GROWING AREA WY

Town of Islesboro

ANNUAL REVIEW for 2010

Report Date: March 28, 2012

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APPROVAL

Division Director:

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Print name signature

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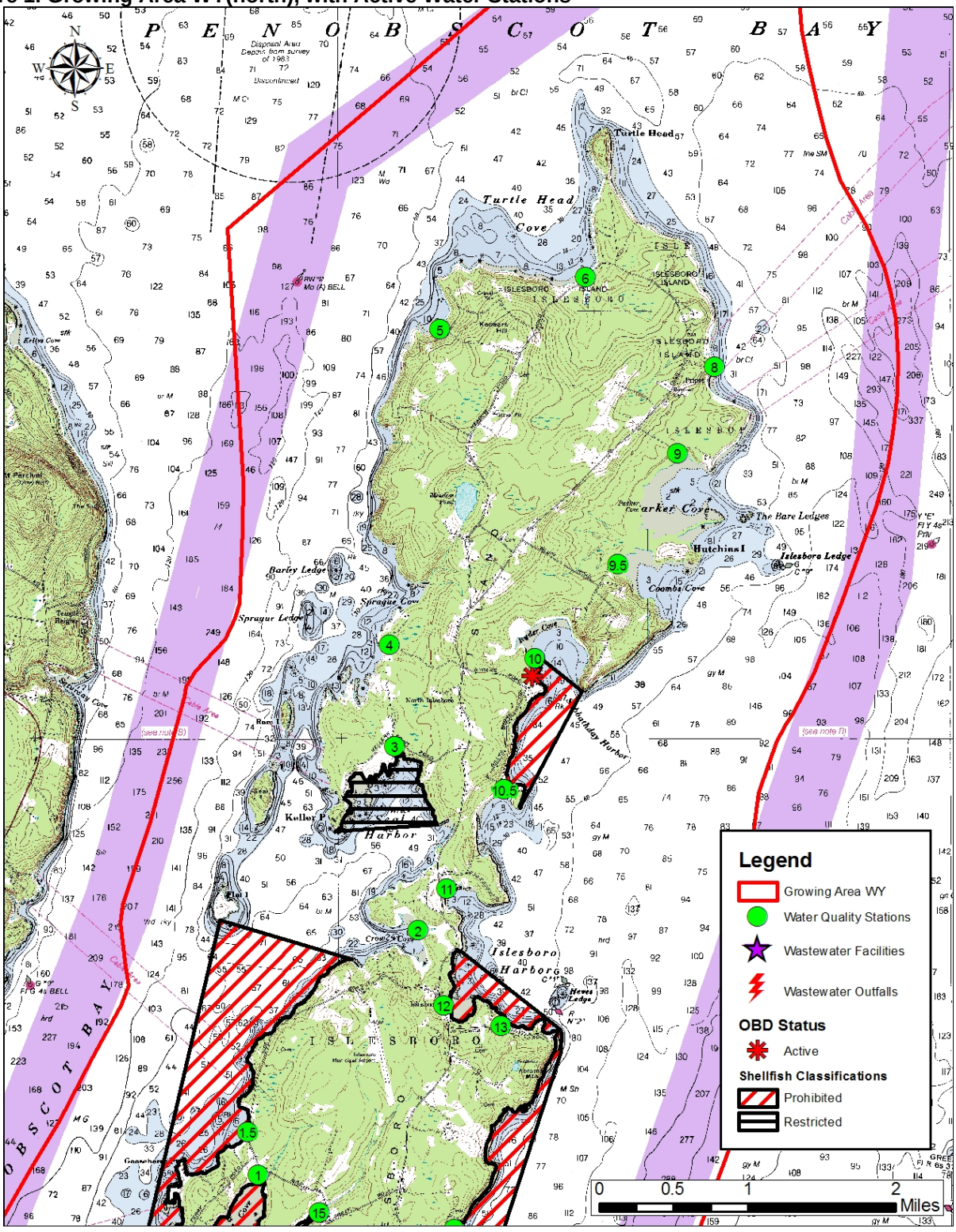

