



**GROWING AREA WE
Town of KENNEBUNKPORT
ANNUAL REVIEW for 2006**

Final Report: 6/17/08

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APPROVAL

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TABLE OF CONTENTS

Executive Summary	5
Boundary Description.....	5
Current Classification(s).....	5
Activity During Review Period	6
Current Management Plan(s).....	6
Current Annual Review of Management Plan(s).....	6
Review of Water Quality.....	6
Shoreline Survey Activity	8
Aquaculture/Wet Storage Activity.....	8
Classification Changes Required	8
Summary.....	8
Appendix A. Annual Review of Management Plan.....	9
Appendix B. Key to water quality table headers.....	11

LIST OF TABLES

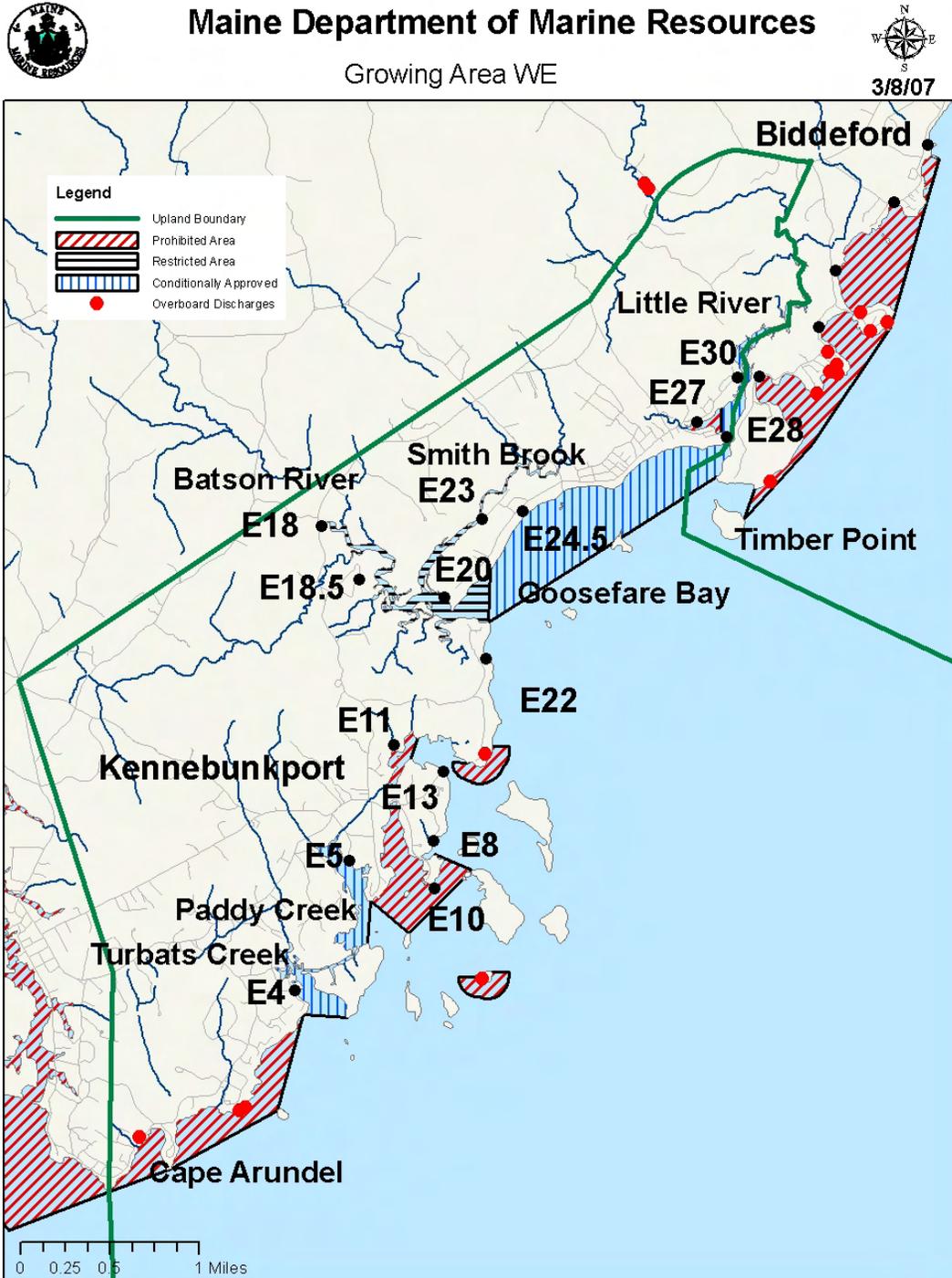
Table 1. Geomean and P90 scores for area WE	7
Table 2. Conditional Area Geomean and P90 Scores, Open Status	8

