93	-	NE
WU020.00	07/09/06	GRTA	F	17	C	23	R	-	C	CA	23	-	CL
WU020.00	07/31/06	FP	F	14	C	23	R	N	O	CA	<3.0	-	CL
WU020.00	08/06/06	GRTA	H	16	-	26	R	N	O	CA	<3.0	-	CL
WU020.00	09/10/06	GRTA	F	16.5	C	30	R	-	O	CA	-	5.5	NE
WU020.00	10/01/06	GRTA	E	12	C	28	R	-	O	CA	-	3.6	NE
WU020.00	12/05/06	FP	HE	2	-	20	R	N	O	CA	-	4	N



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WU021.00	04/09/06	GRTA	HF	2	C	20	R	HN	O	CA	3.6	-	NE
WU021.00	06/04/06	GRTA	E	10	R	10	R	PH	C	P	240	-	NE
WU021.00	07/09/06	GRTA	F	18	C	21	R	-	C	CA	43	-	NW
WU021.00	07/31/06	FP	F	16	C	22	R	-	O	CA	9.1	-	CL
WU021.00	08/06/06	GRTA	H	16.5	-	25	R	N	O	CA	<3.0	-	CL
WU021.00	09/10/06	GRTA	F	17	C	29	R	-	O	CA	-	<2.0	NE
WU021.00	10/01/06	GRTA	E	12.5	C	28	R	-	O	CA	-	15	E
WU021.00	12/05/06	FP	HE	4	-	24	R	N	O	CA	-	15	CL
WU022.00	04/09/06	GRTA	H	2	C	20	R	N	O	CA	3.6	-	NE
WU022.00	07/09/06	GRTA	HF	17.5	C	20	R	-	C	CA	9.1	-	W
WU022.00	07/31/06	FP	F	16	C	22	R	-	O	CA	<3.0	-	CL
WU022.00	08/06/06	GRTA	H	16	-	22	R	N	O	CA	23	-	CL
WU022.00	09/10/06	GRTA	F	18	C	28	R	-	O	CA	-	4	N
WU022.00	09/18/06	FP	HE	15	P	30	R	-	O	CA	-	18	CL
WU022.00	10/01/06	GRTA	E	12.5	C	28	R	-	O	CA	-	32	E
WU022.00	12/05/06	FP	HE	1	-	20	R	-	O	CA	-	12	CL
WU023.00	04/09/06	GRTA	H	3	C	16	R	HN	O	CA	3.6	-	NW
WU023.00	06/04/06	GRTA	LE	10.5	R	22	R	P	C	CA	460	-	NE
WU023.00	07/09/06	GRTA	HF	16	C	22	R	-	C	CA	23	-	-
WU023.00	07/31/06	FP	F	16	C	16	R	-	O	CA	3.6	-	CL
WU023.00	08/06/06	GRTA	H	17	-	21	R	NH	O	CA	3.6	-	CL
WU023.00	09/10/06	GRTA	F	18	C	28	R	-	O	CA	-	4	N
WU023.00	10/01/06	GRTA	E	11	C	25	R	HN	O	CA	-	26	NE
WU023.00	12/05/06	FP	H	3	-	20	R	-	O	CA	-	<2.0	N
WU025.00	04/09/06	GRTA	H	2.5	C	16	R	HN	O	CA	<3.0	-	NE
WU025.00	06/04/06	GRTA	LE	9	R	28	R	P	C	CA	210	-	NE
WU025.00	07/09/06	GRTA	HF	19	C	15	R	-	C	CA	23	-	CL
WU025.00	07/31/06	FP	HF	14	C	19	R	-	O	CA	23	-	SW
WU025.00	08/06/06	GRTA	H	17.5	-	19	R	N	O	CA	9.1	-	CL
WU025.00	09/10/06	GRTA	F	19	C	27	R	-	O	CA	-	6	N
WU025.00	10/01/06	GRTA	E	12	C	25	R	N	O	CA	-	24	NE
WU025.00	12/05/06	FP	H	2	-	25	R	-	O	CA	-	<2.0	CL
WU028.00	04/09/06	GRTA	H	4	C	20	R	SNM	C	P	3.6	-	NW
WU028.00	05/22/06	FP	HE	10	P	20	R	P	C	P	9.1	-	W
WU028.00	06/04/06	GRTA	LE	13	R	7	R	P	C	P	>1100	-	NE
WU028.00	07/09/06	GRTA	HF	16	C	22	R	-	C	P	23	-	-
WU028.00	09/10/06	GRTA	HE	16	C	30	R	-	C	P	-	8	W
WU028.00	09/18/06	FP	HE	15	P	28	R	-	C	P	-	<2.0	CL
WU028.00	10/01/06	GRTA	E	13	C	28	R	N	C	P	-	30	NE
WU028.00	12/05/06	FP	F	5	-	26	R	-	C	P	-	4	CL
WU029.00	04/09/06	GRTA	H	3	C	22	R	NH	C	P	<3.0	-	NE
WU029.00	05/22/06	FP	E	10	P	18	R	P	C	P	3.6	-	W
WU029.00	06/04/06	GRTA	E	11	R	4	R	P	C	P	460	-	NE
WU029.00	07/09/06	GRTA	F	16	C	11	R	-	C	P	80	-	CL
WU029.00	08/06/06	GRTA	HE	16	-	15	R	N	C	P	93	-	-
WU029.00	09/10/06	GRTA	HF	17	C	26	R	-	C	P	-	9.1	N
WU029.00	10/01/06	GRTA	E	12.5	C	10	R	-	C	P	-	38	E
WU029.00	12/05/06	FP	F	-5	-	8	R	N	C	P	-	8	CL
WU030.00	04/09/06	GRTA	H	2	C	5	R	NHS	C	P	3.6	-	NE
WU030.00	05/22/06	FP	E	11	P	2	R	P	C	P	7.3	-	W
WU030.00	06/04/06	GRTA	E	11	R	0	R	P	C	P	1100	-	NE
WU030.00	07/09/06	GRTA	F	17	C	0	R	-	C	P	460	-	CL
WU030.00	08/06/06	GRTA	HE	16	-	9	R	N	C	P	93	-	-
WU030.00	09/10/06	GRTA	HF	17.5	C	18	R	W	C	P	-	62	N
WU030.00	10/01/06	GRTA	E	9	C	0	R	-	C	P	-	110	CL
WU030.00	12/05/06	FP	F	0	-	0	R	-	C	P	-	18	CL
WU032.00	04/09/06	GRTA	H	4	C	25	R	N	C	CR	<3.0	-	NE
WU032.00	05/22/06	FP	E	11	P	10	R	PNW	O	CR	23	-	W
WU032.00	06/04/06	GRTA	E	10.5	R	13	R	P	O	CR	93	-	N
WU032.00	06/18/06	FP	F	20	-	4	R	-	O	CR	3.6	-	S
WU032.00	07/09/06	GRTA	F	16	C	16	R	-	O	CR	23	-	CL
WU032.00	08/06/06	GRTA	H	16	-	13	R	WN	O	CR	43	-	-