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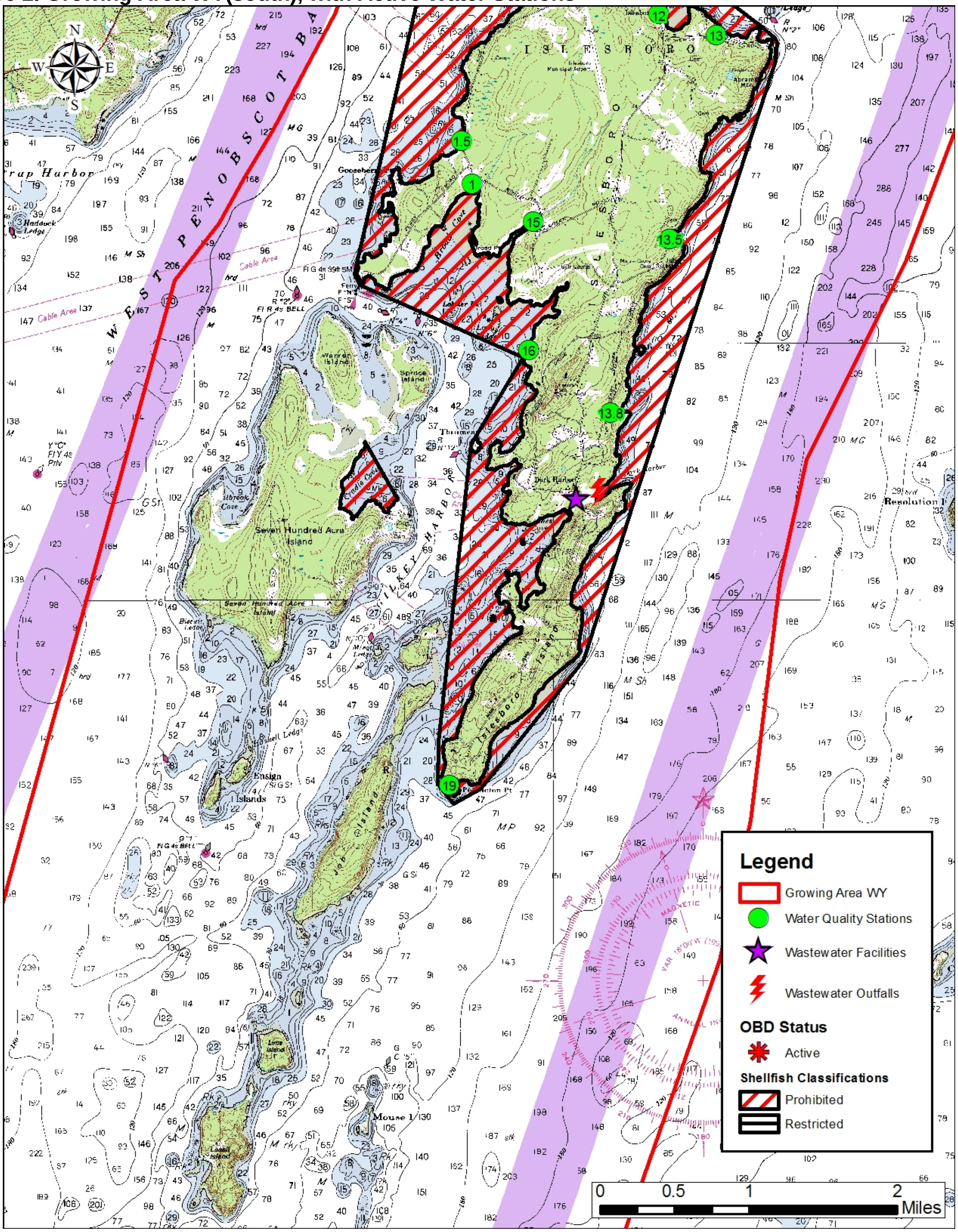


Executive Summary

This is an annual report for growing area WY written in compliance with the requirements of the 2009 Model Ordinance and the National Shellfish Sanitation Program.