LIST OF FIGURES

Figure 1. Growing Area WE with Sampling Stations.....	4
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Figure 1. Growing Area WE with Sampling Stations





Executive Summary

Growing Area WE is located between Cape Arundel, Kennebunkport and Timber Point, Biddeford. There are no waste water treatment facilities located in area WE and there are less than ten over board discharges (OBDs) located in this area. In 2006, no overboard discharges were removed. No new stations were added or deactivated during the review period. Based on the 2006 water quality data review, no classification changes are recommended.

The next triennial report is due in 2007; the next sanitary survey is due in 2010.

Boundary Description

Growing area WE lies inside a line from Cape Arundel, Kennebunkport, extending due south offshore, and also, extending north to the intersection of Wildes District Road and Cornbrook Lane, then north to the intersection of Barter Lane and North Street, then northeast to the intersection of Mills Road and New Biddeford Road, then north on Mills Road, which becomes Pool Street to the intersection of Granite Point Road, then southwest to the head of the Little River, then south down the middle of the Little River to the southeast tip of Timber Point, then south to the east tip of Timber Island, Biddeford, then due south offshore.

Current Classification(s)

Shellfish growing area WE is currently classified as:

Approved

Sampson Cove and Marshall Point (3 stations)

Conditionally Approved

Turbats, Cross and Paddy Creeks (2 stations)

Goosefare Bay and Little River (3 stations)

Restricted

Smith Brook and Batson River (4 stations)

Prohibited

Cape Porpoise Harbor (2 stations)

Little River (1 station)

Legal notices for area WE can be viewed on the DMR website:

MDMR Regulation 95.10Y, Closed Area No. 8, Kennebunk River to Cape Porpoise (Kennebunk and Kennebunkport)

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

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



Activity During Review Period

In 2005, a septic system on New Biddeford Rd, near Beaver Brook (Station WE 27), which was surrounded by water each spring, was replaced with a new mound system on higher ground. In 2006, the town put out two portable toilets along Goosefare Bay for visitors using the beach.

Current Management Plan(s)

There are two management plans for two conditionally approved areas in growing area WE. Turbats Creek/Paddy Creek seasonal conditionally approved area and Goosefare Bay/Little River seasonal conditionally approved area are closed to harvesting from June 1 through September 30, per the management plans following satisfactory water quality samples. A copy of the each management plan can be found in DMR central files.

Current Annual Review of Management Plan(s)

As of October 24, 2006, before a seasonal area can reopen, water samples must be collected and the samples must meet Conditional Area Re-opening Criteria as defined in the Maine DMR Shellfish Growing Area Classification Standard Operating Procedures (SOP). These areas did not open on schedule in 2006. Water samples collected on 9/26/06, 10/4/06, and 10/11/06 did not meet approved standards. Samples were collected again on 11/7/06 and the areas were opened on 11/11/06. The complete annual review can be found in appendix A.

Review of Water Quality

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 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. 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 first 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 and “other” which usually 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 but the time 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.

Review of water quality data

Table 1 displays the geometric mean and P90 scores based on the 30 most recent samples for the years 2002 through 2006 for all active approved, restricted and prohibited stations in area WE. A guide for interpreting table headers is in appendix A. Stations WE 18 and 18.5 are new stations and have less than 30 data points; therefore, they do not have a classification at this time. None of the stations in area WE have water quality scores that exceed their current classification criteria. The approved and restricted standards for each station area also displayed in Table 1.