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WU032.00	09/10/06	GRTA	HF	18	C	28	R	-	O	CR	-	6	N
WU032.00	10/01/06	GRTA	E	12.5	C	30	R	N	O	CR	-	<2.0	NE
WU032.00	11/28/06	FP	F	4	O	28	R	-	O	CR	-	4	CL
WU032.00	12/05/06	FP	F	-6	-	18	R	N	O	CR	-	7.3	CL
WU033.00	04/09/06	GRTA	H	3.5	C	12	R	HN	C	CR	3.6	-	NW
WU033.00	05/22/06	FP	E	10	P	5	R	P	O	CR	93	-	W
WU033.00	06/18/06	FP	HF	20	-	12	R	-	O	CR	15	-	S
WU033.00	07/09/06	GRTA	HF	18	C	19	R	-	O	CR	7.3	-	-
WU033.00	08/06/06	GRTA	HE	18	-	17	R	N	O	CR	3.6	-	CL
WU033.00	09/10/06	GRTA	HF	17	C	28	R	-	O	CR	-	14	CL
WU033.00	10/01/06	GRTA	E	12	C	26	R	N	O	CR	-	12	NE
WU033.00	11/28/06	FP	F	2	O	18	R	-	O	CR	-	4	CL
WU033.00	12/05/06	FP	F	-6	-	10	R	-	O	CR	-	6	CL
WU034.00	04/09/06	GRTA	HE	2.5	C	10	R	NH	C	CR	<3.0	-	NE
WU034.00	05/22/06	FP	E	10	P	5	R	P	O	CR	43	-	W
WU034.00	06/18/06	FP	HF	20	-	15	R	-	O	CR	7.3	-	S
WU034.00	07/09/06	GRTA	F	16	C	18	R	-	O	CR	93	-	N
WU034.00	08/06/06	GRTA	H	16	-	20	R	N	O	CR	3.6	-	-
WU034.00	09/10/06	GRTA	HF	17.5	C	22	R	-	O	CR	-	36	NE
WU034.00	10/10/06	FP	HF	12	O	25	R	N	O	CR	-	2	NE
WU034.00	11/28/06	FP	F	2	O	10	R	NW	O	CR	-	6	N
WU034.00	12/05/06	FP	HF	0	-	10	R	N	O	CR	-	7.3	N
WU034.50	04/09/06	GRTA	H	3.5	C	24	R	-	C	CR	<3.0	-	NW
WU034.50	05/22/06	FP	E	10	P	12	R	P	O	CR	5.7	-	W
WU034.50	06/18/06	FP	HF	19	-	16	R	-	O	CR	240	-	S
WU034.50	07/09/06	GRTA	HF	16	C	24	R	-	O	CR	9.1	-	-
WU034.50	08/06/06	GRTA	HE	17.5	-	25	R	N	O	CR	7.3	-	CL
WU034.50	09/10/06	GRTA	HF	18	C	26	R	-	O	CR	-	62	N
WU034.50	10/01/06	GRTA	E	12.5	C	30	R	N	O	CR	-	4	NE
WU034.50	11/28/06	FP	F	2	O	21	R	NW	O	CR	-	<2.0	N
WU034.50	12/05/06	FP	HF	2	-	18	R	-	O	CR	-	4	N
WU035.00	04/09/06	GRTA	H	3	C	14	R	HN	O	CA	<3.0	-	NW
WU035.00	07/09/06	GRTA	HF	16.5	C	24	R	-	C	CA	3.6	-	-
WU035.00	07/31/06	FP	HF	17	C	15	R	-	O	CA	3.6	-	SW
WU035.00	08/06/06	GRTA	H	16.5	-	24	R	N	O	CA	3.6	-	CL
WU035.00	09/10/06	GRTA	HF	16	C	28	R	-	O	CA	-	14	N
WU035.00	09/18/06	FP	HE	15	P	30	R	-	O	CA	-	<2.0	CL
WU035.00	10/01/06	GRTA	E	12.5	C	30	R	N	O	CA	-	<2.0	NE
WU035.00	12/05/06	FP	HF	-2	-	20	R	-	O	CA	-	4	N
WU036.00	04/09/06	GRTA	H	3	C	18	R	HN	O	CA	<3.0	-	NW
WU036.00	06/04/06	GRTA	E	10	R	28	R	P	C	CA	20	-	NE
WU036.00	07/09/06	GRTA	F	17	C	20	R	-	C	CA	15	-	-
WU036.00	07/31/06	FP	HF	16	C	19	R	-	O	CA	9.1	-	SW
WU036.00	08/06/06	GRTA	H	16.5	-	25	R	NH	O	CA	23	-	CL
WU036.00	09/10/06	GRTA	H	15	C	26	R	-	O	CA	-	7.3	N
WU036.00	10/01/06	GRTA	E	12	C	30	R	HN	O	CA	-	3.6	NE
WU036.00	12/05/06	FP	HF	-1	-	14	R	-	O	CA	-	6	N
WU037.00	04/09/06	GRTA	HE	3.5	C	22	R	NH	O	CA	<3.0	-	NE
WU037.00	06/04/06	GRTA	E	10	R	28	R	P	C	CA	15	-	NE
WU037.00	07/09/06	GRTA	F	16.5	C	25	R	-	C	CA	23	-	-
WU037.00	07/31/06	FP	HF	13	C	22	R	-	O	CA	9.1	-	S
WU037.00	08/06/06	GRTA	H	14	-	26	R	N	O	CA	3.6	-	-
WU037.00	09/10/06	GRTA	H	17	C	28	R	W	O	CA	-	10	W
WU037.00	10/01/06	GRTA	E	12	C	30	R	W	O	CA	-	10	E
WU037.00	12/05/06	FP	F	3	-	25	R	N	O	CA	-	2	CL
WU037.50	04/09/06	GRTA	HE	2.5	C	17	R	NH	O	CA	<3.0	-	NE
WU037.50	06/04/06	GRTA	LE	10	R	21	R	P	C	CA	150	-	NW
WU037.50	07/09/06	GRTA	HF	15	C	24	R	-	C	CA	43	-	NW
WU037.50	07/31/06	FP	H	13	C	24	R	-	O	CA	7.3	-	CL
WU037.50	08/06/06	GRTA	H	15	-	25	R	N	O	CA	9.1	-	-
WU037.50	09/10/06	GRTA	H	15.5	C	29	R	-	O	CA	-	50	N
WU037.50	10/01/06	GRTA	E	12.5	C	28	R	-	O	CA	-	<2.0	E
WU037.50	12/05/06	FP	H	-2	-	18	R	-	O	CA	-	6	N



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WU038.00	04/09/06	GRTA	HE	3	C	22	R	NH	O	CA	<3.0	-	NE
WU038.00	06/04/06	GRTA	LE	10.5	R	8	R	P	C	CA	460	-	N
WU038.00	07/09/06	GRTA	HF	15	C	26	R	-	C	CA	3.6	-	NW
WU038.00	07/31/06	FP	H	12	C	26	R	-	O	CA	<3.0	-	CL
WU038.00	08/06/06	GRTA	H	15	-	26	R	N	O	CA	5.1	-	-
WU038.00	09/10/06	GRTA	H	15.5	C	30	R	-	O	CA	-	1380	N
WU038.00	10/01/06	GRTA	E	12.5	C	28	R	W	O	CA	-	4	SE
WU038.00	12/05/06	FP	H	-1	-	20	R	-	O	CA	-	2	N
WU039.00	02/27/06	FP	F	1	O	30	R	-	O	A	<3.0	-	W
WU039.00	07/11/06	LL	F	19	C	25	R	-	O	A	15	-	SW
WU039.00	08/07/06	JXX	H	20	O	26	R	-	O	A	3.6	-	SW
WU039.00	09/05/06	JXX	E	18	C	30	R	-	O	A	-	8	CL
WU039.00	09/12/06	JXX	F	19	C	30	R	-	O	A	-	<2.0	NE
WU039.00	10/25/06	FP	F	8	O	22	R	PN	O	A	-	15	CL
WU040.00	02/27/06	FP	HF	1	O	30	R	-	O	A	<3.0	-	W
WU040.00	07/11/06	LL	F	19	C	27	R	-	O	A	15	-	SW
WU040.00	08/07/06	JXX	H	21	O	27	R	-	O	A	3.6	-	SW
WU040.00	09/05/06	JXX	E	18	C	30	R	-	O	A	-	22	CL
WU040.00	09/12/06	JXX	F	19	C	30	R	-	O	A	-	<2.0	NE
WU040.00	10/25/06	FP	F	8	O	24	R	P	O	A	-	10	W
WU041.00	02/27/06	FP	HF	1	O	30	R	-	O	A	3.6	-	W
WU041.00	07/11/06	LL	HF	22	C	27	R	-	O	A	9.1	-	SW
WU041.00	08/07/06	JXX	HE	22	O	26	R	-	O	A	23	-	SW
WU041.00	09/05/06	JXX	E	20	C	26	R	-	O	A	-	11	CL
WU041.00	09/12/06	JXX	HF	21	C	31	R	-	O	A	-	<2.0	CL
WU041.00	10/25/06	FP	HF	7	O	16	R	PNW	O	A	-	14	W
WU042.00	02/27/06	FP	HF	1	O	30	R	-	O	A	<3.0	-	W
WU042.00	07/11/06	LL	HF	19	C	28	R	-	O	A	<3.0	-	SW
WU042.00	08/07/06	JXX	HE	21	O	28	R	-	O	A	15	-	SW
WU042.00	09/05/06	JXX	E	20	C	30	R	-	O	A	-	4	CL
WU042.00	09/12/06	JXX	F	19	C	30	R	-	O	A	-	<2.0	CL
WU042.00	10/25/06	FP	F	7	O	26	R	P	O	A	-	10	W
WU042.50	02/27/06	FP	HF	1	O	26	R	-	O	A	<3.0	-	W
WU042.50	07/11/06	LL	HF	20	C	28	R	-	O	A	3.6	-	SW
WU042.50	08/07/06	JXX	HE	21	O	28	R	-	O	A	7.3	-	SW
WU042.50	09/05/06	JXX	E	19	C	28	R	-	O	A	-	44	CL
WU042.50	09/12/06	JXX	F	19	C	30	R	-	O	A	-	<2.0	CL
WU042.50	10/25/06	FP	F	7	O	22	R	P	O	A	-	46	W
WU043.00	02/27/06	FP	HF	0	O	30	R	N	O	A	<3.0	-	W
WU043.00	07/11/06	LL	HF	20	C	28	R	-	O	A	3.6	-	SW
WU043.00	08/07/06	JXX	HE	22	O	25	R	-	O	A	15	-	SW
WU043.00	09/05/06	JXX	E	19	C	28	R	-	O	A	-	2	CL
WU043.00	09/12/06	JXX	HF	19	C	31	R	-	O	A	-	2	CL
WU043.00	10/25/06	FP	HF	6	O	22	R	PN	O	A	-	16	W
WU044.00	02/27/06	FP	HF	1	O	26	R	-	O	A	<3.0	-	W
WU044.00	07/11/06	LL	HF	20	C	28	R	-	O	A	75	-	SW
WU044.00	08/07/06	JXX	HE	22	O	28	R	-	O	A	3.6	-	NW
WU044.00	09/05/06	JXX	E	21	C	30	R	-	O	A	-	33	CL
WU044.00	09/12/06	JXX	F	19	C	30	R	-	O	A	-	4	NE
WU044.00	10/25/06	FP	F	7	O	25	R	P	O	A	-	10	W
WU045.00	02/27/06	FP	H	1	O	30	R	-	O	A	<3.0	-	W
WU045.00	07/11/06	LL	H	20	C	28	R	-	O	A	9.1	-	SW
WU045.00	08/07/06	JXX	E	21	O	29	R	-	O	A	7.3	-	SW
WU045.00	09/05/06	JXX	E	20	C	29	R	-	O	A	-	2	CL
WU045.00	09/12/06	JXX	F	21	C	31	R	-	O	A	-	4	NE
WU045.00	10/25/06	FP	F	5	O	15	R	PN	O	A	-	32	W
WU045.50	02/27/06	FP	H	0	O	26	R	-	C	P	<3.0	-	W
WU045.50	07/11/06	LL	H	21	C	26	R	-	C	P	23	-	SW
WU045.50	08/07/06	JXX	E	23	O	5	R	-	C	P	93	-	S
WU045.50	09/05/06	JXX	E	24	C	6	R	-	C	P	-	78	CL
WU045.50	09/12/06	JXX	F	20	C	15	R	-	C	P	-	35	CL
WU045.50	10/25/06	FP	F	5	O	0	R	PN	C	P	-	6	W



