



**GROWING AREA ET –
Mowry Point, Lubec to Shackford Head, Eastport**

ANNUAL REVIEW for 2010

Report Date: 01-30-2012

Robert Goodwin, Marine Scientist I

APPROVAL

Division Director:

Kohl Kanwit

A handwritten signature in blue ink, appearing to read "K. Kanwit", written over a light blue rectangular background.

1/30/2012

Print name

signature

Date:



TABLE OF CONTENTS

Executive Summary	10
Growing Area Description	10
Current Classification(s).....	11
Activity during Review Period	12
Conditionally Managed Areas	12
Water Quality Review and Discussion	12
Upward Classification Changes	20
There are no recommendations for upward classification at this time.	20
Shoreline Survey Activity	20
Aquaculture/Wet Storage Activity	21
Recommendation for Future Work.....	21
References.....	21
Appendix A. Key to Water Quality Table Headers	23

LIST OF TABLES

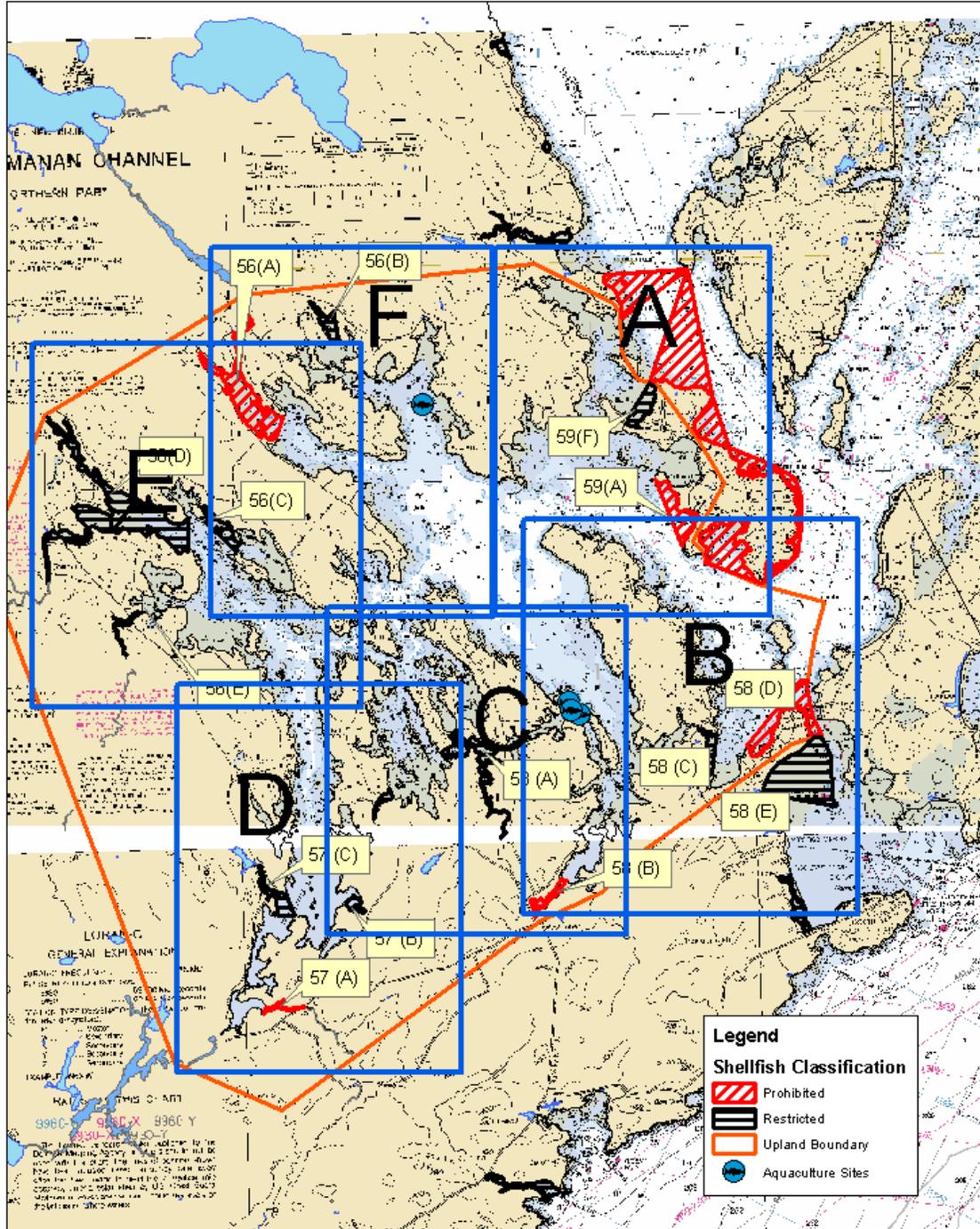
Table 1. Geomean and P90 Scores, Growing Area ET	13
Table 2. ET Samples Collected in 2010.....	14

LIST OF FIGURES

Figure 1. ET Area Map.....	3
Figure 2. Growing Area ET Northeast, with Active Water Stations (A)	4
Figure 3. Growing Area ET Southeast, with Active Water Stations (B)	5
Figure 4. Growing Area ET Middle South, with Active Water Stations (C).....	6
Figure 5. Growing Area ET Southwest, with Active Water Stations (D).....	7
Figure 6. Growing Area ET West, with Active Water Stations (E)	8
Figure 7. Growing Area ET Northwest, with Active Water Stations (F).....	9
Figure 8. Area ET P90 Scores for Approved Stations (expressed as the percent of the Approved standard), 2008-2010.....	18
Figure 9. Area ET P90 Scores for Approved Stations (expressed as the percent of the Approved standard), 2008-2010.....	18
Figure 10. Area ET P90 Scores for Approved Stations (expressed as the percent of the Approved standard), 2008-2010	19
Figure 11. Area ET P90 Scores for Restricted Stations (expressed as the percent of the Approved standard), 2008-2010	19
Figure 12. Area ET P90 Scores for Prohibited Stations (expressed as the percent of the Approved standard), 2008-2010	20



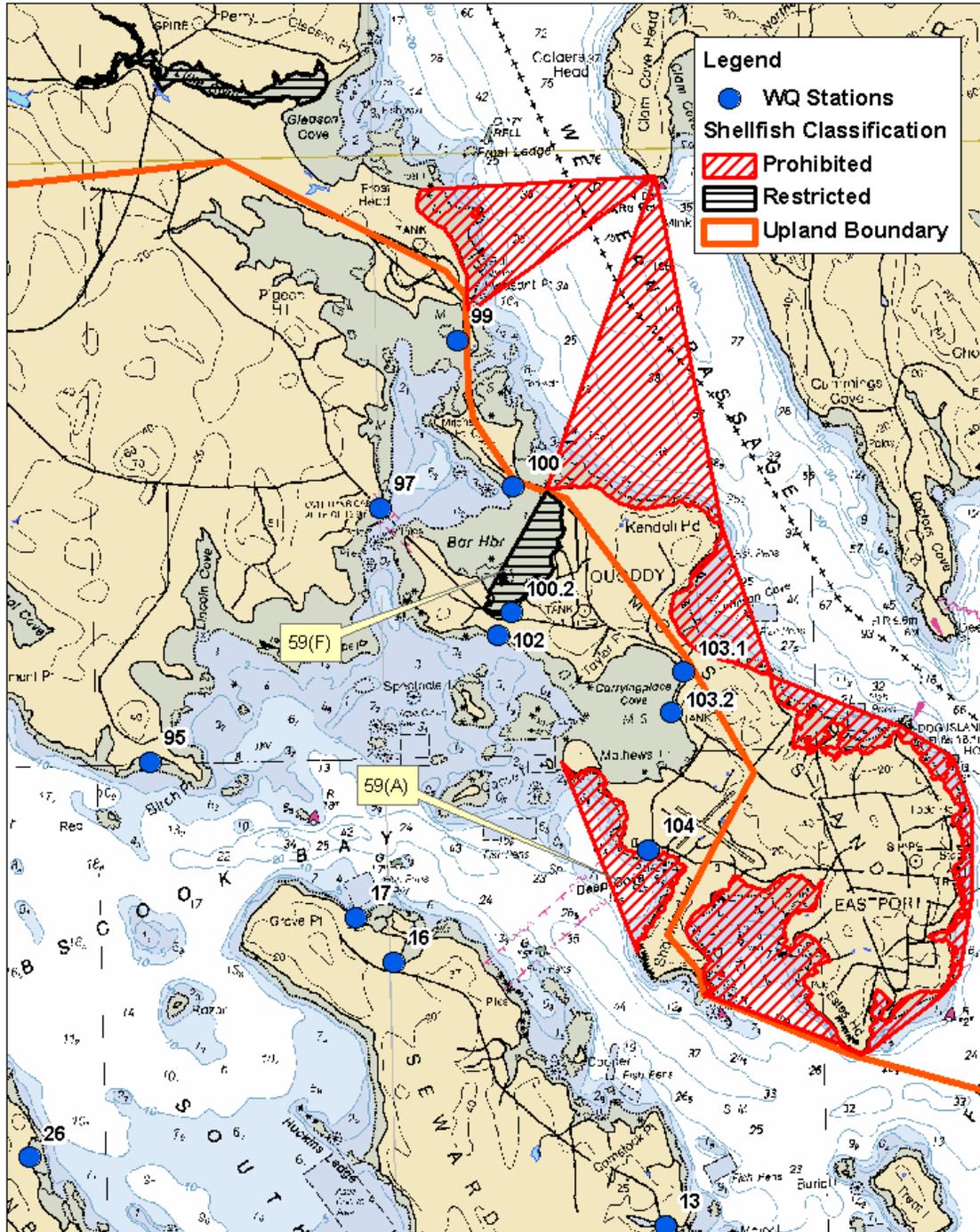
Figure 1. Growing Area ET with Classifications