Table 1. Geomean and P90 scores for growing area WE

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WE008.00	A	30	3	3.9	0.26	23	8.5	47	282
WE010.00	P	30	0	25.5	0.73	240	222.0	49	300
WE011.00	P	30	3	3.9	0.33	43	10.1	47	282
WE013.00	A	30	3	4.3	0.37	43	12.9	47	282
WE018.00	New	17	3	15.2	0.54	240	74.7	45	269
WE018.50	New	12	3	4.4	0.34	24	12.1	44	258
WE020.00	R	30	3	5.2	0.40	43	17.0	47	282
WE022.00	A	30	2	5.2	0.43	43	18.4	48	288
WE023.00	R	30	3	6.1	0.41	43	20.4	47	282
WE027.00	P	30	3	17.7	0.75	1200	161.1	47	282

Results for conditionally approved stations are given in Table 2. The open season for the conditionally approved stations is usually from October 1 through May 31. In 2006, the conditional stations were sampled for reopening on 9/26/06, 10/4/06 and 10/11/06, however these samples did not meet approved standards. Therefore, the conditional areas did not reopen until 11/14/06, after a set of samples, collected on 11/7/06 yielded results that met the



approved standard. During the 2006 review period, water quality met approved standards at these stations during the open season, as documented below in Table 2.

Table 2. Conditional Area Geomean and P90 Scores, Open Status

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WE004.00	CA	30	3	7.6	0.55	500	38.4	47	282
WE005.00	CA	30	3	4.0	0.31	43	10.1	47	282
WE024.50	CA	30	3	4.7	0.57	1700	25.1	47	282
WE028.00	CA	30	3	4.7	0.51	240	21.0	47	282
WE030.00	CA	30	3	4.0	0.35	93	11.4	47	282

All approved, restricted and prohibited stations that were active at the beginning of the review year were sampled six times, following a systematic random sampling regime; station WE27 was sampled 7 times. Conditionally approved stations were sampled 5 times in their open status (appendix C).

Shoreline Survey Activity

Kennebunkport sewer connections were confirmed in 2004 and the dwellings not connected to the sewer were inspected in 2004. Maine DMR did a survey of the tidal shore around Goosefare Bay in 2005 in conjunction with the Maine Healthy Beach Program, and Maine DEP did a survey of upstream properties in this same area in 2006. During the 2006 review year, drive through surveys of area WE were conducted during sampling runs. As a result of these surveys, two licensed overboard discharges, located at the head of the Little River (see Figure 1 for locations), were added to the Maine DEP OBD priority list for removal. During the drive through surveys, no new development or alterations to drainages was observed.

Aquaculture/Wet Storage Activity

In 2006, there were no active aquaculture lease sites or wet storage activity in shellfish growing area WE.

Classification Changes Required

No classification changes are required at this time.

Summary

Growing Area WE has had no changes in pollution sources during the review period. Based on a review of water quality data, no classification changes are required at this time. In 2007, a triennial report for area WE will be written, and new and existing pollution sources will be re-assessed.



Appendix A. Annual Review of Management Plan-Turbats Creek, Paddy Creek, Goosefare Bay and Little River

Scope

Turbats Creek (station WE4), Paddy Creek (station WE5), Goosefare Bay (stations WE 22 and 24.5) and Little River (stations WE 28 and 30) are conditionally approved areas due to seasonal variation in water quality, possibly due to an increase in shore usage. In 2006, water quality met approved standards from November through May 31. Reopening samples collected in October did not meet approved standards in 2006.

Compliance with management plan

In 2006, the conditional areas closed on June 1. The areas did not open on the October 1 reopening date, due to high fecal coliform scores of the reopening samples. Though samples from the Paddy Creek and Little River stations had scores below the approved standard on the first set of reopening samples, the remaining three conditional stations did not meet the approved standard until the fourth reopening collection, which occurred in November 7 (Table 1). After all station met the approved standard, the area was reopening to shellfish harvesting on November 11.

Table 1. Fecal coliform scores for conditional area reopening samples

Date	Turbats	Paddy	Goosefare	Little River	Little River
	WE4	WE5	WE24.5	WE28	WE30
9/26/06	-	1.9	-	-	3.2
10/4/06	132	26	32	11	18
10/11/07	500	2	>1600	2	14
11/7/07	28	12	1.9	8	6

Adequacy of reporting and cooperation of involved persons

This management plan does not require reporting.

Compliance with approved growing area criteria

The annual review of seasonal water quality data from the conditional areas shows that the conditionally approved stations in growing area WE met approved standards during the open season, with October 2006 data excluded.