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WU045.80	02/27/06	FP	H	1	O	30	R	-	O	A	<3.0	-	W
WU045.80	07/11/06	LL	H	20	C	28	R	-	O	A	3.6	-	SW
WU045.80	08/07/06	JXX	E	22	O	28	R	-	O	A	23	-	SE
WU045.80	09/05/06	JXX	E	21	C	28	R	-	O	A	-	<2.0	CL
WU045.80	09/12/06	JXX	F	20	C	30	R	-	O	A	-	33	NE
WU045.80	10/25/06	FP	F	4	O	18	R	P	O	A	-	22	W
WU046.00	02/27/06	FP	H	1	O	30	R	-	O	A	3.6	-	W
WU046.00	07/11/06	LL	H	19	C	28	R	-	O	A	3.6	-	SW
WU046.00	08/07/06	JXX	E	22	O	29	R	-	O	A	9.1	-	SW
WU046.00	09/05/06	JXX	E	20	C	30	R	-	O	A	-	8	CL
WU046.00	09/12/06	JXX	F	19	C	31	R	-	O	A	-	4	NE
WU046.00	10/25/06	FP	F	8	O	25	R	P	O	A	-	10	W
WU047.00	02/27/06	FP	H	1	O	30	R	-	O	A	<3.0	-	W
WU047.00	07/11/06	LL	H	19	C	28	R	-	O	A	3.6	-	SW
WU047.00	08/07/06	JXX	E	22	O	28	R	-	O	A	<3.0	-	SW
WU047.00	09/05/06	JXX	E	21	C	30	R	-	O	A	-	33	CL
WU047.00	09/12/06	JXX	F	19	C	31	R	-	O	A	-	<2.0	NE
WU047.00	10/25/06	FP	F	8	O	28	R	P	O	A	-	2	W
WU048.00	02/27/06	FP	HE	1	O	30	R	N	O	A	3.6	-	W
WU048.00	07/11/06	LL	H	19	C	30	R	-	O	A	21	-	SW
WU048.00	08/07/06	JXX	E	24	O	28	R	-	O	A	240	-	SW
WU048.00	09/06/06	JXX	E	21	C	25	R	-	O	A	-	68	CL
WU048.00	09/12/06	JXX	F	19	C	31	R	-	O	A	-	<2.0	NE
WU048.00	10/25/06	FP	F	7	O	12	R	PN	O	A	-	7.3	W
WU048.50	02/27/06	FP	HE	1	O	30	R	N	O	A	<3.0	-	W
WU048.50	07/11/06	LL	HE	19	C	30	R	-	O	A	3.6	-	SW
WU048.50	08/07/06	JXX	E	21	O	28	R	-	O	A	9.1	-	SW
WU048.50	09/06/06	JXX	E	20	C	26	R	-	O	A	-	86	CL
WU048.50	09/12/06	JXX	F	19	C	28	R	-	O	A	-	<2.0	CL
WU048.50	10/25/06	FP	F	6	O	2	R	PN	O	A	-	11	W
WU048.80	02/27/06	FP	HE	1	O	30	R	-	C	P	<3.0	-	W
WU048.80	07/11/06	LL	HE	19	C	30	R	-	C	P	14	-	SW
WU048.80	08/07/06	JXX	E	21	O	30	R	-	C	P	3.6	-	SW
WU048.80	09/05/06	JXX	LE	20	C	30	R	-	C	P	-	7.3	SE
WU048.80	09/12/06	JXX	F	17	C	32	R	-	C	P	-	<2.0	NE
WU048.80	10/25/06	FP	F	7	O	30	R	P	C	P	-	<2.0	W
WU050.00	02/27/06	FP	HE	1	O	30	R	NW	C	P	<3.0	-	W
WU050.00	07/11/06	LL	HE	19	C	30	R	-	C	P	1100	-	SW
WU050.00	08/07/06	JXX	E	23	O	22	R	-	C	P	80	-	SW
WU050.00	09/05/06	JXX	LE	21	C	25	R	-	C	P	-	46	CL
WU050.00	09/12/06	JXX	F	19	C	32	R	-	C	P	-	72	CL
WU050.00	10/25/06	FP	F	9	O	30	R	PN	C	P	-	<2.0	W
WU055.50	04/26/06	FP	HF		C	31	R	-	C	P	<3.0	-	S
WU055.50	06/20/06	FP	E	15	C	26	R	-	C	P	<3.0	-	S
WU055.50	07/12/06	FP	HF	15	-	29	R	P	C	P	<3.0	-	S
WU055.50	10/03/06	FP	E		O	30	R	-	C	P	-	<2.0	SW
WU055.50	10/17/06	FP	HE	10	-	32	R	-	C	P	-	<2.0	S
WU056.00	04/26/06	FP	E		C	32	R	-	O	A	<3.0	-	S
WU056.00	06/20/06	FP	LF	14	C	27	R	-	O	A	3	-	S
WU056.00	07/12/06	FP	HE	13	-	30	R	P	O	A	<3.0	-	S
WU056.00	09/05/06	FP	E	9	P	30	R	-	O	A	-	<2.0	S
WU056.00	10/03/06	FP	LE		O	31	R	-	O	A	-	<2.0	SW
WU056.00	10/17/06	FP	E	11	-	32	R	-	O	A	-	<2.0	S
WU056.50	04/26/06	FP	HF		C	31	R	-	C	P	<3.0	-	S
WU056.50	06/20/06	FP	E	15	C	26	R	-	C	P	<3.0	-	S
WU056.50	07/12/06	FP	HF	13	-	30	R	P	C	P	3.6	-	S
WU056.50	09/05/06	FP	HE	10	P	30	R	-	C	P	-	2	CL
WU056.50	10/03/06	FP	E		O	31	R	-	C	P	-	<2.0	SW
WU056.50	10/17/06	FP	HE	11	-	32	R	-	C	P	-	<2.0	S
WU057.00	04/26/06	FP	HF		C	32	R	-	C	P	<3.0	-	S



2006 Annual Review Area WU  
 Effective Date: October 18, 2007  
 Revision No. 4

WU057.00	06/20/06	FP	E	15	C	27	R	-	C	P	9.1	-	S
WU057.00	07/12/06	FP	HF	15	-	30	R	P	C	P	14	-	S
WU057.00	09/05/06	FP	HE	9	P	30	R	-	C	P	-	<2.0	CL
WU057.00	10/03/06	FP	E		O	30	R	-	C	P	-	<2.0	SW
WU057.00	10/17/06	FP	HE	11	-	32	R	-	C	P	-	<2.0	S
WU058.00	04/26/06	FP	HF		C	31	R	-	O	A	<3.0	-	S
WU058.00	06/20/06	FP	E	15	C	26	R	-	O	A	<3.0	-	S
WU058.00	07/12/06	FP	HF	14	-	30	R	P	O	A	<3.0	-	S
WU058.00	09/05/06	FP	HE	10	P	31	R	-	O	A	-	58	CL
WU058.00	10/03/06	FP	E		O	32	R	-	O	A	-	<2.0	SW
WU058.00	10/17/06	FP	HE	10	-	32	R	-	O	A	-	<2.0	S
WU059.00	04/26/06	FP	HF		C	32	R	-	C	P	<3.0	-	S
WU059.00	06/20/06	FP	E	15	C	28	R	-	C	P	<3.0	-	S
WU059.00	07/12/06	FP	HF	15	-	30	R	P	C	P	<3.0	-	S
WU059.00	09/05/06	FP	E	10	P	30	R	-	C	P	-	3.6	CL
WU059.00	10/03/06	FP	E		O	32	R	-	C	P	-	<2.0	SW
WU059.00	10/17/06	FP	HE	11	-	32	R	-	C	P	-	<2.0	S
WU060.00	04/26/06	FP	HF		C	32	R	-	O	A	<3.0	-	S
WU060.00	06/20/06	FP	E	12	C	29	R	-	O	A	9.1	-	S
WU060.00	07/12/06	FP	HF	14	-	31	R	P	O	A	<3.0	-	S
WU060.00	09/05/06	FP	E	10	P	30	R	-	O	A	-	2	CL
WU060.00	10/03/06	FP	E		O	32	R	-	O	A	-	<2.0	SW
WU060.00	10/17/06	FP	HE	11	-	32	R	-	O	A	-	<2.0	S
WU061.00	04/26/06	FP	HF		C	32	R	-	O	A	<3.0	-	S
WU061.00	06/20/06	FP	E	11	C	29	R	-	O	A	<3.0	-	S
WU061.00	07/12/06	FP	HF	13	-	31	R	P	O	A	3.6	-	S
WU061.00	09/05/06	FP	E	9	P	30	R	-	O	A	-	<2.0	CL
WU061.00	10/03/06	FP	E		O	32	R	-	O	A	-	<2.0	SW
WU061.00	10/17/06	FP	HE	10	-	32	R	-	O	A	-	<2.0	S
470 Total Records Retrieved													



**Attachment A. Key to water quality table headers.**

Station = water quality monitoring station

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

Count = the number of samples evaluated for classification, must be a minimum of 30.

MFCNT = the number of samples evaluated with the MTec method (included in the total Count column)

Geo\_Mean = means the antilog (base 10) of the arithmetic mean of the sample result logarithm (base 10).

