



GROWING AREA WF
Town of Biddeford
ANNUAL REVIEW for 2008

Report Date: January 25, 2010

Amy M. Fitzpatrick

APPROVAL

Bureau Director:

_____ Date: _____
Print name signature



DRAFT APPROVAL ROUTING FORM

Date in Process:

Operation Title:

Revision No.:

Originator's Name: Amy Fitzpatrick _____
Print name Signature

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

Reviewer:

Anna Bourakovsky _____ Date: _____
print name signature

Reviewer:

Fran Pierce _____ Date: _____
print name signature



TABLE OF CONTENTS

Executive Summary5
Growing Area Description5
Current Classification(s).....5
Activity during Review Period6
Current Management Plan(s) for Conditional Area(s).....6
Water Quality Review and Discussion6
Shoreline Survey Activity8
Aquaculture/Wet Storage Activity8
Classification Changes Required and Requested8
Summary.....8
Appendix A. Key to Water Quality Table Headers9
Appendix B. Growing Area WF 2008 Data 10

LIST OF TABLES

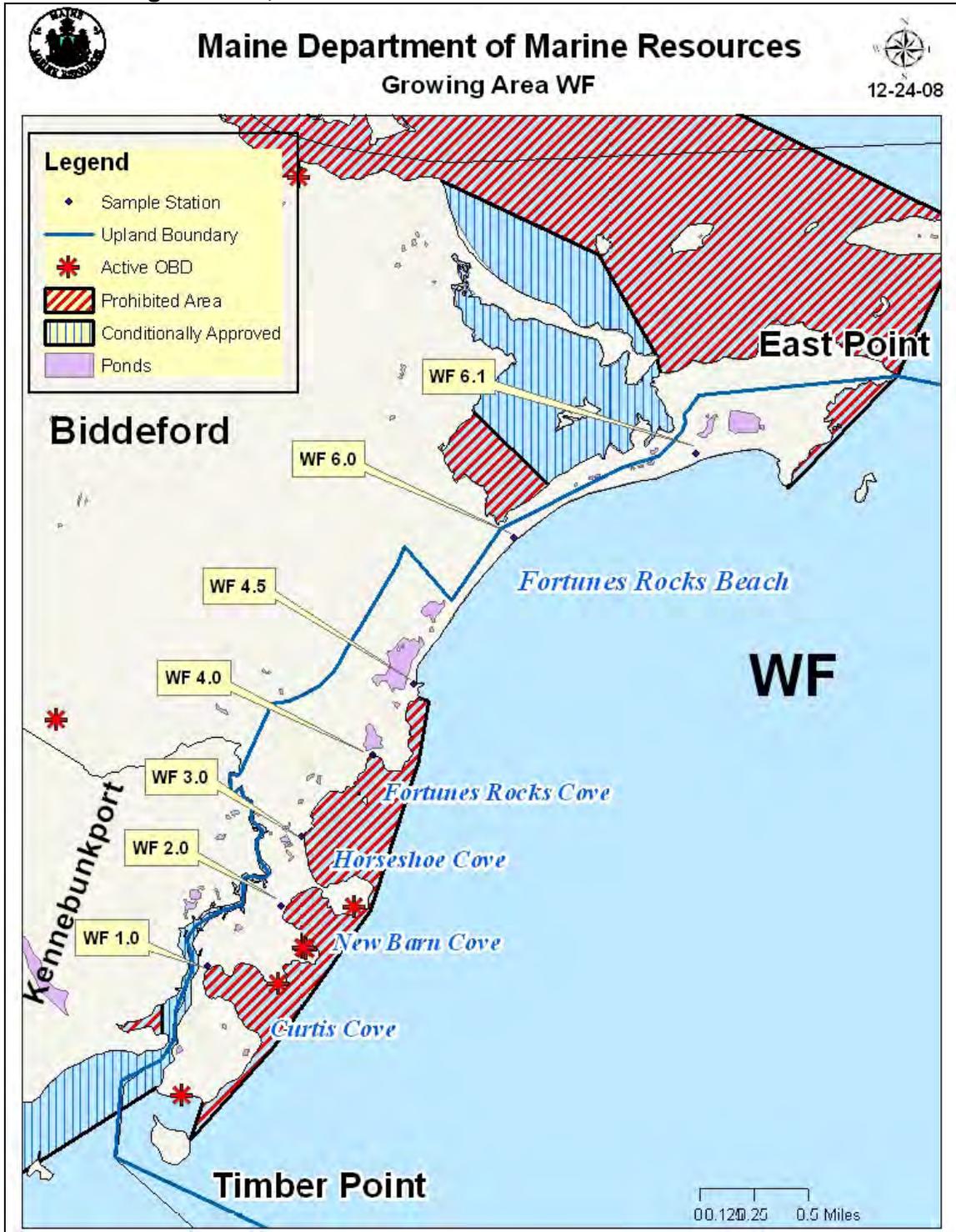
Table 1. Geomean and P90 Scores, Growing Area WF, 2004-20086
Table 2. WF Samples Collected in 2008..... 7