Table 2. Geomean and P90 Scores for WE conditional areas, Open Status

STATION	CLASS	CNT	MFCNT	GM	SDV	MAX	P90	APPD_STD	RESTR_STD
WE004.00	CA	30	3	7.6	0.55	500	38.4	47	282
WE005.00	CA	30	3	4.0	0.31	43	10.1	47	282
WE024.50	CA	30	3	4.7	0.57	1700	25.1	47	282
WE028.00	CA	30	3	4.7	0.51	240	21.0	47	282
WE030.00	CA	30	3	4.0	0.35	93	11.4	47	282



Field inspection of critical pollution sources

The potential for pollution in Growing Area WE comes from increased shore usage (swimming, walking pets, etc.) and the influx of summer residents to their seasonal homes. Visual observations are made throughout the year during the course of random sampling and shoreline surveying.

Water sampling compliance history

All stations were collected 5 times when in the open status. The conditional area did not reopen in October. However, they were all collected 6 times in 2006. The results of all sampling can be found in the 2006 Annual Review for Growing Area WE.

Analysis-Recommendations

It is Maine DMR policy to sample two weeks before opening a seasonal area to ensure compliance with approved standards. This policy was established at the end of October 2006 and will be put into effect for any conditional area reopening of Growing Area WE in 2007.



Appendix B. Key to water quality table headers.

Station = water quality monitoring station

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

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

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

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

SDV = standard deviation

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

P90 = 90th percentile

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

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



Appendix C. Water quality data collected in 2006

Station	Date	Collector	Tide	Temp	Strat	ADV	Stat	CL	A1COL	MFCOL
WE004.00	01/04/06	JB	F	-3	R	-	O	CA	23	-
	02/14/06	FP	H	5	R	-	O	CA	<3.0	-
	04/18/06	LL	HF	10	R	-	O	CA	<3.0	-
	05/10/06	KSV	HF	13	R	P	O	CA	20	-
	10/04/06	LL	E	14	R	W	C	CA	-	132
	10/11/06	LL	H	12	R	-	C	CA	-	500
	11/07/06	LL	E	8	R	-	C	CA	-	28
	12/04/06	FP	HF	3	R	-	O	CA	-	12
WE005.00	01/04/06	JB	F	-4	R	-	O	CA	<3.0	-
	02/14/06	FP	H	3	R	-	O	CA	3.6	-
	04/18/06	LL	F	10	R	-	O	CA	<3.0	-
	05/10/06	KSV	HF	13	R	P	O	CA	9.1	-
	09/26/06	KSV	F	19	R	-	C	CA	-	<2.0
	10/04/06	LL	HE	15	R	-	C	CA	-	26
	10/11/06	LL	H	12	R	-	C	CA	-	2
	11/07/06	LL	E	8	R	-	C	CA	-	12
12/04/06	FP	H	2	R	-	O	CA	-	2	
WE008.00	01/04/06	JB	F	-3	R	-	O	A	<3.0	-
	02/14/06	FP	H	5	R	-	O	A	<3.0	-
	04/18/06	LL	F	10	R	-	O	A	<3.0	-
	09/12/06	LL	F	18	R	-	O	A	-	<2.0
	09/26/06	KSV	F	20	R	-	O	A	-	<2.0
	12/04/06	FP	H	4	R	-	O	A	-	8
WE011.00	01/04/06	JB	F	-3	R	-	C	P	<3.0	-
	02/14/06	FP	H	6	R	W	C	P	<3.0	-
	04/18/06	LL	HF	10	R	-	C	P	<3.0	-
	09/12/06	LL	F	18	R	-	C	P	-	<2.0
	09/26/06	KSV	F	18	R	-	C	P	-	<2.0
	12/04/06	FP	H	4	R	-	C	P	-	<2.0
WE013.00	01/04/06	JB	F	-1	R	-	O	A	<3.0	-
	02/14/06	FP	H	5	R	W	O	A	<3.0	-
	04/18/06	LL	F	10	R	-	O	A	<3.0	-
	09/12/06	LL	F	18	R	-	O	A	-	7.3
	10/04/06	LL	E	14	R	-	O	A	-	<2.0
	12/04/06	FP	HE	3	R	-	O	A	-	<2.0
WE018.00	01/04/06	JB	F	-5	R	N	O	R	23	-
	02/14/06	FP	HF	2	R	-	O	R	<3.0	-
	04/18/06	LL	F	10	R	-	O	R	9.1	-
	09/12/06	LL	F	19	R	-	O	R	-	16
	09/26/06	KSV	F	20	R	-	O	R	-	76
	12/04/06	FP	H	3	R	-	O	R	-	15
WE018.50	01/04/06	JB	F	-1	R	-	O	R	9.1	-
	02/14/06	FP	HF	5	R	-	O	R	<3.0	-
	04/18/06	LL	F	10	R	-	O	R	<3.0	-
	09/12/06	LL	F	18	R	-	O	R	-	<2.0
	09/26/06	KSV	F	17	R	-	O	R	-	24