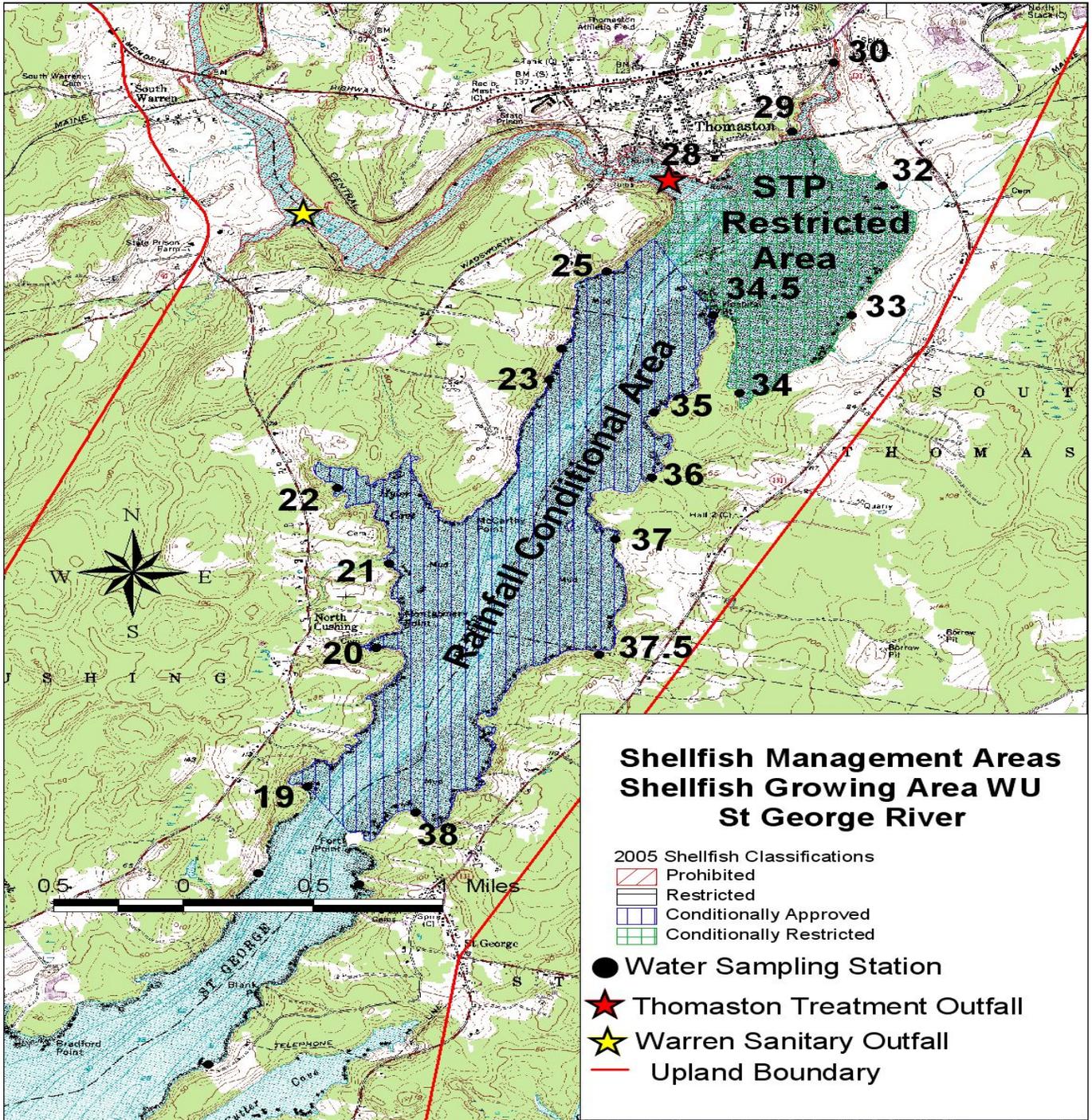
SDV = standard deviation

Max = maximum score of the 30 data points in the count column

P90 = 90<sup>th</sup> percentile

APPD\_STD = the 90<sup>th</sup> percentile, at or below which the station would meet approved criteria in the absence of pollution sources or poisonous and deleterious substances.

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



The shellfish classifications in the conditionally managed areas have remained the same for several years.



## Conditional Area Management Plan

For Areas Conditional on  
Operations at the Thomaston Treatment Facility Shellfish Growing Area WU

ST GEORGE RIVER CONDITIONAL AREA, C27

**Management Plan revised February, 2006**  
**Written by Fran Pierce**

The Thomaston Treatment Facility was upgraded and rebuilt at a new location in late December 1997. This facility is a lagoon type system consisting of three aerated lagoons having a total volume of 21 million gallons, and one storage lagoon having a volume of 36 million gallons, disinfection using chlorination\*\* and surface wastewater treatment using slow rate spray irrigation. Spray irrigation is limited to the time period between April 15 and November 15 each year. This treatment system involves a discharge to the river during the months of January through March. During these months the conditionally restricted portion of the river will be reclassified to closed prohibited for all shellfish harvest.

### **I. General description of conditionally managed areas including a map showing the boundaries.**

#### **Conditionally Restricted Portion:**

That portion of the St. George River which lies north of a line beginning at a red painted post located on the western shore of the St George River, at the end of Sunrise Terrace Road in the town of Thomaston, continuing southeast to the red nun navigational buoy # 16, then continuing southeast to a red painted post at the tip of Hospital Point in the town of South Thomaston on the eastern shore of the St George River, and; south of a line formed by the railroad trestle that crosses the mouth of the Mill River, and south and east of a line extending east from the red painted post below the bend in Sunrise Terrace Road on the western shore of said bay to the fixed granite navigational beacon "21" and continuing north to a red painted post just northeast of the piling ruins east of the maritime museum.

South of the conditionally restricted area is the conditionally approved area.

#### **Conditionally approved portion of the St George River described as:**

That portion of the St George River north of a line drawn northwest from the most western tip of Fort Point in the town of St George, to the most northern tip of the unnamed point on the opposite shore in the town of Cushing.

The conditionally approved portion of the river is NOT conditional on the operations at either the Thomaston Treatment Facility or the Warren Sanitary District. This conditional area is conditional on  $\geq 1.5$  inches of rainfall in a 24 hour period.

Please refer to the rainfall conditional area management plan for a more detailed explanation of the rainfall conditional area's Management and Emergency Response Plans.

Please refer to the map on page 26 showing the locations of these conditional areas on the St George River.



## **II. Description of factors determining the growing area's suitability for being classified conditionally approved or conditionally restricted.**

1. Routine water sampling indicates that the area meets approved and restricted criteria.
2. A shoreline survey of the area indicates no other point sources of pollution.
3. The Thomaston Treatment Facility is well maintained and operated and has recently been completely rebuilt (1997).
4. The towns of Cushing, Warren, Thomaston, South Thomaston and St. George have effective enforcement, by way of a shellfish warden (currently Neil Pollis), to ensure conditions of the management plan are met.

## **III. Description of predictable pollution events that cause closure, including: A. Wastewater treatment facility - performance standard based on:**

### **1. Peak effluent flows**

The Thomaston Treatment Facility is licensed to discharge to the river during the months of January through March. However, if the volume in the lagoons is low the plant may discharge to the river only during the months of February and/or March. The Treatment Plant is licensed for 0.9 MGD and does not exceed that limit on any day. In 2000, there was a three month average of 0.89 MGD discharged to the river. The monthly average breakdown (in MGD) was as follows: January .89, February .90, March .88. For the last five years (2001 -2005) there has been no discharge in January. Average daily discharge for 2002: Jan. 0.8998 MGD; Feb. 0.8968 MGD. In 2003 there was an average of 0.84 MGD discharged to the river. Approximately 37% of Thomaston treated wastewater is discharged to the St. George River and 63% is land applied.

### **2. Bacteriological quality of the effluent**

The license limit is a maximum of 50 col/1 OOML

### **3. Physical and chemical quality of the effluent**

There is >90%BOD removal, and >90%SS removal. The original license called for continuous chlorination during the months from January through March, (when there is a discharge to the river).

### **4. Bypasses**

There have been no bypass events since the new plant went on line in December of 1997. Bypasses are capable of taking place at any of the sealed pump stations, but this would only take place if there was an extreme weather event causing both a power failure and generator failure. There has been only one extreme weather event (October 2005) of >11 inches of rainfall since the new plant went on line. This event caused a pump station to back up into a cellar. No wastewater was released to the river during this event. All bypass events are immediately reported using the Emergency Response Plan reporting mechanism. As a result of the design of the new Thomaston Treatment Facility, bypasses have become a thing of the past. All of the storm water drains were kept separate from the treatment plant lines, so heavy rainfall should have no effect on the pump stations.

### **5. Design, construction, and maintenance to minimize mechanical failure or overloading**



The Thomaston Treatment Facility now serves a population of approximately 2700 citizens - (700 prison inmates were removed from the system when the new state prison facility moved to Warren). This facility is a lagoon type system consisting of three aerated lagoons having a total volume of 21 million gallons, and one storage lagoon having a volume of 36 million gallons, disinfection using chlorination and surface waste water treatment using slow rate spray irrigation on approximately 52 acres of woodlands. Spray irrigation will be limited to the time period between April 15 and November 15 each year. This treatment system discharges to the river during the months of January through March. The conditionally restricted portion of the river will be closed for all shellfish harvesting during the discharge period.

#### **6. Provisions for verifying and monitoring efficiency of the Wastewater treatment plant and the feedback system for addressing inadequate treatment**

The Thomaston Treatment Facility has radio alarm systems with lights on its wastewater facilities:

##### LOCATION: ALARM:

Fish Street pump sta. High water in the wet well Thatcher Street pump sta.  
High water in the wet well Water Street pump sta. High water in the wet well  
Public Landing pump sta. High water in the wet well Ship Street pump sta.  
High water in the wet well  
Atticus Hill pump sta. High water in the wet well

The pump stations at Ship and Water Street are the two most likely to have problems if the power were to go out because they handle the greatest volume of wastewater. Both of these pump stations have dual generators.

**B. Meteorological or hydrological events** - Meteorological events no longer impact the operations at the Thomaston Treatment Facility because all of the stormwater drains were separated from the treatment system when the new facility went on line. The new facility was originally constructed to handle the wastewater from the town of Thomaston and the 700 inmates from the Maine State Prison. When the prison was rebuilt in the town of Warren, the Thomaston Treatment Facility's designed capacity became greater than the actual flow rate.

A portion of the St George River is conditional on  $\geq 1.5$  inches of rainfall in a 24 hour period. Rainfall is monitored at the Warren Sanitary District. The portion of the river that is conditional on rainfall is described as:

That portion of the St George River north of a line drawn northwest from the most western tip of Fort Point in the town of St George, to the most northern tip of the unnamed point on the opposite shore in the town of Cushing.