Growing Are WY includes the island of Islesboro and several smaller islands located in upper Penobscot Bay. At the end of 2010, water quality at all stations supported the current NSSP classifications. There were no stations added or deactivated from the growing area in 2010. There were no changes in pollution sources identified during the 2010 review year. There were no classification changes in growing area WY in 2010; no classification changes are being proposed as part of this annual review.

The next sanitary survey report is due in 2011.

Growing Area Description

Growing Are WY includes the island of Islesboro and several smaller islands located in upper Penobscot Bay. Islesboro is approximately 10 miles long by 2.5 miles wide at its widest point. The shores of Islesboro range from bold shore to sand and cobble beaches with few actual mud flat areas. A complete growing area description can be found in DMR central files.

Islesboro has a year round population of 663 (2005 figures) that more than doubles during the summer months. Islesboro is a very rural island with no marinas. There is a small municipal wastewater treatment facility on the southeast side of the island that serves a total population of 140 residents. All of the remaining residents have either a private in ground system, a licensed overboard discharge system, outhouses, or composting toilets. The entire shore along the southern half of the island is classified as prohibited due to the presence of a municipal wastewater treatment plant and lack of a shoreline survey. The eastern side contains few shellfish resources and the western side is frequented by cruising boats during the summer months.

Current Classification(s)

Shellfish growing area WY currently has areas classified as:

Approved

- Sample stations associated with approved classification; WY 2, 4, 5, 6, 8, 9, 9.5, 10, 10.5, and 11.

Restricted

- Area No. 36-F, Part B, Keller Point, Islesboro, restricted due to water quality exceeding approved standards. Sample stations associated with classification; WY 3.

Prohibited

- Area No. 36-F, Part A, Southern end of Islesboro, prohibited due to the presence of a municipal wastewater treatment plant and lack of a shoreline survey. Sample stations associated with classification; WY 1, 1.5, 12, 13, 13.5, 13.8, 15, 16, and 19.

Please visit the DMR website to view legal notices:

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

Activity during Review Period

There were no classification changes to area WY during the 2010 annual review period.

Water Quality Review and Discussion

Table 1 lists all active approved, restricted, and prohibited stations in Growing Area WY, with their respective Geomean and P90 calculations for 2010. 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 verses MF. The total number of data points used in the calculations is displayed in the Count column and includes both MPN and MF values. The number of data points analyzed by MF is displayed in the MFCNT column. This fluctuating standard will cease when all 30 data points have been analyzed by the MF method. A more detailed explanation of this transition can be found in central files. All approved and restricted stations met their appropriate NSSP classification standard in 2010.

Table 1. Geomean and P90 Scores, Growing Area WY, 2006-2010

Station	Class	Count	MFCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
WY001.00	P	30	26	5.2	0.68	320	39.9	32	176
WY001.50	P	30	26	4.2	0.6	460	24.8	32	176
WY002.00	A	30	26	3.8	0.47	43	15.6	32	176
WY003.00	R	30	26	4	0.55	240	21.1	32	176
WY004.00	A	30	26	3	0.39	92	9.5	32	176
WY005.00	A	30	26	3.3	0.4	93	11.2	32	176
WY006.00	A	30	26	3.5	0.47	240	14	32	176
WY008.00	A	30	26	3.5	0.47	102	14.6	32	176
WY009.00	A	30	26	3.3	0.42	100	11.7	32	176
WY009.50	A	30	26	2.6	0.3	42	6.3	32	176
WY010.00	A	30	26	2.9	0.3	23	7.1	32	176
WY010.50	A	30	26	2.7	0.38	52	8.6	32	176
WY011.00	A	30	26	2.4	0.26	23	5.3	32	176
WY012.00	P	30	26	3	0.4	150	10	32	176

Station	Class	Count	MFCount	GM	SDV	MAX	P90	Appd_Std	Restr_Std
WY013.00	P	30	26	3.4	0.42	50	11.9	32	176
WY013.50	P	30	26	2.7	0.34	31	7.3	32	176
WY013.80	P	30	26	2.9	0.4	94	9.7	32	176
WY015.00	P	30	26	3.5	0.49	93	15.3	32	176
WY016.00	P	30	27	2.3	0.24	23	4.7	32	173
WY019.00	P	30	26	2.4	0.26	30	5.3	32	176

All stations that were active at the beginning of 2010 were sampled at least 6 times following the systematic random sampling (SRS) schedule (Table 2).