LIST OF FIGURES

Figure 1. Growing Area WF, with Active Water Stations4
Figure 2. Area WF P90 Scores for WF Stations (expressed as the percent of the approved standard), 2006-2008..... 7



Figure 1. Growing Area WF, with Active Water Stations





Executive Summary

This is an annual report for growing area WF written in compliance with the requirements of the 2007 Model Ordinance and the National Shellfish Sanitation Program. Growing area WF is located in the city of Biddeford, and includes the area between Timber Island and East Point. There were no classification changes in this growing area in 2008. No sample stations were added or deactivated in 2008. One licensed overboard discharge (OBD) was removed from Horseshoe Cove during the review period.

The next triennial report is due in 2010 and the next sanitary survey is due in 2013.

Growing Area Description

Growing area WF is located in the city of Biddeford, and includes the area between Timber Island and East Point (Figure 1). A complete boundary description for this area can be found in the central files. The area consists of four coves and two public beaches; New Barn, Curtis, Horseshoe and Fortunes Rocks Coves and Fortunes Rocks (0.8 miles) and Middle (1.2 miles) Beaches. The only major pollution sources in the growing area are licensed overboard discharges in the coves. Along the beach, there is a pond outlet, which spills over through a culvert pipe during wet weather conditions.

Current Classification(s)

Shellfish growing area WF currently has areas classified as:

Approved

Fortunes Rocks Beach (3 Stations); WF 4.5, 6.0 and 6.1

Prohibited (due to the presence of licensed overboard discharges)

Fortunes Rocks Cove (1 Station); WF 4.0

Horseshoe Cove (1 Station); WF 3.0

New Barn Cove (1 Station); WF 2.0

Curtis Cove (1 Station); WF 1.0

Please visit the DMR website to view legal notices:

DMR Regulation 95.10 Z, Area No. 9, Batson River to Fortunes Rocks (Kennebunkport and Biddeford)

DMR Regulation 95.10 S, Area No. 10, Saco River and Saco Bay (Biddeford, Saco, Old Orchard Beach)

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



Activity during Review Period

There were no classification changes during the review period.

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

There are no conditional areas in growing area WF.

Water Quality Review and Discussion

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

All approved stations met their NSSP classification standard in 2008. Stations that are classified prohibited, but meet the approved standard will remain prohibited due to the presence of OBDs. All approved and prohibited stations that were active at the beginning of 2008 were sampled 6 times following the systematic random sampling (SRS) schedule (Table 2 and Appendix B).