Growing Area ET
Maine Department of Marine Resources
Bureau of Public Health
December 2009



Figure 2. Growing Area ET- Northeast, with Active Water Stations (A)



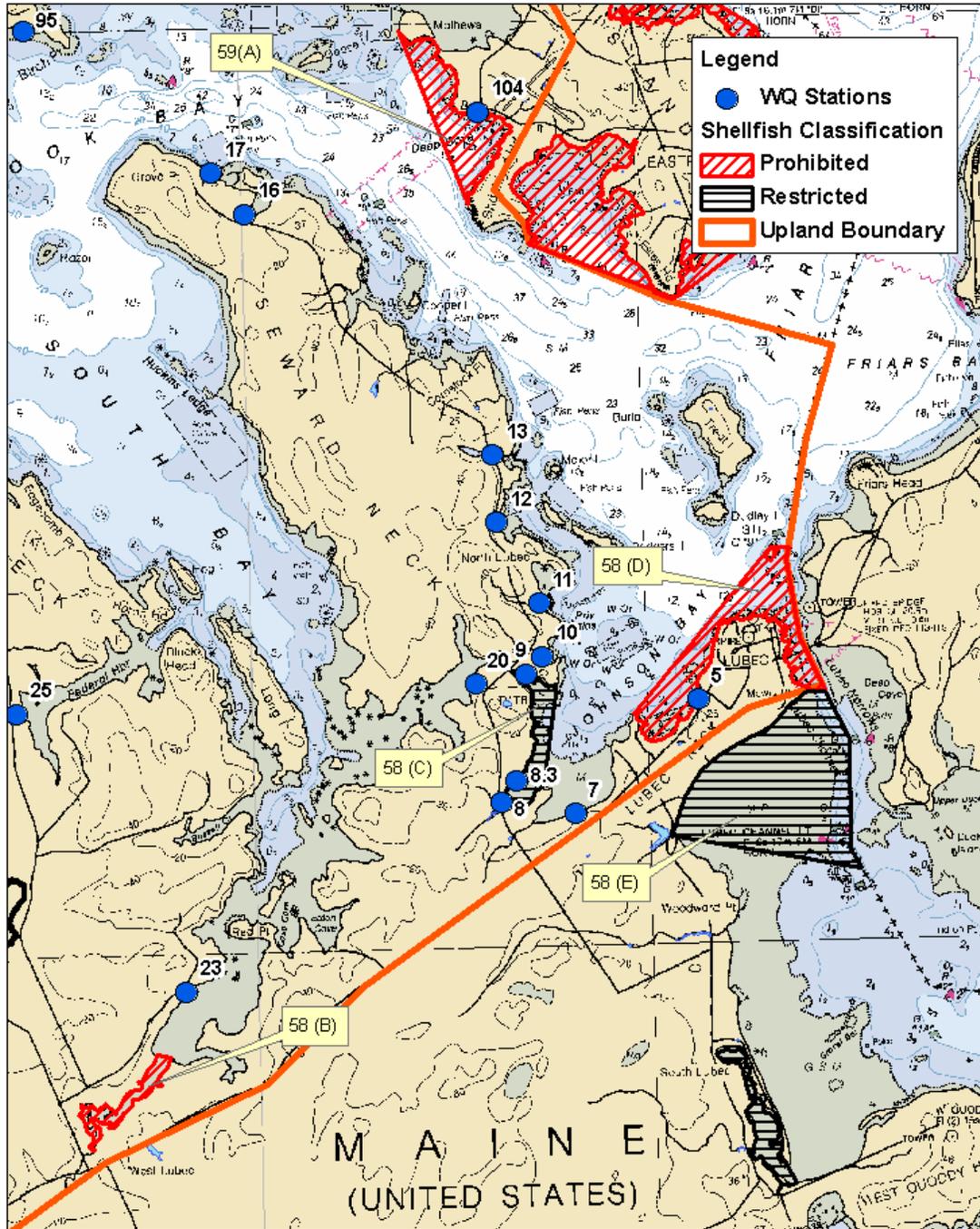
0 0.2 0.4 0.8 Miles



Growing Area ET
Maine Department of Marine Resources
Bureau of Public Health



Figure 3. Growing Area ET- Southeast, with Active Water Stations (B)