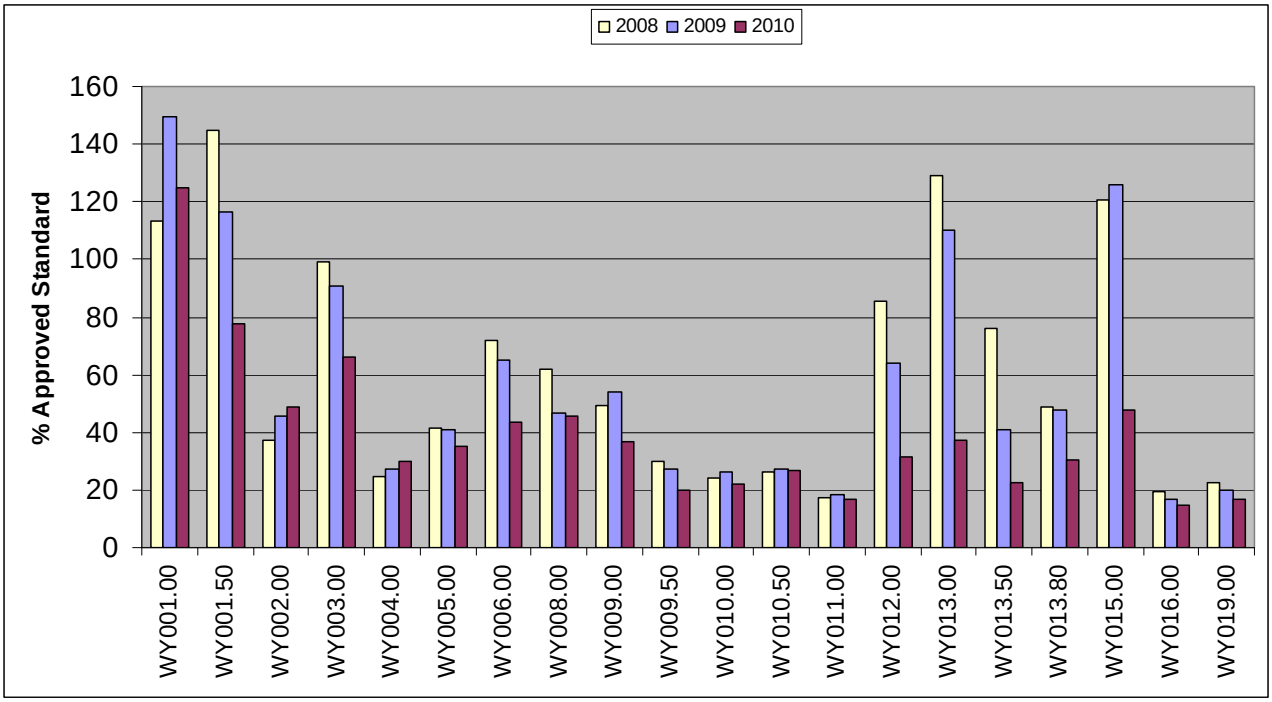
Table 2. WY Samples Collected in 2010

Station	Class	Adverse		Random		Total	Comments
		Closed	Open	Closed	Open		
WY001.00	P			6		6	
WY001.50	P			6		6	
WY002.00	A				6	6	
WY003.00	R				6	6	
WY004.00	A				6	6	
WY005.00	A				6	6	
WY006.00	A				6	6	
WY008.00	A				6	6	
WY009.00	A				6	6	
WY009.50	A				6	6	
WY010.00	A				6	6	
WY010.50	A				6	6	
WY011.00	A				6	6	
WY012.00	P			6		6	
WY013.00	P			6		6	
WY013.50	P			6		6	
WY013.80	P			6		6	
WY015.00	P			6		6	
WY016.00	P			6		6	
WY019.00	P			6		6	