Please refer to the rainfall conditional area management plan for a more detailed explanation of the rainfall conditional area's management and Emergency Response Plan.

**C. Seasonal events** - Does not apply.

#### **IV. Implementation of a conditional area closure.**

##### **A. Notification of management plan violation.**



**1. What agency is responsible for notifying the SSCA of management plan violation?**

The Thomaston Treatment Facility

**2. Response time between management plan violation and notification of the SSCA.**

The SSCA will be notified immediately when the violation occurs.

**3. Procedures for prompt notification.**

The emergency response plan (copy at the end of this document) will be activated in the event of a deliberate or accidental release into the St. George River of untreated, partially treated or un-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.

**B. Implementation of closure**

**1. Response time between management plan violation notification and legal closure by SSCA.**

This area will be closed immediately upon receipt of notification of the violation.

**2. How is shellfish industry notified?**

The Marine Patrol Officers, duty officers or Marine Patrol Sergeant having responsibility for the area closes the area by posting notices and patrolling the boat launch areas and harvest areas. The Shellfish Warden (currently Neil Pollis) changes the conditional area classification dial in the locked shellfish information board at the public launching ramp from "Dig" to "Don't Dig".

**3. How is patrol agency notified?**

The Bureau of Marine Patrol is notified as soon as the conditions are identified and the closure is implemented.

**C. Enforcement of closure**

**1. What agency is responsible?**

The Maine Department of Marine Resources

**2. Response time between SSCA legal closure and patrol agency notification**

The patrol agency will be notified at the same time as the SSCA

**3. Adequacy of enforcement during closure**

The Marine Patrol will enforce the conditional area closure of this area with the same diligence as other closures are enforced. In the past (prior to 1997) this treatment facility had a history of numerous malfunctions. All of the emergency closures that were enacted resulting from these malfunctions were handled in a timely and professional manner. There have been no malfunctions resulting in a discharge of wastewater to the river since 1997.



**V. Criteria necessary for reopening a conditional area after a pollution event.**

**A. The SSCA shall establish the following four (4) control elements to define reopening criteria**

**1. Procedures to determine that the pollution event has ended.**

Consultation with the Thomaston treatment plant operator will be used to ensure that the malfunction has been corrected.

**2. A time interval sufficient to permit the area to flush itself, ie. Exchange a sufficient volume of water to disperse/assimilate the pollutant loading.**

The conditionally restricted area will remain closed for a period of at least two weeks. Water and clam samples will be taken to assure that water quality in the area has returned to NSSP restricted area standards prior to re-opening the area. Please refer to the attached conditional area-sampling plan for a listing of the stations sampled.

**3. Shellfish feeding activity is sufficient to achieve natural cleansing.**

Please refer to the attached sampling plan explaining the Department of Marine Resources sampling requirements following an emergency closure caused by either rainfall or a treatment plant malfunction.

**4. A time interval sufficient to permit the shellfish to cleanse themselves naturally. The elapsed time can begin only after completion of the period required for the area to flush.**

After it has been shown that samples have returned to restricted standards, the conditional area will be allowed to return to the status held prior to the malfunction.

**VI. Synopsis of effectiveness of closure procedures and cooperation between involved agencies.**

Communications between the Thomaston WWTP, DMR, the Bureau of Marine Patrol, the St. George River shellfish warden, and the State Police have been effective in enforcing this conditional areas' management plan. The effectiveness of this management plan will be reviewed on an annual basis by treatment plant personnel and D.M.R. staff to ensure that all portions contained within this document reflect the current operations of the Thomaston Treatment Facility.

**NOTICE:** This Management Plan for the conditional waters of the St. George River, has been reviewed and approved by. (manager of The Thomaston Treatment Facility) on \_\_\_\_\_.



**TOWN OF THOMASTON  
POLLUTION CONTROL DEPARTMENT  
EMERGENCY RESPONSE PLAN**

**This Emergency Response Plan will be activated in the event of a deliberate or accidental release into the St. George River of untreated, partially treated or un-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.**

**This emergency plan may be activated in two ways; first by someone observing an untreated discharge, and second, by the activation of any alarm. Both of these situations are discussed below:**

**NOTICE FROM OBSERVER:**

**1).The plugging of a gravity sewer or a break in a force main may result in the discharge of untreated wastewater to a surface water.**

**2).Discharging of treated untreated, partially treated or un-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 may be detected by treatment plant personnel.**

**If any of the above conditions or any potential condition is observed by plant personnel and there is imminent danger of surface water contamination, they are to IMMEDIATELY begin the reporting procedure outlined on the "bypass reporting" form.**

**ALARM ACTIVATION:**

**The Thomaston Treatment Facility has a radio alarm system on its wastewater facilities. The activation of an alarm automatically starts the reporting mechanism.**

**LOCATION: ALARM:**

**Fish Street pump station High water in the wet well  
Thatcher Street pump sta. High water in the wet well  
Water Street pump sta. High water in the wet well  
Ship Street pump station High water in the wet well  
Town Landing pump station High water in the wet well  
Atticus Hill pump station High water in the wet well**



**All alarms send a radio signal to the base station in the treatment plant. An audio alarm sounds and a light goes on to indicate the location of the problem and a signal is sent to the auto dialer. The auto dialer will respond to the alarm by calling a cell phone carried by plant personnel. They will have 15 minutes to respond to the auto dialer or it will send a second call to a cell phone carried by the superintendent. If he does not respond within 15 minutes the auto dialer will call the Public Works Director**

**In the unlikely event the auto dialer does not receive a response from staff at the Thomaston Facility or the director of the Public Works Dept., the auto dialer will start the calling procedure over, and keep calling until it gets a response. When the plant staff receives a call indicating an alarm, they will return to the plant to investigate.**



## **TREATMENT PLANT BYPASS REPORTING:**

**If Thomaston Treatment Facility experiences a discharge of untreated or partially treated wastewater, the discharge must be reported IMMEDIATELY day or night.**

**Treatment plant personnel will contact the following individuals and agencies in the following order:**

**A. IF THE DISCHARGE TAKES PLACE DURING WORKING HOURS MONDAY-FRIDAY 8:00AM - 5:00PM**

### **1. Shellfish warden**

**When you call the Barrack numbers please state clearly that ...**

"The St George River conditionally restricted, shellfish area has been impacted by a bypass event at the Thomaston Treatment Facility. This area has to be closed immediately for all shellfish harvesting. Marine Patrol Division I and Division II officers of the day AND the Marine Patrol Officers that are on duty patrolling the river, must be notified. The St George River borders on the towns of Cushing, Thomaston, St George and South Thomaston."

**2). After the shellfish warden AND, the Augusta and Gray Barracks have been contacted, the shellfish warden will contact The Department of Marine Resources at 633-9500 to report that a bypass event has occurred**

The shellfish warden will state to the D.M.R. switchboard operator "This is the shellfish warden for the St George River, I am calling to report a bypass event on the St George River, It is urgent that I speak with someone from the Water Quality Program". When a staff member from the water quality program has been contacted, clearly state the nature of the of the bypass event. **DO NOT LEAVE A MESSAGE ON A VOICE MAIL MACHINE!!!**

**3). IF THE BYPASS EVENT TAKES PLACE AFTER WORKING HOURS (sometime between the hours of 5:00 PM- 8:00AM or on weekends)**

The shellfish warden will contact the water quality staff as soon as D.M.R.'s offices are open, (Monday-Friday, 8:00AM-5:00PM), and report the bypass event by stating their name, location and how much wastewater was discharged: **207-633-9500**

**When the bypass stops, the plant operator will call the D.M.R. water quality staff and report the time and date that the bypass stopped. Conditional Area Sampling Plan for Reopening - Following either a Treatment Plant Malfunction and/or a Rainfall Event Equal to or Greater Than 1.5 inches of Rain in a 24 Hour Period**

**Shellfish Growing Area WU- Legal Notice Number C27**



On the first working day after the event, the conditional area will be reclassified to prohibited; closed by a DMR Emergency Regulation 95.05F Closed Area 27, St George River, Towns of Cushing, Warren, Thomaston, South Thomaston and St George. This will involve the administrative action as described in the legal notice and also the deployment of Marine Patrol personnel to post the area to ensure that no harvesting will take place during the event.

If there is a **rainfall event** equal to or greater than 1.5 inches of rain in a twenty-four hour period, water samples from stations Area WU/ 19, 21, 23, 25, 37, and 38 will be tested for fecal coliform.

If there is a **malfunction at the Thomaston Treatment Facility**, water samples will be collected at the following stations: Area WU/ 28, 32, 33, 34, and 34.5.

A second sample will follow within one or two days if necessary. When approved area standards have been met for the conditionally approved sampling stations and restricted standards have been met for the conditionally restricted sampling stations and clam samples, the areas will be reclassified to their original classification prior to the event necessitating the closure. Both the conditionally approved and the conditionally restricted areas will remain classified as closed prohibited for a minimum of two weeks from the date of closure. Municipal officials will be notified in regards to sample results and actions.