Table 1. Geomean and P90 Scores, Growing Area WF, 2004-2008

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WF 1.0	P	30	14	4.7	0.51	93	21.1	40	226
WF 2.0	P	30	14	3	0.27	25	6.7	40	226
WF 3.0	P	30	14	3.3	0.39	43	10.4	40	226
WF 4.0	P	30	14	2.6	0.13	6	3.8	40	226
WF 4.5	A	30	15	3.2	0.3	23	7.6	39	221
WF 6.0	A	30	14	2.8	0.26	50	5.9	40	226
WF 6.1	A	30	14	2.5	0.15	9.1	3.9	40	226

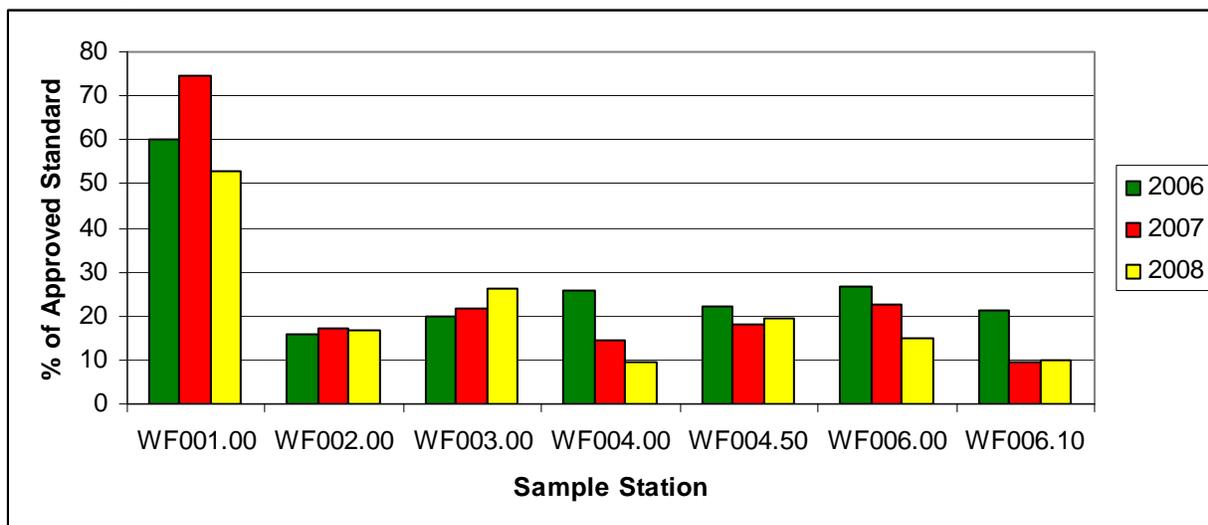


Table 2. WF Samples Collected in 2008

Station	Class	Random		Total
		Closed	Open	
WF 1.0	P	6		6
WF 2.0	P	6		6
WF 3.0	P	6		6
WF 4.0	P	6		6
WF 4.5	A		6	6
WF 6.0	A		6	6
WF 6.1	A		6	6

Figure 2 shows the P90 trends over the past three years, for all stations in growing area WF (approved and prohibited). During the transition from MPN to MF analysis method, the approved standard will decrease every year, until all samples have been analyzed by the MF method. In order to show the trend of the P90 value over the years, the calculated P90 scores are expressed as a percentage of the approved standard; any station showing the 2008 column on or above 100 percent does not meet the standard for its classification. Generally, the three approved stations (WF 4.5, 6 and 6.1) have shown steady or improving water quality over the past three years.

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





Shoreline Survey Activity

No shoreline survey activity was conducted in 2008. No drive through survey was conducted in 2008.

Aquaculture/Wet Storage Activity

There is no aquaculture or wet storage activities in growing area WF.

Classification Changes Required and Requested

At the end of 2008, it was noted that an OBD, located at Timber Point did not have a closure surrounding its outfall. On May 27, 2009, a dilution calculation was completed and a prohibited area was put in place surrounding the outfall for this OBD.

Summary

Growing area WF continues to maintain good water quality in areas currently classified as approved. At the end of the 2008 review year, all approved stations were meeting their respective NSSP classification standard. Station classified as prohibited due to their proximity to active OBDs also met the approved standards; these stations will remain classified as prohibited.

Future recommendations for work during the 2009 review year, the upland boundary for Growing Area WE and WF should be re-evaluated so that the eastern boundary does not go down the middle of Little River (Biddeford). It should be made to encompass the entire watershed if possible.