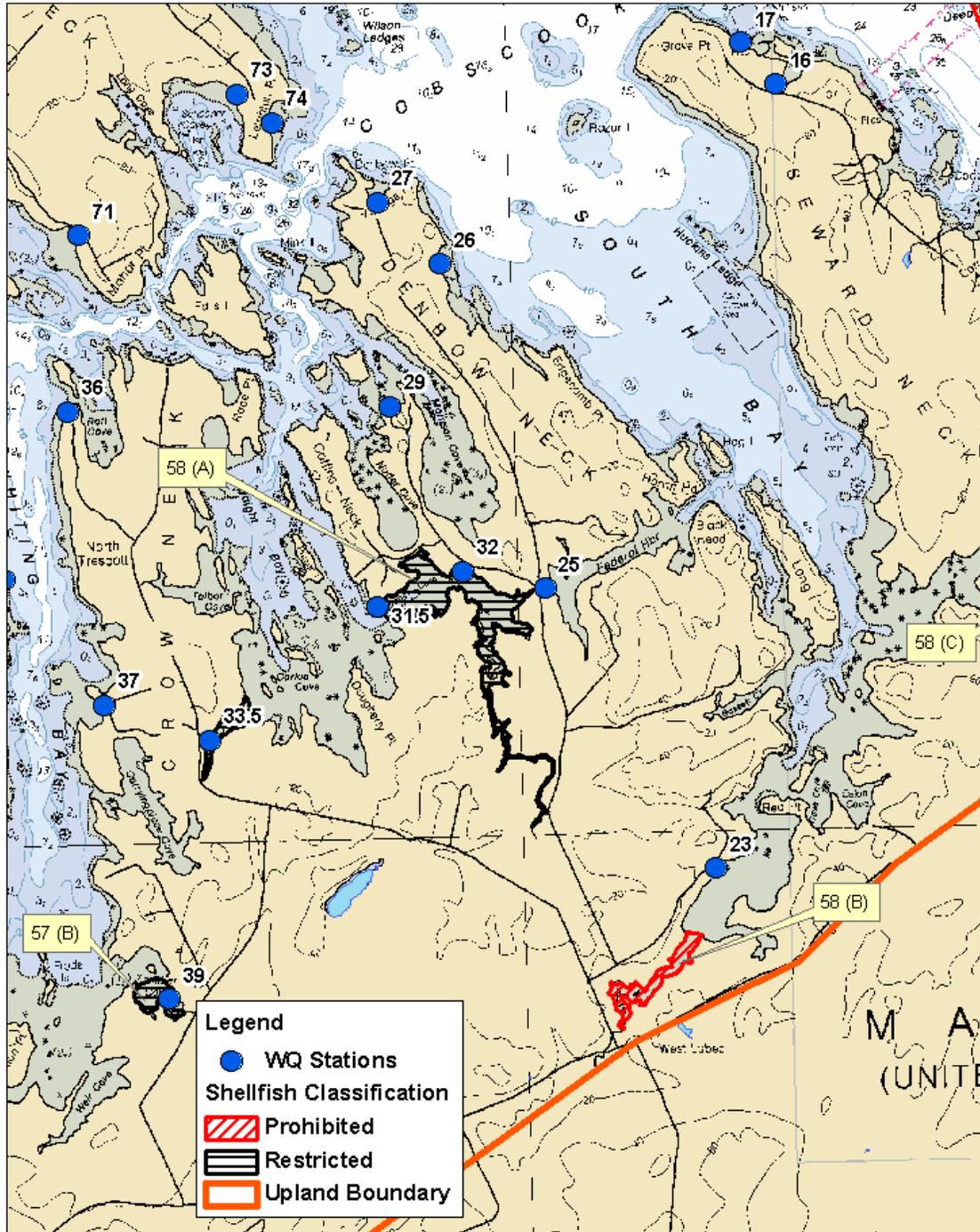
0 0.2 0.4 0.8 Miles



Growing Area ET
Maine Department of Marine Resources
Bureau of Public Health



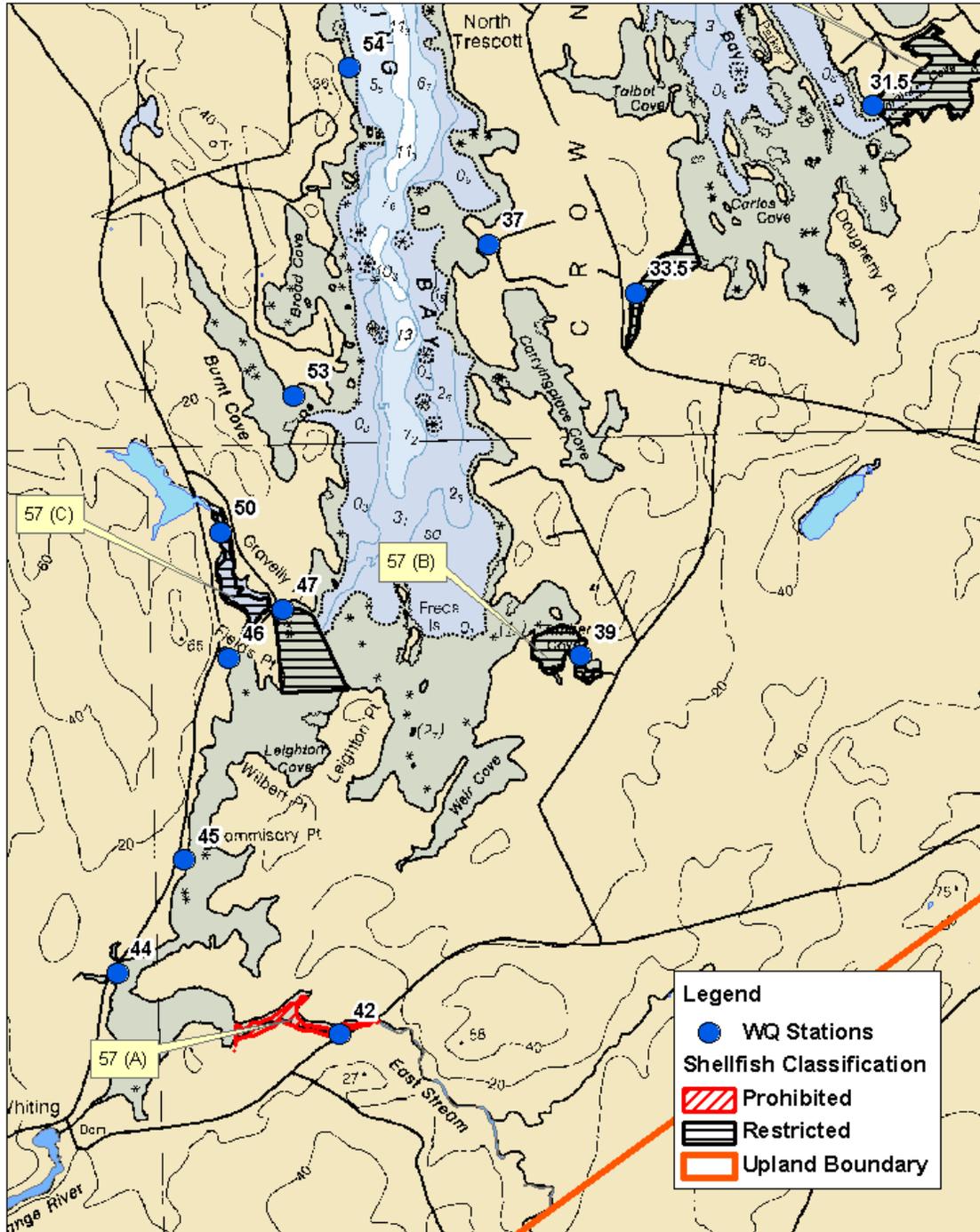
Figure 4. Growing Area ET- Middle South, with Active Water Stations (C)



Growing Area ET
Maine Department of Marine Resources
Bureau of Public Health



Figure 5. Growing Area ET- Southwest, with Active Water Stations (D)