#### Conditional Area Sampling Policy following a closure event

1) *A representative array of sample stations will be sampled as a complete run for the determination that an area has cleaned up following a pollution event (closure). The selection of sample stations will take into account, proximity to shellfish harvest areas, location of pollution source(s), and likelihood that the information will provide ample data for evaluation of the entire conditional area.*

2) *Sample arrays will be approved by the program director and will be reviewed annually through the Conditional Area Management Plan review process. Changes will be made as determined by that review.*

3) *When evaluating the results of sampling after a closure for making decisions about reopening the area the following criteria will be met:*

*A. In those conditional areas for which there are less than five (5) stations being considered, all stations must have scores less than 14 CFU/100 ml before the area can be reopened.*

*B. For conditional areas for which there are more than five (5) stations, there will be a tolerance of 1/5 of the stations with a score greater than 14 but no samples over 31 CFU/100 ml.*

*C. For conditionally restricted areas all stations must have scores less than or equal to 163CFU/100ml.*

*C. When results suggest that the area needs to remain closed, a complete array of stations will be re-sampled for analysis.*



**Rainfall Conditional Area Management Plan  
Shellfish Growing Area WU  
St George River**

**Legal Notice Closure Area C27**

**Written By Fran Pierce**

Portions of the St George River are classified as conditionally approved based on  $\geq 1.5$  inches of rainfall in a 24 hour period. The Bolduc Correctional Facility has agreed to monitor rainfall on the river and will contact the shellfish warden and/or the Augusta and Gray Barracks when they receive  $\geq 1.5$  inches of rainfall in a 24 hour period.

**I. General description of conditionally managed areas conditional on  $\geq 1.5$  inches of rainfall in a 24 hour period.** Please refer to the attached map showing the boundaries. 1A. Conditionally Approved portion of the St George River described as:

That portion of the St George River north of a line drawn northwest from the most western tip of Fort Point in the town of St George, to the most northern tip of the unnamed point on the opposite shore in the town of Cushing.

Please refer to the map on page 26 showing the location of this conditional area on the St George River.

Please refer to Data Table 2 (in this document) showing the current P90 scores for the rainfall conditional area.

**II. Description of factors determining the growing area's suitability for being classified conditionally approved or conditionally restricted.**

1. Routine water sampling indicates that the area meets approved criteria.
2. A shoreline survey of the area indicates no other point sources of pollution.
3. The towns of Cushing, Warren, Thomaston, South Thomaston and St. George have effective enforcement, by way of a shellfish warden, to ensure conditions of the management plan are met.

**III. Description of predictable pollution events that cause closure, including: A. Wastewater treatment facility - performance standard based on:**

**1. Peak effluent flows**

Does not apply. There is a separate management plan for the areas conditional on the operations of the Thomaston Treatment Facility and the Warren Sanitary District. Please refer to the Management Plans and Emergency Response Plans for these facilities.

**2. Bacteriological quality of the effluent**

Does not apply.



### **3. Physical and chemical quality of the effluent**

Does not apply.

### **4. Bypasses**

Does not apply.

### **5. Design, construction, and maintenance to minimize mechanical failure or overloading**

Does not apply.

### **6. Provisions for verifying and monitoring efficiency of the Wastewater treatment plant and the feedback system for addressing inadequate treatment**

Does not apply.

## **B. Meteorological or hydrological events**

A portion of the St George River is conditional on  $\geq 1.5$  inches of rainfall in a 24-hour period. Rainfall is monitored at the Bolduc Correctional Facility in Warren. The Portion of the river that is conditional on rainfall is described as:

That portion of the St George River north of a line drawn northwest from the most western tip of Fort Point in the town of St George, to the most northern tip of the unnamed point on the opposite shore in the town of Cushing.

Please refer to the attached map showing the rainfall conditional area on the St George River.

## **C. Seasonal events**

Does not apply.

## **IV. Implementation of conditional area closure.**

### **A. Notification of management plan violation.**

#### **1. What agency is responsible for notifying the SSCA of management plan violation?**

The Bolduc Correctional Facility in Warren is responsible for notifying the SSCA of any rainfall events  $\geq 1.5$  inches of rain in a 24 hour period.

#### **2. Response time between management plan violation and notification of the SSCA.**

The SSCA will be notified promptly when the violation occurs. All rainfall events have been reported in a timely fashion. If the rainfall event takes place on a weekend or during non working



hours (5:00pm-8:00am) a correctional employee will contact the shellfish warden to notify him of the rainfall event, they will then contact the DMR Public Health Division offices on the first working day. If there has been a heavy rainfall event and the public health division staff has not heard from the correctional facility staff, a DMR staff member will contact the correctional facility to check the rainfall amount.

### **3. Procedures for prompt notification.**

The emergency response plan (copy at the end of this document) will be activated in the event of rainfall  $\geq 1.5$  inches in a twenty-four hour period.

## **B. Implementation of closure**

### **1. Response time between management plan violation notification and legal closure by SSCA.**

This area will be closed promptly upon receipt of notification of the rainfall event. When the shellfish warden has been notified that rainfall has reached or exceeded 1.5" in a 24 hour period, he immediately goes to the public launching ramp to change the conditional area classification dial in the locked shellfish information board at the public launching ramp from "OK to Dig" to Closed. Marine Patrol is also notified of the closure and they post the closure notices along the conditional area on the river.

### **2. How is shellfish industry notified?**

The Marine Patrol Officers, duty officers or Marine Patrol Sergeant having responsibility for the area closes the area by posting notices and patrolling the boat launch areas and harvest areas. The Shellfish Warden changes the conditional area classification dial in the locked shellfish information board at the public launching ramp from "OK to Dig" to Closed.

### **3. How is patrol agency notified?**

The Bureau of Marine Patrol is notified as soon as the conditions are identified and the closure is implemented. Bolduc Correctional Facility staff members contact the shellfish warden AND both the Gray Barracks: 1-800-482-0730, AND Augusta Barracks: 1-800-452-4664. Staff members from both Barracks then contact both the marine Patrol Division 1 and Division 2 offices to let them know that the rainfall conditional area on the St George River has received  $\geq 1.5$  inches of rain and must be closed.

## **C. Enforcement of closure**

### **1. What agency is responsible?**

The Maine Department of Marine Resources



## **2. Response time between SSCA legal closure and patrol agency notification**

Both agencies will be notified as quickly as possible.

## **3. Adequacy of enforcement during closure**

The Marine Patrol will enforce the conditional area closure of this area with the same diligence as other closures are enforced. The St George River is patrolled by Marine Patrol officers from both the Division 1 office and Division 2 office. When the correctional facility notifies the shellfish warden, they also notify both the Augusta Barracks and the Gray Barracks. They then contact both Marine Patrol divisions. Marine Patrol officers would then patrol and post the closure notices along the conditional area on the river.

## **V. Criteria necessary for reopening a conditional area after a pollution event. A. The SSCA shall establish the following four (4) control elements to define reopening criteria**

### **1. Procedures to determine that the pollution event has ended.**

Water samples are taken to assure that the water quality has returned to NSSP approved area standards prior to re-opening the area. The water sampling stations that are sampled are: 19, 21, 23, 25, 35, 37, and 38. The rainfall conditional area is reopened only after the water scores return to approved area standards and the area has remained closed for a minimum of a two-week period.

### **2. A time interval sufficient to permit the area to flush itself, i.e. Exchange a sufficient volume of water to disperse/assimilate the pollutant loading.**

Water sampling is conducted usually at least a week after the event has stopped. The rainfall conditional area will NOT reopen unless the water samples have returned to approved area standards and the area has remained closed for a minimum of a two-week period.

### **3. Shellfish feeding activity is sufficient to achieve natural cleansing.**

Assurance of approved area water quality and a minimum closure period of two weeks will be sufficient indication that shellfish have achieved natural cleansing.

### **4. A time interval sufficient to permit the shellfish to cleanse themselves naturally. The elapsed time can begin only after completion of the period required for the area to flush.**

Water sampling is conducted usually at least a week after the event has stopped. The rainfall conditional area will NOT reopen unless the water samples have returned to approved area standards and the area has remained closed for a minimum of a two-week period.



**VI. Synopsis of effectiveness of closure procedures and cooperation between involved agencies.**

In 2006 this area had several rainfall and flood event closures. The staff at Bolduc Correctional Facility did a good job of notifying the shellfish warden and DMR of rainfall events of  $\geq 1.5''$ . If there was a confusion regarding the amount of rainfall that had fallen in any 24 hour period, the shellfish warden was always diligent in contacting either the Bolduc Correctional Facility, DMR offices and occasionally both facilities to check the rainfall amount. In short, all personnel involved in the management of the conditional area did a good job of communicating with each other around the rainfall events to be sure the area was properly managed.

The table below tracks the time period from closure date to opening date for each event. When you look at the dates that samples were collected be aware that the area is required to be closed for a minimum of a two week period and the lab processes samples on Mondays – Wednesdays and usually not at all on holidays.

**2006 St George River Conditional Area Rainfall Closures**

Date Closed Flood=F Rain>1.5=R	Additional rainfall events $\geq 1.5$ inches in 24 hours	Date area sampled: Clams,&Water or Just Water	# Days closed	Date Opened	Open from (date-date)	# days open	Comments
12/27/05 R		1/9/06 water only	14	1/11/06	1/11-1/15?	4	
1/15/06 R		1/29/06 water	16 or 14	1/31/06	1/31-2/4	4	weekend closure 1/15/06 legal notice dated 1/17/06
2/4/06 R		2/15/06	15	2/19/06	2/19-6/4	105	weekend closure 2/4/06 legal notice dated 2/6/06 First weekend opening
6/4/06 R 6/8/06 F flood closure dated 6/8/06	reported on 6/8/06 at 0900 >1.50" rain 6/30/06, at 1130 $\geq 1.50''$ rain	6/4/06 random run 6/11/06 flood samples 6/12/06 flood samples 6/13/06 flood samples 6/18/06 CA samples 6/22/06 CA samples 6/26/06 CA samples 6/28/06 CA samples 7/9/06 random run 7/11/06 CA samples 7/17/06 CA samples 7/19/06 CA samples	47	7/21/06	7/21-10/12	93	weekend closure 6/4/06 legal notice dated 6/5/06

The closure in June was confusing. We closed the conditional area on 6/4 due to  $\geq 1.5$  inches of rain. The legal notice wasn't in effect until Monday 6/5. This was followed by a flood closure on 6/8 for the area from the Maine NH border to Isle Au Haut. The flood closure was pulled back in the St George area on 6/14 to only include East Point Biddeford to Martins Point



Friendship. The conditional area stations didn't pass on any of the dates it was sampled in June. We then had another rainfall event on 6/30. The area was required to stay closed at least until 7/14. The scores remained above opening criteria until 7/19. The samples were read on 7/21 and the area reopened.