Figure 3 shows the P90 trends over the past three years for all stations in growing area WY. 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 2010 column on or above the 100 percent line does not meet the standard for approved classification. With the exception of stations WY 6 and WY 9, all approved stations are currently under 50 percent of the approved standard. Station WY 6 is within 35 percent of the standard, but has shown a decrease in P90 scores over the past three years. Station WY 9 has shown a slight increase in its P90 score for over the past three years. Another station which has shown a slight, but consistent upward trend in scores is WY 2. The remainder of the stations have

shown an improvement in water quality scores over the past three years, or have shown little change in scores (less than 10% change over the past three years).

Figure 3. Area WY P90 Scores for All Stations (expressed as the percent of the approved standard), 2008-2010



Recommendations for Upward Classification

Based on the 2009 Annual review, there are currently no upward classification recommendations for growing area WY. Growing area WY will be surveyed in 2010. No changes in classification will take place until the new survey has been completed.

Shoreline Survey Activity

A drive through survey was conducted in May of 2009. No new pollution sources were identified at this time. A new shoreline survey of Islesboro and several of the islands south of Islesboro will be done in 2010. Islands that will be surveyed include Warren, Spruce, Seven Hundred Acre, Minot, Lassel and Ensign.

Aquaculture/Wet Storage Activity

There is no aquaculture or wet storage sites in area WY.

Summary

Based on the current review of water quality data for 2009 all stations in area WY meet the appropriate NSSP classification standard. Some prohibited stations met the approved NSSP standard, however these stations will remain classified as prohibited until future shoreline survey work and water quality assessment can be completed. The entire island should be re-surveyed within the next review year; a sanitary survey should be written at the end of the 2011 field season.

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).

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

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

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

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

P90 = 90th percentile

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

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

Appendix B. Transitioning to Membrane Filtration for Seawater and Pollution Source Samples

The Maine Department of Marine Resources has switched to a Membrane Filtration (MF) method for Fecal Coliforms using mTEC agar with a two hour resuscitation step. The geometric mean and the 90th 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.

During the transition the P90 standard for approved and restricted classification will migrate from the MPN to MF standards. 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 90th 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 90th percentile standard that the sample site is compared to will change over time. Once all 30 data points are analyzed using MF, the 90th 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 90th percentiles will show the number of data points derived from MF analysis and will show the appropriate 90th 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 90th percentile standard is 31 fecal coliforms per 100 ml.

This was the second year the water quality program documented, in the database, the inability to collect a sample based on the following parameters: if the tide stage was too low to collect the sample, there was a safety issue with collecting the sample, the location was inaccessible or “other” which was accompanied by a comment on the data sheet. Stations that were unable to be sampled due to any of these parameters show 999 in the salinity column and have no data recorded in any of the columns except the time which is recorded so the actual tide stage can be computed. Stations that were missed due to the above parameters were required to be made up to assure that each station would receive the required six samples during the sampling season.