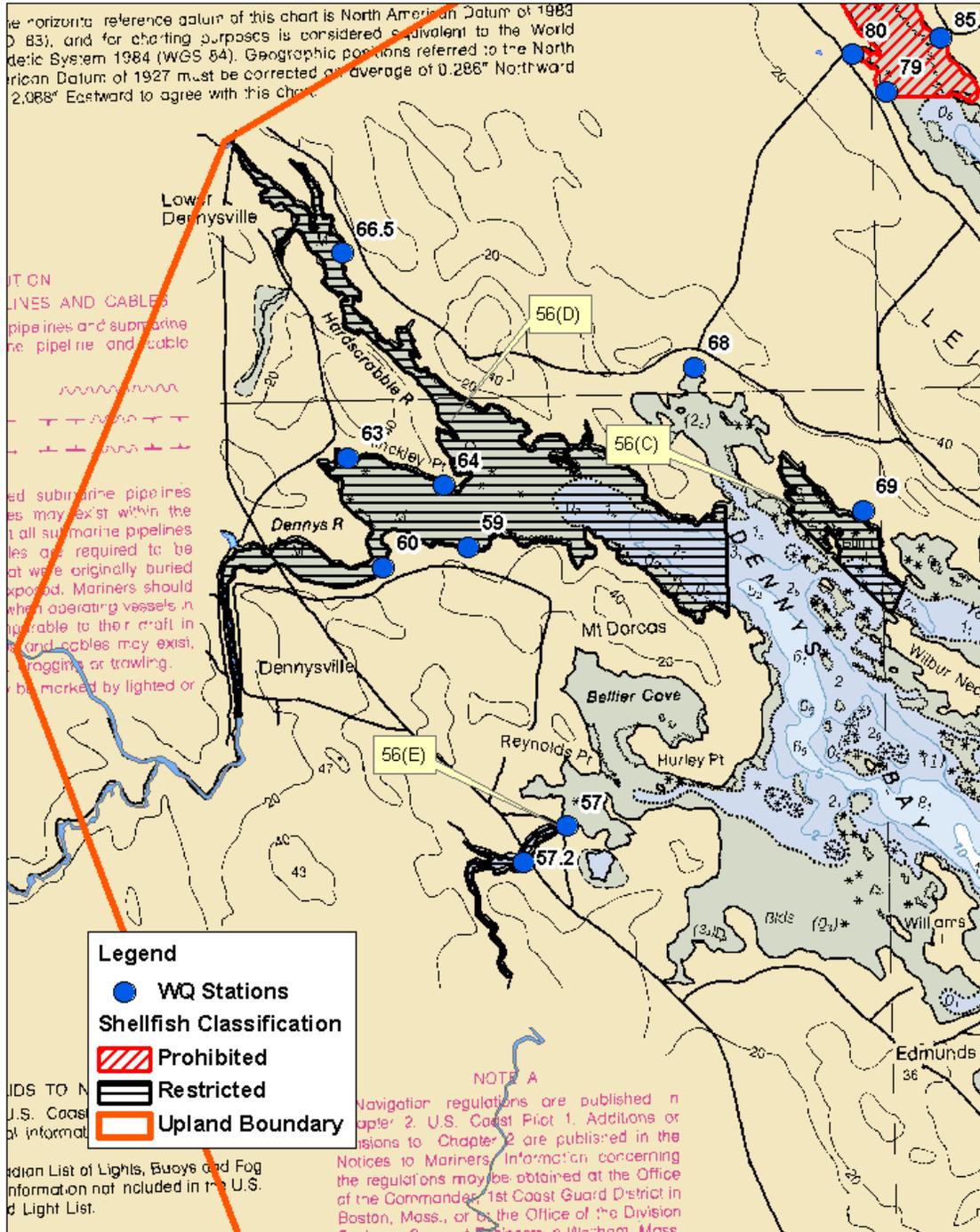
0 0.125 0.25 0.5 Miles



Growing Area ET
Maine Department of Marine Resources
Bureau of Public Health



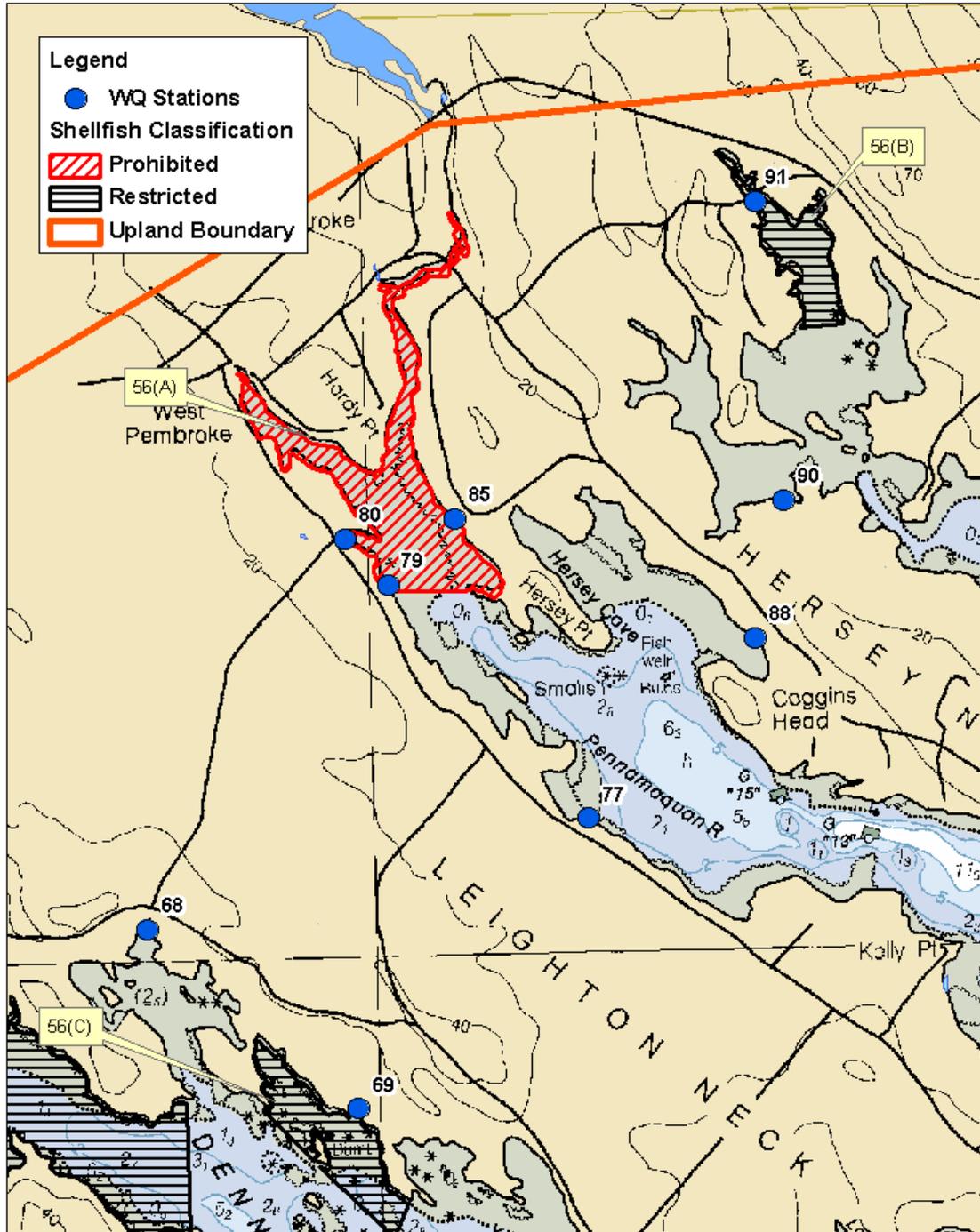
Figure 6. Growing Area ET Western, with Active Water Stations (E)



Growing Area ET
Maine Department of Marine Resources
Bureau of Public Health



Figure 7. Growing Area ET- Northwest, with Active Water Stations (F)



0 0.125 0.25 0.5 Miles



Growing Area ET
Maine Department of Marine Resources
Bureau of Public Health



Executive Summary

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

Growing area ET spans from Mowry Point, Lubec to Shackford Head, Eastport. Area ET has five (5) prohibited areas and ten (10) restricted areas. No new pollution sources were identified during this review period. Overall, 2010 water quality supports its NSSP classifications; however, some areas showed changed water quality compared with 2009. Five of the 60 stations had a greater than 20 percent increase in the P90 percent of the standard for 2010 (declining water quality) while thirteen of the 60 stations showed a greater than 20 percent decrease in the P90 percent of the standard (improving water quality). In 2010, there were four (4) downward classification changes from approved to restricted (Dennys River, Carlos Creek, Hobart Stream, Crane Mill Brook) on February 24, 2010; one (1) downward classification change from approved to prohibited (Pennamaquan River) was implemented on January 5, 2011 due to water quality not meeting approved standards at the end of the 2010 review year. No stations are being proposed for an upward classification change in this report.

The next triennial report is due in 2011 and the next sanitary survey report is due in 2019.

Growing Area Description

Growing Area ET is located in eastern Maine (Figure 1 – Figure 7). The shoreline described in this report includes all of Cobscook Bay stretching from Mowry Point, Lubec to Shackford Head, Eastport. The area encompasses 117 square miles, and includes the near sub-tidal waters, inter-tidal flats and a zone of shore property that extends inland to a defined upland boundary that follows the major roadways surrounding the bays. Closures are based on wastewater treatment facilities outfalls in Lubec, Quoddy Village and Eastport and sample stations affected by non-point pollution without identifiable sources. There are no residential licensed overboard discharges in the growing area. The Dennys River drainage has a federal super fund site located in the town of Meddybemps. There are fifteen agricultural operations in the growing area. All but one are small family farms with less than six animals (horses). The larger farm is a small commercial farm operation that has approximately 30 head of cattle. The area around this farm is classified restricted. Prohibited areas enclose seasonal boat moorings located in Lubec and Eastport. There is no heavy industry in the growing area. Thirteen shellfish and finfish aquaculture operations are sited in Lubec, Perry and Eastport. Portions of the growing area continue to exhibit poor water quality or remain potential pollution threats due to the presence of older, in-ground septic systems.