**2006 St George River Conditional Area Rainfall Closures –continued -**

Date Closed Flood=F Rain>1.5=R	Additional rainfall events ≥1.5 inches in 24 hours	Date area sampled: Clams,&Water or Just Water F=flood sampling	# Days closed	Date Opened	Open from (date-date)	# days open	Comments
10/12/06 R 10/28/06 F 11/9/06 R	10/21 1.36" 11/9 1.70" 10/28 2.47"	10/24, 10/25, 10/30F 10/31F 11/1F, 11/2F 11/5 11/28	48	11/29	11/29-		

**Note:** Samples collected on 11/5 all passed, the earliest we could reopen would have been 11/12, but we received 1.7" of rainfall on 11/9.

Data showing that all Conditionally Approved and Conditionally Restricted stations in the river met open area criteria when in the open status can be found in Table 2 of the 2006 annual review of WU.

Communications between The staff at The Bolduc Correctional Facility, DMR, the Bureau of Marine Patrol, the St. George River shellfish warden, and the State Police were effective in enforcing this conditional areas' management plan. The effectiveness of this management plan will be reviewed on an annual basis by treatment plant personnel, D.M.R. staff and the local shellfish warden to ensure that all portions contained within this document are effective to ensure public health.

**NOTICE:**

This Management Plan for the rainfall conditional portions of the waters of the St. George River has been reviewed and approved by \_\_\_\_\_ (Correctional officer at Bolduc Correctional Facility).



## **BOLDUC CORRECTIONAL FACILITY EMERGENCY RESPONSE PLAN**

**This Emergency Response Plan will be activated in the event of  $\geq 1.5$  inches of rainfall in a 24 hour period.**

### **NOTICE FROM OBSERVER:**

1). Rainfall amounts will be monitored at the Bolduc Correctional Facility by staff. If rainfall of  $\geq 1.5$  inches in a 24 hour period is observed by Correctional Facility staff, the Correctional Facility staff will contact:

When you call the Barrack numbers please state clearly that ...

“The St George River rainfall conditional, shellfish area has received more than 1.5 inches of rainfall in a 24 hour period. This area has to be closed immediately for all shellfish harvesting. Marine Patrol Division I and Division II officers of the day AND the Marine Patrol Officers that are on duty patrolling the river, must be notified. The St George River borders on the towns of Cushing, Thomaston, St George and South Thomaston.”

2). After the shellfish warden AND, the Gray and Augusta Barracks have been contacted, the shellfish warden will contact The Department of Marine Resources at 633-9500 to report that a rainfall event of  $\geq 1.5$  inches has occurred

The shellfish warden will state to the D.M.R. switchboard operator "This is the shellfish warden for the St George River, I am calling to report a rainfall event on the River, It is urgent that I speak with someone from the Water Quality Program". When a staff member from the water quality program has been contacted, clearly state the nature of the of the rainfall event. **DO NOT LEAVE A MESSAGE ON A VOICE MAIL MACHINE!!!**

3). IF THE RAINFALL EVENT TAKES PLACE AFTER WORKING HOURS (sometime between the hours of 5:00 PM- 8:00AM or on weekends)

The shellfish warden will contact the water quality staff as soon as D.M.R.'s offices are open, (Monday-Friday, 8:00AM-5:00PM), and report the rainfall event by stating their name, location and how much rainfall was reported: **207-633-9500**

***DMR staff: Amy Fitzpatrick, Gail Parsons, Laura Livingston, Jan Barter, Fran Pierce***



## **Conditional Area Sampling Plan for Reopening - Following either a Treatment Plant Malfunction and/or a Rainfall Event Equal to or Greater Than 1.5 inches of Rain in a 24 Hour Period**

### **Shellfish Growing Area WU- Legal Notice Number C27**

On the first working day after the event, the conditional area will be reclassified to prohibited; closed by a DMR Emergency Regulation 95.05F Closed Area 27, St George River, Towns of Cushing, Warren, Thomaston, South Thomaston and St George. This will involve the administrative action as described in the legal notice and also the deployment of Marine Patrol personnel to post the area to ensure that no harvesting will take place during the event.

If there is a **rainfall event** equal to or greater than 1.5 inches of rain in a twenty-four hour period, water samples from stations Area WU/ 19, 21, 23, 25, 37, and 38 will be tested for fecal coliform.

If there is a **malfunction at the Warren Sanitary District or the Thomaston Treatment Facility**, water samples will be collected at the following stations: Area WU/ 28, 32, 33, 34, and 34.5.

A second sample will follow within one or two days if necessary. When approved area standards have been met for the conditionally approved sampling stations and restricted standards have been met for the conditionally restricted sampling stations and clam samples, the areas will be reclassified to their original classification prior to the event necessitating the closure. Both the conditionally approved and the conditionally restricted areas will remain classified as closed prohibited for a minimum of two weeks from the date of closure. Municipal officials will be notified in regards to sample results and actions.

### Conditional Area Sampling Policy following a closure event

*1) A representative array of sample stations will be sampled as a complete run for the determination that an area has cleaned up following a pollution event (closure). The selection of sample stations will take into account, proximity to shellfish harvest areas, location of pollution source(s), and likelihood that the information will provide ample data for evaluation of the entire conditional area.*

*2) Sample arrays will be approved by the program director and will be reviewed annually through the Conditional Area Management Plan review process. Changes will be made as determined by that review.*

*3) When evaluating the results of sampling after a closure for making decisions about reopening the area the following criteria will be met:*

*A. In those conditional areas for which there are less than five (5) stations being considered, all stations must have scores less than 14 CFU/100 ml before the area can be reopened.*



*B. For conditional areas for which there are more than five (5) stations, there will be a tolerance of 1/5 of the stations with a score greater than 14 but no samples over 31 CFU/100 ml.*

*C. For conditionally restricted areas all stations must have scores less than or equal to 163CFU/100ml.*

*D. When results suggest that the area needs to remain closed, a complete array of stations will be re-sampled for analysis*



## Conditional Area Management Plan

# For Areas Conditional on Operations at the Warren Sanitary District Shellfish Growing Area U

## ST GEORGE RIVER CONDITIONAL AREA, C27

Management Plan revised February 2007

Written By Fran Pierce

The Warren Sanitary District has been upgraded at their original location on route 97 in Warren on the shores of the upper St George River. The upgraded facility treats domestic and commercial wastewaters. The facility receives wastewater from approximately 250 households within the village of Warren. The Warren Sanitary District also receives wastewater from the State Dept. of Corrections Minimum Security Prison and the new 500 bed Maximum Security Prison Facility which became occupied in late February 2002

The upgraded facility consists of a three-cell partial mix aerated lagoon system with a storage lagoon for the summertime period with ultraviolet disinfection and discharge to the St George River via diffusers. The four lagoons have approximate volumes of 5.1 million gallons (MG), 1.5 MG, 1.5 MG, and 0.06 MG for cell #s 1,2,3,and 4 respectively at normal working depth. Influent flow from the Maine Dept. of Corrections DOC Prison Facilities and WSD is measured and enters lagoon cell #1. While any lagoon cell may be removed from service, the typical flow pattern is sequentially from lagoon cell #1 to cell #2 to cell #3 to cell #4. Treated effluent from the lagoons flows by gravity to a splitter box located in the UV disinfection room where the flow is evenly split between up to four channels for disinfection. Disinfected effluent is then measured in a partial plume prior to discharge to the St George River.

This facility has never had a malfunction that resulted in untreated wastewater being discharged to the river.

### **I. General description of conditionally managed areas including a map showing the boundaries.**

#### **Conditionally Restricted Portion of the St George River described as:**

That portion of the St. George River which lies north of a line beginning at a red painted post located on the western shore of the St George River, at the end of Sunrise Terrace Road in the town of Thomaston, continuing southeast to the red nun navigational buoy # 16, then continuing southeast to a red painted post at the tip of Hospital Point in the town of South Thomaston on the eastern shore of the St George River, and; south of a line formed by the railroad trestle that crosses the mouth of the Mill River, and south and east of a line extending east from the red painted post below the bend in



Sunrise Terrace Road on the western shore of said bay to the fixed granite navigational beacon "21" and continuing north to a red painted post just northeast of the piling ruins east of the maritime museum.

Please refer to the attached map on page 26 showing the location of this conditionally restricted area on the St George River.

**II. Description of factors determining the growing area's suitability for being classified conditionally approved or conditionally restricted.**

- 1 .Routine water sampling indicates that the area meets restricted criteria.
2. A shoreline survey of the area indicates no other point sources of pollution.
- 3.The Warren Sanitary District Facility is well maintained and operated and has recently been upgraded.
4. The towns of Cushing, Warren, Thomaston, South Thomaston and St. George have effective enforcement, by way of a shellfish warden, to ensure conditions of the management plan are met.

**III. Description of predictable pollution events that cause closure, including: A. Wastewater treatment facility - performance standard based on:**

**1. Peak effluent flows**

The Treatment Plant is licensed for 0.0795 MGD (average for the month) and the associated pollutant loading to the St George River during the summer months (June 1 through Sept. 30). Any excess flows above 0.0795 MGD will be stored during the summer months and then discharged during the non-summer months. The winter discharge flow limit is 0.2442 MGD.

**2. Bacteriological quality of the effluent**

The license limit is a maximum of 15/100ML monthly average, with a daily maximum of 50/100ML

**3. Physical and chemical quality of the effluent**

During the month of February 2002 96%, %CBOD removal 97%  
% SS removal February 2002: 93%

**The plant is licensed as follows:**

**June1 to September 30 (summer)**

	<u>Monthly Average</u>	<u>Weekly Average</u>
CBOD5	25mg/l	30mg/L

**October 1- May 31 (winter)**



	<u>Monthly Average</u>	<u>Weekly Average</u>
CBOD5	25mg/l	40mg/L

The seasonal limits for TSS are as follows:

**June 1 to September 30 (summer)**

TSS	<u>Monthly Average</u>	<u>Weekly Average</u>
25 mg/l	30 mg/L	

**October 1- May 31 (winter)**

	<u>Monthly Average</u>	<u>Weekly Average</u>
TSS	30 mg/l	45 mg/L

#### 4. Bypasses

It is not possible for wastewater to bypass the plant.