Appendix C. Growing Area WY 2009 SRS Data

Station	Date	Collector	Tide	Salin	Strat	Adv	Status	Class	Col
WY001.00	09-Mar-09	MLP	H	24	R	X	C	P	<2
	29-Apr-09	EXT	F	25	R	X	C	P	<2
	27-May-09	FP	F	27	R	X	C	P	<2
	21-Jul-09	MLP	HF	22	R	X	C	P	64
	10-Aug-09	EXT	F	24	R	X	C	P	12
	21-Sep-09	LSM	HF	30	R	X	C	P	<2
WY001.50	09-Mar-09	MLP	H	26	R	X	C	P	<2
	29-Apr-09	EXT	LF	20	R	X	C	P	<2
	27-May-09	FP	F	27	R	X	C	P	<2
	21-Jul-09	MLP	HF	20	R	X	C	P	<2
	10-Aug-09	EXT	LF	24	R	X	C	P	2
	21-Sep-09	LSM	F	30	R	X	C	P	<2
WY002.00	09-Mar-09	MLP	HE	26	R	X	O	A	<2
	29-Apr-09	EXT	F	20	R	X	O	A	<2
	27-May-09	FP	F	26	R	X	O	A	<2
	21-Jul-09	MLP	HF	21	R	X	O	A	22
	10-Aug-09	EXT	F	24	R	X	O	A	4
	21-Sep-09	LSM	F	30	R	X	O	A	<2
WY003.00	09-Mar-09	MLP	HE	30	R	X	O	R	<2
	29-Apr-09	EXT	F	22	R	X	O	R	<2
	27-May-09	FP	F	26	R	X	O	R	11
	21-Jul-09	MLP	HF	21	R	X	O	R	6
	10-Aug-09	EXT	F	20	R	X	O	R	18
	21-Sep-09	LSM	F	30	R	X	O	R	<2
WY004.00	09-Mar-09	MLP	HE	24	R	X	O	A	<2
	29-Apr-09	EXT	LF	18	R	X	O	A	2
	27-May-09	FP	F	26	R	X	O	A	<2
	21-Jul-09	MLP	HF	20	R	X	O	A	10
	10-Aug-09	EXT	F	22	R	X	O	A	<2
	21-Sep-09	LSM	F	30	R	X	O	A	<2
WY005.00	09-Mar-09	MLP	HE	24	R	X	O	A	<2
	29-Apr-09	EXT	LF	18	R	X	O	A	<2
	27-May-09	FP	F	27	R	X	O	A	<2
	21-Jul-09	MLP	HF	20	R	X	O	A	24
	10-Aug-09	EXT	F	24	R	X	O	A	<2
	21-Sep-09	LSM	F	30	R	X	O	A	<2
WY006.00	09-Mar-09	MLP	HE	22	R	X	O	A	2
	29-Apr-09	EXT	LF	16	R	X	O	A	<2
	27-May-09	FP	F	27	R	X	O	A	2
	21-Jul-09	MLP	H	21	R	X	O	A	4
	10-Aug-09	EXT	F	24	R	X	O	A	<2
	21-Sep-09	LSM	F	28	R	X	O	A	2

Station	Date	Collector	Tide	Salin	Strat	Adv	Status	Class	Col
WY008.00	09-Mar-09	MLP	E	26	R	X	O	A	<2
	29-Apr-09	EXT	F	22	R	X	O	A	<2
	27-May-09	FP	F	26	R	X	O	A	2.8
	21-Jul-09	MLP	H	22	R	X	O	A	18
	10-Aug-09	EXT	F	24	R	X	O	A	<2
	21-Sep-09	LSM	F	30	R	X	O	A	2
WY009.00	09-Mar-09	MLP	E	26	R	X	O	A	<2
	29-Apr-09	EXT	F	24	R	X	O	A	<2
	27-May-09	FP	F	28	R	X	O	A	8
	21-Jul-09	MLP	H	22	R	X	O	A	8
	10-Aug-09	EXT	F	25	R	X	O	A	2
	21-Sep-09	LSM	F	30	R	X	O	A	<2
WY009.50	09-Mar-09	MLP	E	26	R	X	O	A	<2
	29-Apr-09	EXT	F	22	R	X	O	A	<2
	27-May-09	FP	F	29	R	X	O	A	2
	21-Jul-09	MLP	H	24	R	X	O	A	8
	10-Aug-09	EXT	F	26	R	X	O	A	<2
	21-Sep-09	LSM	F	30	R	X	O	A	<2
WY010.00	09-Mar-09	MLP	E	22	R	X	O	A	<2
	29-Apr-09	EXT	F	24	R	X	O	A	<2
	27-May-09	FP	F	28	R	X	O	A	2
	21-Jul-09	MLP	H	22	R	X	O	A	6
	10-Aug-09	EXT	F	24	R	X	O	A	<2
	21-Sep-09	LSM	F	30	R	X	O	A	<2
WY010.50	09-Mar-09	MLP	E	28	R	X	O	A	<2
	29-Apr-09	EXT	F	23	R	X	O	A	<2
	27-May-09	FP	F	28	R	X	O	A	<2
	21-Jul-09	MLP	H	22	R	X	O	A	3.6
	10-Aug-09	EXT	F	24	R	X	O	A	<2
	01-Sep-09	LSM	HE	30	R	X	O	A	2
WY011.00	09-Mar-09	MLP	H	27	R	X	O	A	<2
	29-Apr-09	EXT	F	23	R	X	O	A	<2
	27-May-09	FP	F	28	R	X	O	A	<2
	21-Jul-09	MLP	H	21	R	X	O	A	5.5
	10-Aug-09	EXT	F	22	R	X	O	A	<2
	21-Sep-09	LSM	F	30	R	X	O	A	<2
WY012.00	09-Mar-09	MLP	E	26	R	X	C	P	<2
	29-Apr-09	EXT	F	22	R	X	C	P	<2
	27-May-09	FP	F	27	R	X	C	P	2
	21-Jul-09	MLP	HE	22	R	X	C	P	7.3
	10-Aug-09	EXT	F	22	R	X	C	P	6
	21-Sep-09	LSM	F	30	R	X	C	P	<2
WY013.00	09-Mar-09	MLP	E	18	R	X	C	P	4
	29-Apr-09	EXT	F	22	R	X	C	P	<2