The upland land cover is predominately evergreen, deciduous and wetland forest with minimal development. The villages of Lubec (population 1,523), Whiting (population 456), Dennysville (population 302), Pembroke (population 875) and Eastport (population 1,582) have the largest population concentrations (2007-2008 Maine Municipal Directory). Development along the remaining shores is spotty with clusters of homes separated by undeveloped land. Cobscook



Bay State Park, Moosehorn National Wildlife Refuge and several land conservation areas are enclosed within the area's borders. Significant rivers draining into this area include the Orange, Dennys and Pennamaquan Rivers. Other fresh water influences along these shores is predominately from numerous small streams. There are many shellfish resource areas around the boundary of the bay for intertidal and sub-tidal species.

Current Classification(s)

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

Approved

(35 stations) ET 7, 10, 11, 12, 13, 16, 17, 20, 23, 25, 26, 27, 29, 36, 37, 44, 45, 53, 54, 57, 68, 70, 71, 73, 74, 77, 79, 88, 90, 95, 97, 99, 100, 102, 103.1 and 103.2.

Restricted

Area No. 56, Northwest Cobscook Bay (Edmunds, Dennysville, Pembroke, Perry)

B- Sipp Bay; water quality does not meet approved standards; (1 station) 91

C- Burnt Island; water quality does not meet approved standards; (1 station) ET 69

D- Dennys River and Hardscrabble River; water quality does not meet approved standards; (5 stations) ET 59, 60, 63, 64, 66.5

E- Hobart Stream, water quality does not meet approved standards; (1 station) ET 57.2

Area No. 57, Whiting Bay (Edmunds, Trescott)

B- Timber Cove; water quality does not meet approved standards; (1 station) ET 39

C- Crane Mill Brook; water quality does not meet approved standards; (2 stations) ET 47, 50

D- Western Carlos Cove; water quality does not meet approved standards; (1 station) ET 33.5

Area No. 58, Lubec

A- Morong Cove, water quality does not meet approved standards; (1 stations) ET 32

C- Pirates Creek; water quality does not meet approved standards; (3 stations) ET 8, 8.3, 9

Area No. 59, Outer Cobscook Bay (Eastport, Perry)

F- Half Moon Cove; water quality does not meet approved standards; (1 stations) ET 100.2

Prohibited

Area No. 56, Northwest Cobscook Bay (Edmunds, Dennysville, Pembroke, Perry)

A- Pennamaquan River; water quality does not meet approved standards; (2 stations) ET 80, 85

Area No. 57, Whiting Bay (Edmunds, Trescott)

A- East Stream; water quality does not meet approved standards; (1 stations) ET 42

Area No. 58, Lubec

B- The Haul-up, South Bay; water quality does not meet approved standards; (no station)

D- Johnson Bay and Lubec Narrows; Lubec Wastewater Treatment Plant; (1 station) ET 5

Area No. 59, Outer Cobscook Bay (Eastport, Perry)

A- Deep Cove; water quality does not meet approved standards; (1 station) ET 104



There are two new stations in growing area ET (ET 31.5, 46). These stations have less than 30 data points and were not evaluated against a classification standard.

Please visit the DMR website to view legal notices:

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

Activity during Review Period

February 24, 2010; Area 56 (part D), Dennys River, a downward classification from approved to restricted due to water quality not meeting the approved standards at ET 59.

February 24, 2010; Area 57 (part D) Carlos Creek, a downward classification from approved to restricted due to water quality not meeting the approved standards at ET 33.5.

February 24, 2010; Area 56 (part E) Hobart Stream, a downward classification from approved to restricted due to water quality not meeting the approved standards at ET 57.2.

February 24, 2010; Area 57 (part C) Crane Mill Brook, a downward classification from approved to restricted due to water quality not meeting the approved standards at ET 47.

Conditionally Managed Areas

There are no conditionally managed areas in this growing area.

Water Quality Review and Discussion

Table 1 lists all active approved, restricted and prohibited stations in growing area ET, with their respective Geomean and P90 calculations. 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 scores. 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 DMR central files.

All stations, with the exception of station ET 79, met their NSSP classification standard in December 2010. The downward classification change from approved to prohibited for station ET 79 (Pennamaquan River) was implemented on January 5, 2011. Two stations, ET 31.5 and 46, are new or reactivated and do not have 30 data points in their dataset; therefore their P90 scores are not evaluated against the P90 standard.



Table 1. Geomean and P90 Scores, Growing Area ET

Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std
ET005.00	P	30	26	2.6	0.33	80	7	32	176
ET007.00	A	30	26	2.9	0.46	560	11.7	32	176
ET008.00	R	30	27	7.4	0.66	360	53.2	32	173
ET008.30	R	30	27	4.9	0.56	260	26.4	32	173
ET009.00	R-boundary	30	26	3.8	0.45	56	14.5	32	176
ET010.00	A	30	26	3.1	0.39	64	10	32	176
ET011.00	A	30	26	3	0.4	36	10.1	32	176
ET012.00	A	30	26	2.5	0.26	35	5.5	32	176
ET013.00	A	30	26	2.9	0.33	34	8	32	176
ET016.00	A	30	26	3.6	0.54	200	18.4	32	176
ET017.00	A	30	26	3.6	0.52	260	17.3	32	176
ET020.00	A	30	27	3	0.34	50	8.4	32	173
ET023.00	A	30	26	3.2	0.41	93	11	32	176
ET025.00	A	30	26	3	0.42	43	10.8	32	176
ET026.00	A	30	26	2.5	0.35	114	7.3	32	176
ET027.00	A	30	26	2.8	0.43	78	10.2	32	176
ET029.00	A	30	26	2.1	0.17	15	3.6	32	176
ET031.50	New-boundary	13	13	1.9	0	2	1.9	31	163
ET032.00	R	30	26	3.1	0.53	220	15.1	32	176
ET033.50	R	30	27	5.1	0.64	580	35.2	32	173
ET036.00	A	30	26	2.9	0.47	118	12.1	32	176
ET037.00	A	30	26	3.9	0.63	460	26.2	32	176
ET039.00	R	30	26	4.9	0.67	960	35.9	32	176
ET042.00	P	30	26	16.9	0.57	440	93.2	32	176
ET044.00	A	30	26	3.7	0.48	93	15.5	32	176
ET045.00	A	30	26	2.7	0.4	100	8.9	32	176
ET046.00	New boundary	6	6	4.6	0.67	100	34.9	31	163
ET047.00	R	30	27	4.3	0.62	1700	27.4	32	173
ET050.00	R	30	26	5.7	0.63	600	37.3	32	176
ET053.00	A	30	26	2.5	0.34	78	7	32	176
ET054.00	A	30	27	2.5	0.38	124	7.9	32	173
ET057.00	A	30	26	6.2	0.52	94	29.1	32	176
ET057.20	R	30	26	9.2	0.59	180	53.1	32	176
ET059.00	R	30	26	5.3	0.53	118	26	32	176
ET060.00	R	30	26	8.9	0.55	160	46.2	32	176
ET063.00	R	30	26	12.4	0.57	114	67.7	32	176
ET064.00	R	30	26	11.4	0.66	210	80.9	32	176
ET066.50	R	30	26	7.6	0.69	240	59.9	32	176
ET068.00	A	30	26	5.7	0.54	52	29.1	32	176
ET069.00	R	30	26	4.7	0.47	93	19	32	176
ET070.00	A	30	26	4.2	0.49	93	18.5	32	176