**5.Design, construction, and maintenance to minimize mechanical failure or overloading** The aeration systems, lagoons and disinfection system all have duplicate units or extended capacity.

#### **6. Provisions for verifying and monitoring efficiency of the Wastewater treatment plant and the feedback system for addressing inadequate treatment**

Alarms are sent to the autodialer at the plant via dedicated line. When the alarm goes off two operators are notified by pager. There are two additional backup operators in the area and several others are also on the list to respond.

#### **B. Meteorological or hydrological events –**

A portion of the St George River is conditional on  $\geq 1.5$  inches of rainfall in a 24 hour period. Rainfall is monitored at the Warren Treatment Plant. The portion of the river that is conditional on rainfall is described as:

That portion of the St George River north of a line drawn northwest from the most western tip of Fort Point in the town of St George, to the most northern tip of the unnamed point on the opposite shore in the town of Cushing.

Please refer to the rainfall conditional area management plan for a more detailed explanation of the rainfall conditional area's management and Emergency Response Plan.

**C. Seasonal events -** Does not apply.

#### **IV. Implementation of a conditional area closure.**

##### **A. Notification of management plan violation.**



**1. What agency is responsible for notifying the SSCA of management plan violation?**

The Warren Sanitary District

**2. Response time between management plan violation and notification of the SSCA.**

The SSCA will be notified promptly when the violation occurs.

**3. Procedures for prompt notification.**

The emergency response plan (copy at the end of this document) will be activated in the event of a deliberate or accidental release into the St. George River of untreated, partially treated or undisinfected sewage from the wastewater treatment facility or collection system due to meteorological\climatic conditions, operator error, mechanical\design failure or routine maintenance.

**B.Implementation of closure**

**1.Response time between management plan violation notification and legal closure by SSCA.**

This area will be closed promptly upon receipt of notification of the violation.

**2. How is shellfish industry notified?**

The Marine Patrol Officers, duty officers or Marine Patrol Sergeant having responsibility for the area closes the area by posting notices and patrolling the boat launch areas and harvest areas. The Shellfish Warden changes the conditional area classification dial in the locked shellfish information board at the public launching ramp from "OK to Dig" to Closed.

**3.How is patrol agency notified?**

The Bureau of Marine Patrol is notified as soon as the conditions are identified and the closure is implemented.

**C. Enforcement of closure**

**1. What agency is responsible?**

The Maine Department of Marine Resources

**2. Response time between SSCA legal closure and patrol agency notification** The patrol

agency will be notified at the same time as the SSCA

**3. Adequacy of enforcement during closure**



There has not been a malfunction at the Warren Sanitary District which resulted in a shellfish closure. The Marine Patrol is aware of the importance of closing the area as quickly as possible and will enforce the conditional area closure of this area with the same diligence as other closures are enforced

#### **V. Criteria necessary for reopening a conditional area after a pollution event.**

##### **A. The SSCA shall establish the following four (4) control elements to define reopening criteria**

###### **1. Procedures to determine that the pollution event has ended.**

Consultation with the Warren Sanitary District plant operator will be used to ensure that the malfunction has been corrected.

###### **2. A time interval sufficient to permit the area to flush itself, ie. Exchange a sufficient volume of water to disperse/assimilate the pollutant loading.**

The conditionally restricted area is required to remain closed for a minimum of two weeks following the corrected malfunction. After it has been determined that the malfunction has been corrected, clams and water samples from the conditionally restricted area will be tested to be sure that their fecal levels have returned to restricted standards.

###### **3. Shellfish feeding activity is sufficient to achieve natural cleansing.**

Water and clam samples will be taken to assure that the water quality and the clams in the area have returned to NSSP restricted area standards prior to re-opening the area. Please refer to the attached conditional area-sampling plan for a listing of the stations and clam sites sampled.

###### **4. A time interval sufficient to permit the shellfish to cleanse themselves naturally. The elapsed time can begin only after completion of the period required for the area to flush.**

Water and clam sampling will begin approximately one week after the event has stopped. If both the clam and water samples were found to meet restricted standards, the area would still be required to remain closed until the two-week period was completed. This allows for additional time for natural cleansing.

#### **VI. Synopsis of effectiveness of closure procedures and cooperation between involved agencies.**

Communications between the Warren Sanitary District staff, DMR, the Bureau of Marine Patrol, the St. George River shellfish warden, and the State Police have been effective in enforcing this conditional areas' management plan. The effectiveness of this management plan will be reviewed on an annual basis by treatment plant personnel and D.M.R. staff to ensure that all portions contained within this document reflect the current operations of the Warren Sanitary District.

**NOTICE:** This Management Plan for the conditionally approved and conditionally restricted waters of the St. George River, has been reviewed and approved by \_\_\_\_\_ (manager of the Warren Sanitary District Treatment Facility) on \_\_\_\_\_.



**WARREN SANITARY DISTRICT  
WASTEWATER TREATMENT PLANT  
EMERGENCY RESPONSE PLAN**

This Emergency Response Plan will be activated in the event of a deliberate or accidental release into the St. George River of untreated, partially treated or undisinfected sewage from the wastewater treatment facility, collection system or pump stations due to meteorological\climatic conditions, operator error, mechanical\design failure or routine maintenance.

This emergency plan may be activated in two ways; first by someone observing an untreated discharge, and second, by the activation of any alarm. Both of these situations are discussed below:

**NOTICE FROM OBSERVER:**

- 1). The plugging of a gravity sewer or a break in a force main may result in the discharge of untreated wastewater to surface water.
- 2). Discharging of treated untreated, or partially treated sewage from the wastewater treatment facility, collection system or pump stations due to meteorological\climatic conditions, operator error, mechanical\design failure or routine maintenance may be detected by treatment plant personnel.

If any of the above conditions or any potential condition is observed by plant personnel and there is imminent danger of surface water contamination, they are to IMMEDIATELY begin the reporting procedure outlined on the "bypass reporting" form.

**ALARM ACTIVATION:**

The Warren Sanitary District has an alarm system on its wastewater facilities. The activation of an alarm automatically starts the reporting mechanism.

**LOCATION: ALARM:**

**Plant**

- Aerator Failure (X16)
- Generator/Power failure
- UV Alarm
- Filtration Alarm
- Pump Station Trouble (X2)
- Pump Station Security (X2)
- Pump Station Fire (X2)
- Pump Station Telemetry Failure (X2)



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All alarms send a radio signal to the base station in the treatment plant. An audio alarm sounds and a light goes on to indicate the location of the problem and a signal is sent to the auto dialer. The auto dialer will respond to the alarm by calling a pager (851-5427 carried by plant manager). They will have 10 minutes to respond to the auto dialer or it will call a second pager (851-0274 carried by the plant operator). If he does not respond within 10 minutes the auto dialer will continue to call a list of ten telephone numbers.

In the unlikely event the auto dialer does not receive a response from the anyone on the call list, the auto dialer will start the calling procedure over, and keep calling until it gets a response. When the plant staff receives a page indicating an alarm, they will call the auto dialer (273-2600) and investigate. If any untreated discharge is occurring or about to occur, the reporting procedure outlined below will begin:

**TREATMENT PLANT BYPASS REPORTING:**

If the Warren Sanitary District experiences a discharge of untreated or partially treated wastewater, the discharge must be reported IMMEDIATELY day or night.

Treatment plant personnel will contact the following individuals and agencies in the following order:

1.

When you call the Barrack numbers please state clearly that ...

"This is \_\_\_\_\_ of the Warren Sanitary District, I am calling to report a wastewater bypass event at the Warren Sanitary District. The conditionally restricted area on the St George River has to be closed immediately for all shellfish harvesting. Marine Patrol Division I and Division II officers of the day AND the Marine Patrol Officers that are on duty patrolling the river, must be notified. The St George River borders on the towns of Cushing, Thomaston, St George and South Thomaston."

2. The treatment plant operator on duty must call:

The Department of Marine Resources at: 207- 633-9500

The treatment plant operator will state to the D.M.R. switchboard operator "This is \_\_\_\_\_ of the Warren Sanitary District, I am calling to report a wastewater bypass event at the Warren Sanitary District, It is urgent that I speak with someone from the Water Quality Program". When a staff member



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from the water quality program has been contacted, clearly state the nature of the bypass event. DO NOT LEAVE A MESSAGE ON A VOICE MAIL MACHINE!!!

**IF THE DISCHARGE TAKES PLACE AFTER WORKING HOURS (sometime between the hours of 5:00 PM- 8:00AM or on weekends and holidays)**

1. Contact shellfish warden AND Gray Barracks: 1-800-482-0730, AND Augusta Barracks: 1-800-452-4664.

When you call the Barrack numbers please state clearly that ...

"This is \_\_\_\_\_ of the Warren Sanitary District, I am calling to report a wastewater bypass event at the Warren Sanitary District. The conditionally restricted area on the St George River has to be closed immediately for all shellfish harvesting. Marine Patrol Division I and Division II officers of the day AND the Marine Patrol Officers that are on duty patrolling the river, must be notified. The St George River borders on the towns of Cushing, Thomaston, St George and South Thomaston."

2. As soon as DMR's offices are open, (Monday – Friday 8:00 am-5:00pm) the plant operator will contact the water quality staff to report the bypass.

When the bypass stops, the plant operator will call the D.M.R. water quality staff and report the time and date that the bypass stopped.

Department of Marine Resources water quality staff:  
Amy Fitzpatrick, Laura Livingston, Jan Barter, and Fran Pierce