Station	Date	Collector	Tide	Temp	Strat	ADV	Stat	CL	A1COL	MFCOL
WE020.00	12/04/06	FP	H	5	R	-	O	R	-	2
	01/04/06	JB	F	-1	R	-	O	R	3	-
	02/14/06	FP	HF	3	R	-	O	R	3.6	-
	04/18/06	LL	HF	9	R	-	O	R	<3.0	-
	09/12/06	LL	F	18	R	-	O	R	-	<2.0
	10/04/06	LL	E	14	R	-	O	R	-	2
WE022.00	12/04/06	FP	HE	4	R	-	O	R	-	6
	01/04/06	JB	F		R	-	O	A	<3.0	-
	02/14/06	FP	HF	5	R	-	O	A	<3.0	-
	04/18/06	KSV	L	9	R	-	O	A	<3.0	-
	05/10/06	KSV	HF	12	R	P	O	A	3.6	-
	09/26/06	KSV	F	19	R	-	O	A	-	<2.0
WE023.00	12/04/06	FP	HE	4	R	-	O	A	-	<2.0
	01/04/06	JB	F	-1	R	NW	O	R	3	-
	02/14/06	FP	HF	4	R	W	O	R	<3.0	-
	04/18/06	LL	HF	10	R	-	O	R	<3.0	-
	09/12/06	LL	F	19	R	-	O	R	-	<2.0
	09/26/06	KSV	LF	16	R	-	O	R	-	14
WE024.50	12/04/06	FP	HE	4	R	-	O	R	-	16
	01/04/06	JB	F	0	R	-	O	CA	<3.0	-
	02/14/06	FP	F	5	R	-	O	CA	<3.0	-
	04/18/06	KSV	L	10	R	-	O	CA	<3.0	-
	05/10/06	KSV	HF	13	R	P	O	CA	23	-
	10/04/06	LL	E	14	R	-	C	CA	-	32
	10/11/06	LL	HF	12	R	-	C	CA	-	>1600
	11/07/06	LL	E	8	R	-	C	CA	-	<2.0
WE027.00	12/04/06	FP	HE	4	R	-	O	CA	-	<2.0
	01/04/06	FP	HF	5	R	-	C	P	<3.0	-
	02/14/06	FP	F	2	R	-	C	P	<3.0	-
	04/18/06	LL	HF	10	R	-	C	P	<3.0	-
	05/10/06	KSV	H	14	R	P	C	P	39	-
	09/26/06	KSV	LF	18	R	-	C	P	-	92
	10/04/06	LL	E	15	R	-	C	P	-	160
WE028.00	12/04/06	FP	HE	4	R	-	C	P	-	<2.0
	01/04/06	FP	H	5	R	-	O	CA	3.2	-
	02/14/06	FP	F	2	R	-	O	CA	<3.0	-
	04/18/06	KSV	LF	10	R	-	O	CA	9.1	-
	05/10/06	KSV	H	13	R	P	O	CA	7.3	-
	10/04/06	LL	E	14	R	-	C	CA	-	11
	10/11/06	LL	HF	12	R	-	C	CA	-	2
	11/07/06	LL	E	8	R	-	C	CA	-	8
WE030.00	12/04/06	FP	E	4	R	-	O	CA	-	2
	01/04/06	FP	HF	5	R	-	O	CA	<3.0	-
	02/14/06	FP	F	2	R	-	O	CA	<3.0	-
	04/18/06	LL	HF	10	R	-	O	CA	<3.0	-
	05/10/06	KSV	H	13	R	P	O	CA	3.2	-
09/26/06	KSV	LF	18	R	-	C	CA	-	18	



Station	Date	Collector	Tide	Temp	Strat	ADV	Stat	CL	A1COL	MFCOL
	10/04/06	LL	E	15	R	-	C	CA	-	14
	10/11/06	LL	HF	12	R	-	C	CA	-	6
	11/07/06	LL	E	8	R	-	C	CA	-	<2.0
	12/04/06	FP	E	4	R	-	O	CA	-	<2.0