Station	Class	Count	MFCOUNT	GM	SDV	MAX	P90	Appd_Std	Restr_Std
ET071.00	A	30	26	3.6	0.5	93	16.2	32	176
ET073.00	A	30	26	3.2	0.5	122	14.4	32	176
ET074.00	A	30	27	2.9	0.48	100	12.3	32	173
ET077.00	A	30	27	3.5	0.38	46	10.9	32	173
ET079.00	A	30	26	6.3	0.61	520	38.2	32	176
ET080.00	P	30	26	6.6	0.72	860	55.8	32	176
ET085.00	P	30	26	7.1	0.66	120	51.1	32	176
ET088.00	A	30	26	4.1	0.59	240	24.3	32	176
ET090.00	A	30	26	2.3	0.22	14	4.7	32	176
ET091.00	R	30	26	4.9	0.62	220	31.2	32	176
ET095.00	A	30	27	2.3	0.36	180	7	32	173
ET097.00	A	30	27	2.6	0.41	260	9.1	32	173
ET099.00	A	30	28	2.4	0.27	33	5.6	31	169
ET100.00	A	30	27	2.2	0.17	9.1	3.8	32	173
ET100.20	R	30	27	4.5	0.66	1580	32.6	32	173
ET102.00	A	30	27	2.8	0.47	240	11.7	32	173
ET103.10	A	30	27	3.4	0.42	98	12.2	32	173
ET103.20	A	30	27	3.4	0.42	70	12	32	173
ET104.00	P	30	27	2.9	0.57	1700	15.8	32	173

All approved and prohibited stations that were active at the beginning of 2010 were sampled at least 6 times following the systematic random sampling (SRS) schedule (Table 2). At some stations, additional samples were collected under adverse conditions. Stations ET 7, 23, 33.5, 54 and 59 were sampled as flood reopening sample stations.

Table 2. ET Samples Collected in 2010

Station	Class	Adverse		Extra Open	Random		Total	Comments
		Closed	Open		Closed	Open		
ET005.00	P				6		6	
ET007.00	A	6				6	12	Flood samples
ET008.00	R					6	6	
ET008.30	R					6	6	
ET009.00	R					6	6	
ET010.00	A					6	6	
ET011.00	A					6	6	
ET012.00	A					6	6	
ET013.00	A					6	6	
ET016.00	A					6	6	
ET017.00	A					6	6	
ET020.00	A					6	6	
ET023.00	A	6				6	12	Flood samples
ET025.00	A					6	6	
ET026.00	A					6	6	
ET027.00	A					6	6	
ET029.00	A					6	6	



Station	Class	Adverse		Extra	Random		Total	Comments
		Closed	Open	Open	Closed	Open		
ET031.50	A					6	6	
ET032.00	R					6	6	
ET033.50	R	5		1		6	12	Flood samples, Reclassified A to R 2-24-10
ET036.00	A					6	6	
ET037.00	A					6	6	
ET039.00	R					6	6	
ET042.00	P				6		6	
ET044.00	A					6	6	
ET045.00	A					6	6	
ET046.00	A					6	6	Reactivated 5-7-10
ET047.00	R					6	6	Reclassified A to R 2-24-10
ET050.00	R					6	6	
ET053.00	A					6	6	
ET054.00	A	7	2			6	15	Flood samples
ET057.00	A					6	6	
ET057.20	R					6	6	
ET059.00	R					6	6	Reclassified A to R 2-24-10
ET060.00	R					6	6	
ET063.00	R					6	6	
ET064.00	R					6	6	
ET066.50	R					6	6	
ET068.00	A					6	6	
ET069.00	R					6	6	
ET070.00	A					6	6	
ET071.00	A					6	6	
ET073.00	A					6	6	
ET074.00	A					6	6	
ET077.00	A					6	6	
ET079.00	A					6	6	Reclassified A to P 1-5-11
ET080.00	P				6		6	
ET085.00	P				6		6	
ET088.00	A					6	6	
ET090.00	A					6	6	
ET091.00	R					6	6	
ET095.00	A					6	6	
ET097.00	A					6	6	
ET099.00	A					6	6	
ET100.00	A					6	6	
ET100.20	R					6	6	
ET102.00	A					6	6	
ET103.10	A					6	6	
ET103.20	A					6	6	
ET104.00	P				6		6	



Figures 8, 9, 10, 11 and 12 are trend graphs of the approved, restricted and prohibited sample stations in the growing area. Station P90 scores are expressed as percents of the approved standard. The restricted stations are being compared to the approved standard to graphically demonstrate that they do or do not meet the approved standard. Approved or conditionally approved sample stations that have met or exceeded 90% of the approved standard are at risk of being reclassified to a more restrictive classification. Sample stations ET 57 and ET 68 presently have exceeded 90% of the approved standard criteria. ET 68 is within the Dennys River estuary and up-river sample stations are classified restricted due to non-point pollution from wildlife. It is likely that the pollution is now impacting water quality farther down river. ET 57 also has a station up-river that is classified restricted and exceeds the approved standard. No source for the pollution has been identified.

Overall, 2010 water quality has shown little change since last year; however, some areas showed improvement compared with 2009. Five of the 60 stations had a greater than 20 percent increase in the P90 percent of the standard for 2010 (declining water quality) while thirteen of the 60 stations showed a greater than 20 percent decrease in the P90 percent of the standard (improving water quality).

The Penamquan River prohibited area boundary line was moved further down-river on January 5, 2011 to the next approved sample station, ET 77, due to water quality not meeting approved criteria at the boundary station at ET 79.

At the end of 2009, restricted sample station ET 39, slightly exceeded 100% of the approved standard limit, indicating a decline in water quality; this station met the approved standard in 2008 (Figure 11). Water quality has continued to decline in 2010, with the current P90 score at 112% of the approved standard. Timber Cove stream enters the head of the cove where station ET 39 is located; the station is embedded in a 24.6 acre restricted area adequate in size to dilute the stream bacterial loading to approved criteria at the boundary of the area. The trending of the water quality will continue to be monitored.

Stations ET 47 and 50 are a restricted stations (Area 57, part C) adjacent to farm pastures with approximately 25 head of cattle. It is likely that that the pasture is impacting both stations. Sample station ET 50 showed an increase in the percent of the approved standard from approximately 100% in 2007-2008 to 155% in 2009 and 116% of the standard in 2010 (Figure 11). ET 47 had shown a similar rapid rise from 50% to 129% during the same time period but has dropped to 85% of the approved standard in 2010 (Figure 9). The size of the restricted area was increased on February 24, 2010. The closure has a dilution capacity of 5.5×10^{10} FC/day from tidal flushing; enough to adequately dilute the pollution loading to approved standards. Sample station ET 46 has been reactivated for monitoring of the restricted area boundary line; however, ET 46 is presently not being evaluated against a classification standard, due to its dataset having less than 30 data points. The property has been referred to the Maine Department of Agriculture and the USDA-Ellsworth offices.

Station ET 33.5 (Carlos Creek) was reclassified from approved to restricted on February 24, 2010 due to water quality being 125% of the approved standards at the end of 2009. At the end of 2010 the station is at 110% of the standard. The closure line was based on a dilution calculation and the boundary is across the mouth of the western end of Carlos Cove. The cove is remote without identified structures. There is a small stream that feeds from a wooded area



into the head of the cove approximately 500 feet from ET 33.5. A stream sample on October 5, 2010 had a fecal coliform value of 260 FC/100ml and a flow rate of 337 gallons per minute. A stream survey showed evidence of past beaver activity. Additional stream sampling is necessary to determine if beaver are the source of the bacterial. The area will remain classified restricted.

Station ET 57.2 had no identified pollution sources either during survey or during a drive through survey. The sample station is a tidal stream site (Hobart Stream) next to a road turnout adjacent to US Route 1. Land adjacent to the area includes hay fields and wooded areas. Both stations ET 57 and 57.2 have shown rapid percentage rises (decreasing water quality) since 2008. The area was re-classed from approved to restricted with a boundary at approved station ET 57 on February 4, 2010. Station ET 57 has been at approximately 90% of the approved standard in 2009 and 2010 and is at risk of a downward classification if additional sampling shows declining water quality. Further review of the area is necessary to identify the source of the rapid declining water quality at stations ET 57 and 57.2.