Appendix A. Key to Water Quality Table Headers

Station = water quality monitoring station

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

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

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

GM = means the antilog (base 10) of the arithmetic mean of the sample result logarithm (base 10).

SDV = standard deviation

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

P90 = 90th percentile

APPD_STD = the 90th percentile, at or below which the station would meet approved criteria in the absence of pollution sources or poisonous and deleterious substances.

RESTR_STD = the 90th percentile, at or below which the station would meet restricted criteria.



Appendix B. Growing Area WF 2008 Data

Station	Date	Collect	Tide	Temp	Sal	Strat	ADV	Stat	CL	MFCOL	WIND
WF001.00	02/04/08	EXT	E	0	32	R	-	C	P	<2.0	CL
	04/02/08	LL	E	3	33	R	-	C	P	<2.0	NW
	06/02/08	LL	E	11	31	R	-	C	P	<2.0	CL
	07/22/08	EXT	F	21	30	R	-	C	P	22	SW
	10/29/08	EXT	H	8	31	R	P	C	P	8	W
	11/12/08	AB	E	7	30	R	-	C	P	18	S
WF002.00	02/04/08	EXT	E	0	32	R	-	C	P	<2.0	CL
	04/02/08	LL	E	3	33	R	-	C	P	<2.0	NW
	06/02/08	LL	E	11	30	R	-	C	P	6	E
	07/22/08	EXT	F	19	30	R	-	C	P	2	CL
	10/29/08	EXT	H	9	31	R	P	C	P	25	CL
	11/12/08	AB	E	6.5	30	R	-	C	P	<2.0	S
WF003.00	02/04/08	EXT	E	0	32	R	-	C	P	<2.0	CL
	04/02/08	LL	E	3	33	R	-	C	P	<2.0	NW
	06/02/08	LL	E	11	30	R	-	C	P	2	E
	07/22/08	EXT	F	19	30	R	-	C	P	<2.0	CL
	10/29/08	EXT	H	9	31	R	P	C	P	20	W
	11/12/08	AB	E	7	30	R	-	C	P	<2.0	S
WF004.00	02/04/08	EXT	E	0	32	R	-	C	P	2	CL
	04/02/08	LL	E	3	33	R	-	C	P	<2.0	NW
	06/02/08	LL	E	11	30	R	-	C	P	<2.0	CL
	07/22/08	EXT	F	18	30	R	-	C	P	<2.0	CL
	10/29/08	EXT	H	9	31	R	P	C	P	<2.0	CL
	11/12/08	AB	E	7	31	R	-	C	P	<2.0	S
WF004.50	02/04/08	EXT	E	0	32	R	-	O	A	<2.0	CL
	04/02/08	LL	E	3	32	R	-	O	A	<2.0	NW
	06/02/08	LL	E	9	31	R	-	O	A	<2.0	CL
	07/22/08	EXT	F	17	31	R	-	O	A	<2.0	SW
	10/29/08	EXT	F	10	31	R	P	O	A	2	W
	11/12/08	AB	E	7	31	R	-	O	A	2	S
WF006.00	02/04/08	EXT	E	-2	32	R	-	O	A	<2.0	CL
	04/02/08	LL	E	3	32	R	-	O	A	<2.0	NW
	06/02/08	LL	E	9	30	R	-	O	A	4	SE
	07/22/08	EXT	F	17	31	R	-	O	A	2	SW
	10/29/08	EXT	HF	11	32	R	P	O	A	<2.0	W
	11/12/08	AB	HE	6	30	R	-	O	A	<2.0	NE
WF006.10	02/04/08	EXT	E	0	32	R	-	O	A	<2.0	CL
	04/02/08	LL	E	3	32	R	-	O	A	<2.0	NW
	06/02/08	LL	HE	10	31	R	-	O	A	<2.0	S
	07/22/08	EXT	F	17	31	R	-	O	A	<2.0	SW
	10/29/08	EXT	HE	10	31	R	P	O	A	<2.0	W
	11/12/08	AB	HE	7	32	R	-	O	A	<2.0	NE