Station	Date	Collector	Tide	Salin	Strat	Adv	Status	Class	Col
	27-May-09	FP	F	27	R	X	C	P	<2
	21-Jul-09	MLP	HE	22	R	X	C	P	9.1
	10-Aug-09	EXT	F	24	R	X	C	P	2
	21-Sep-09	LSM	F	30	R	X	C	P	<2
WY013.50	09-Mar-09	MLP	E	28	R	X	C	P	<2
	29-Apr-09	EXT	F	22	R	X	C	P	<2
	27-May-09	FP	F	27	R	X	C	P	2
	21-Jul-09	MLP	HE	23	R	X	C	P	31
	10-Aug-09	EXT	F	23	R	X	C	P	<2
	21-Sep-09	LSM	HF	30	R	X	C	P	<2
WY013.80	09-Mar-09	MLP	E	23	R	X	C	P	<2
	29-Apr-09	EXT	F	22	R	X	C	P	<2
	27-May-09	FP	F	27	R	W	C	P	2
	21-Jul-09	MLP	HE	22	R	X	C	P	10
	10-Aug-09	EXT	F	24	R	X	C	P	<2
	21-Sep-09	LSM	HF	30	R	X	C	P	<2
WY015.00	09-Mar-09	MLP	H	28	R	X	C	P	<2
	29-Apr-09	EXT	F	25	R	X	C	P	<2
	27-May-09	FP	F	27	R	X	C	P	<2
	21-Jul-09	MLP	HF	22	R	X	C	P	6
	10-Aug-09	EXT	F	24	R	X	C	P	2
	21-Sep-09	LSM	HF	30	R	X	C	P	2
WY016.00	09-Mar-09	MLP	E	30	R	X	C	P	<2
	29-Apr-09	EXT	F	24	R	X	C	P	<2
	27-May-09	FP	F	27	R	W	C	P	2
	21-Jul-09	MLP	E	23	R	X	C	P	2.8
	10-Aug-09	EXT	F	24	R	X	C	P	<2
	21-Sep-09	LSM	HF	30	R	X	C	P	<2
WY019.00	09-Mar-09	MLP	E	28	R	X	C	P	<2
	29-Apr-09	EXT	F	24	R	X	C	P	<2
	27-May-09	FP	F	28	R	X	C	P	<2
	21-Jul-09	MLP	E	24	R	X	C	P	4
	10-Aug-09	EXT	F	26	R	X	C	P	<2
	21-Sep-09	LSM	HF	30	R	X	C	P	<2

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