Station ET 59 was the boundary station of Area No. 56, part D. The station is located in the Dennys River estuary and up-river stations also do not meet approved standards. Homeowners have been observed feeding large numbers of Canada geese on properties adjacent to the river. Because it no longer meet approved standards, ET 59 was reclassified to restricted on February 24, 2009. Percents of the approved standard were approximately 60% in 2007-2008, but had spiked to 102% at the end of 2009 and have declined to 81% percent at the end of 2010 (Figure 11). Rain events on May 19, 2009, July 27, 2009, September 30, 2009 and July 20, 2010 with high fecal coliform scores (42 FC/100ml, 22 FC/100ml, 118 FC/100ml, 60 FC/100ml respectively) suggest that the area is impacted by rain and ebbing tides. The area will remain classified restricted due to the high variability of the scores associated with rain and ebbing tides.

Area No. 59, Outer Cobscook Bay (Eastport, Perry), part A, Deep Cove is a prohibited area that meets approved standards at station ET 104 but can not be reclassified approved because of the risk of toxic chemicals from a boat building school in the cove. Area No. 58, Lubec, part D, Johnson Bay and Lubec Narrows is a prohibited area that meets approved standards at station ET 5 but can not be reclassified approved because it is within the closure for the Lubec Wastewater Treatment Plant outfall.

Sample stations ET 8.3, 9, 32 and 69 are classified restricted but now meet approved classification standard. These stations continue to show high variability and will remain classified restricted until percentages show a continued downward trending. Restricted stations ET 8, 33.5, 39, 50, 60, 63, 64, 66.5, 91 and 100.2 all have P90 scores greater than 100% of the approved standard but less than their restricted classification standards. They will remain classified restricted.



Figure 8. Area ET P90 Scores for Approved Stations (expressed as the percent of the Approved standard), 2008-2010

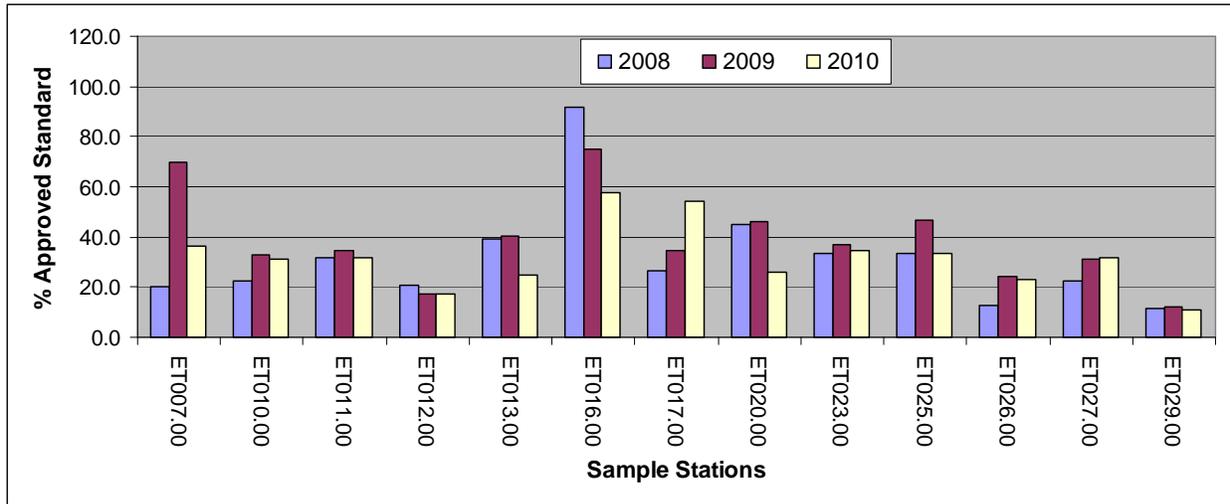


Figure 9. Area ET P90 Scores for Approved Stations (expressed as the percent of the Approved standard), 2008-2010

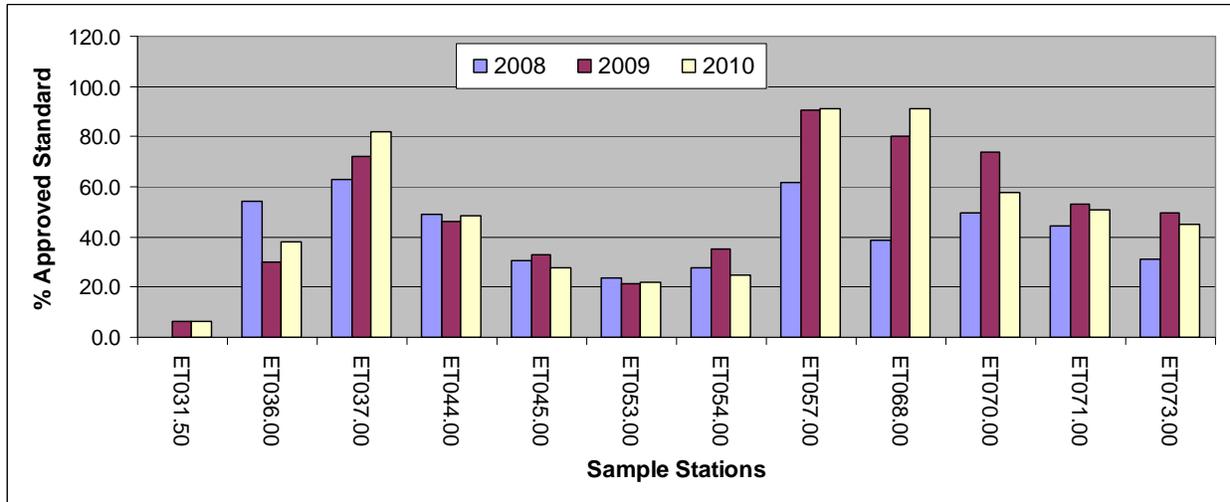




Figure 10. Area ET P90 Scores for Approved Stations (expressed as the percent of the Approved standard), 2008-2010

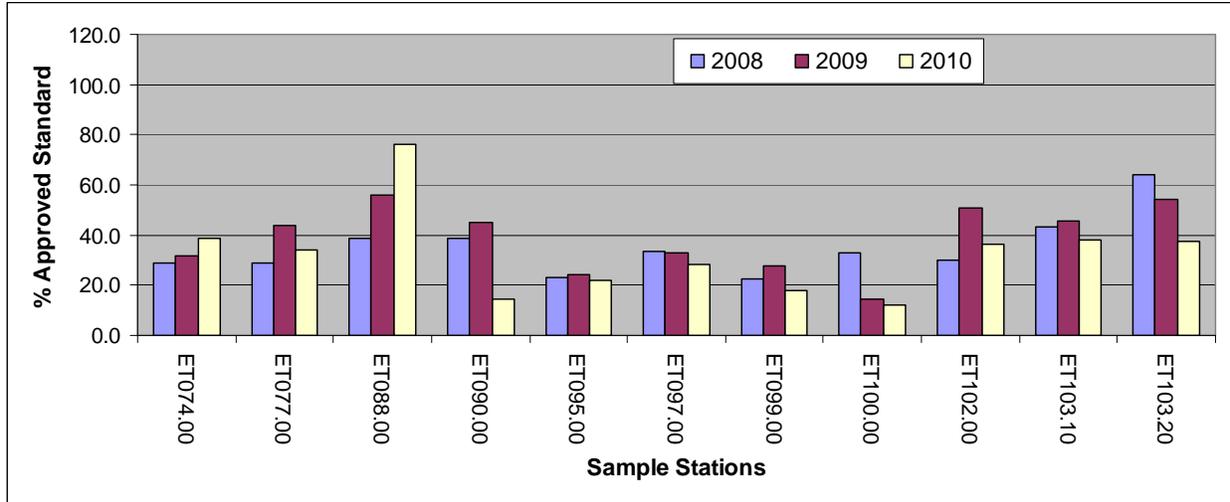


Figure 11. Area ET P90 Scores for Restricted Stations (expressed as the percent of the Approved standard), 2008-2010

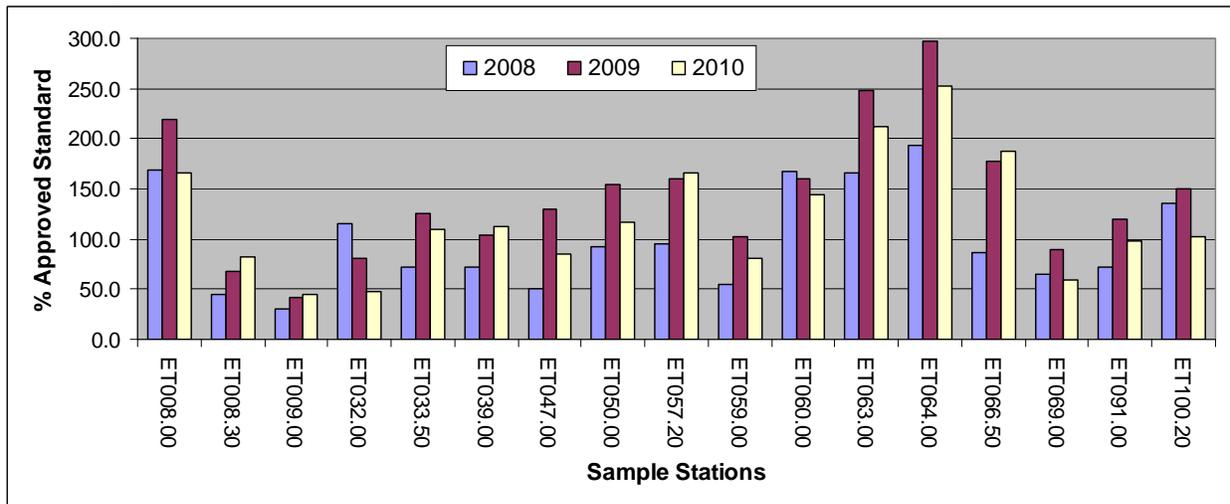
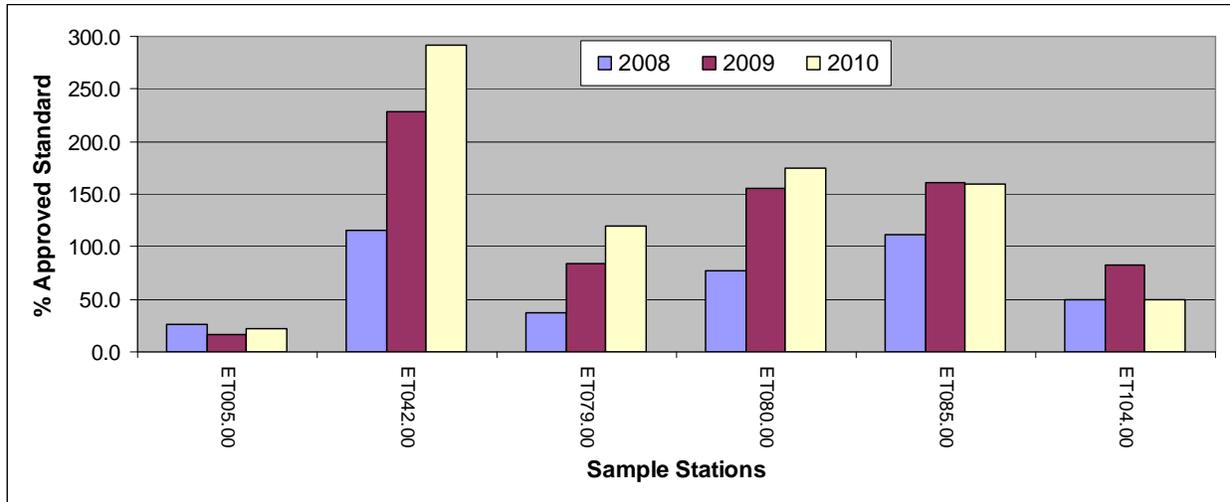




Figure 12. Area ET P90 Scores for Prohibited Stations (expressed as the percent of the Approved standard), 2008-2010



Upward Classification Changes

There are no recommendations for upward classification at this time.

Shoreline Survey Activity

May 10, 2010- Orange River (Whiting); a reported white pipe behind gas station/store adjacent to the Orange River was identified and determined to be a land drain and not a bacterial pollution source.

July 20, 2010- Hersey Cove (Pembroke); a new seasonal camp trailer was situated adjacent to sample site ET 88. The trailer is connected to a new in-ground septic system to the left of the drive. No problems were identified.

July 20, 2010- The Timber Cove (Trescott); the area was surveyed to attempt to identify the source of elevated bacterial levels at sample station ET 39. Approximately 200 feet from ET 39, a small stream that feeds from a small pond into the head of the cove. A sample of the stream had a fecal coliform value of 28 FC/100ml and a flow rate of 150 gallons per minute. No source of pollution was identified.

August 31, 2010- The Morong Cove (Lubec); the area was surveyed to attempt to identify the source of elevated bacterial levels at sample station ET 32. No source of pollution was identified.

October 5, 2010- The Timber Cove (Trescott); the area was re-surveyed to attempt to identify the source of elevated bacterial levels at sample station ET 39. A sample of the stream had a fecal coliform value of 46 FC/100ml and a flow rate of 224 gallons per minute. No source of pollution was identified.



October 5, 2010- The Carlos Creek (Trescott); the area was surveyed to attempt to identify the source of elevated bacterial levels at sample station ET 33.5. The cove is remote and no structures were identified. Approximately 500 feet from ET 33.5, a small stream that feeds from a wooded area into the head of the cove. A sample of the stream had a fecal coliform value of 260 FC/100ml and a flow rate of 337 gallons per minute and a stream survey showed evidence of past beaver activity. Additional stream sampling is necessary to determine if beaver are the source of the bacterial pollution.

Aquaculture/Wet Storage Activity

Aquaculture sites in Area ET are predominately finfish sites with other species on the site license. Shellfish species include blue mussels, soft shell clams and scallops. At the date of this review, none of the sites are growing or wet storing shellfish. (Licensee confirmation Jan. 2009) These sites are now owned by Cook Aquaculture (spring 2009). More detail about the sites can be found at the web site: <http://www.maine.gov/dmr/aquaculture/index.htm>

Recommendation for Future Work

1. Sample streams for 2011 triennial report.
2. Survey and sample the Hobart Stream area to try to determine the cause of the declining water quality at ET 57 and 57.2.
3. Additional sample and measure flow rates of the stream at the head of Carlos Cove.
4. Additional sampling at ET 31.5, 33.5 and 46.
5. Review Lubec and Quoddy (Eastport) Wastewater Treatment Plants history.

References

Maine Municipal Directory 2007-2008, Maine Municipal Association

Maine DEP 2010. Status of Licensed Discharges and Combined Overflow Abatement Program. Maine Department of Environmental Protection.
http://www.maine.gov/dep/blwq/report/2009/licensed_discharges.pdf

Maine DEP 2010. 2010 Maine Pump-out Station and No Discharge Area Guide.
<http://www.maine.gov/dep/blwq/topic/vessel/pumpout/pumpoutguide.pdf>

Maine DEP MER. 2010. DEP Monthly Enforcement Reports.
<http://www.maine.gov/dep/oc/mcar/>

EPA NPDES. 2010. United States Environmental Protection Agency NPDES (National Pollution Discharge Elimination System) Permits in New England – Maine.
<http://www.epa.gov/region01/npdes/index.html>



Maine DMR Aquaculture. 2010. Aquaculture Lease Inventory.
<http://www.maine.gov/dmr/aquaculture/leaseinventory/index.htm>

Maine Office of GIS 2010.

NSSP 2007. National Shellfish Sanitation Program Model Ordinance, Guide for the Control of Molluscan Shellfish. 2007.



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.