

Sapelo Island (SAP) NERR Water Quality Metadata
January-December 2002
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2. Entry Verification:

The data are reviewed using the YSI computer program Ecwin included with the YSI 6000/6600 data logger. After the file is uploaded from the Data logger, Ecwin is used to plot the data and perform basic statistical analyses (i.e., min., max., mean, std. dev.) The information obtained from this is used during file review to detect any gross outliers such as data taken when the data logger was removed from the water or those caused by instrument failure. The data are imported into a Microsoft Excel file that contains the current month's cumulative recordings. When a complete month of data has been recorded the file is ready for review. The data review includes several steps. The first step is to format the data using the Excel macros provided by CDMO. The CDMO macros will allow the user to automatically format column widths to the correct number of decimal places based on YSI sensor specifications. It also allows the user to QA/QC each data logger generated file for missing data points, fill all cells that do not contain data with periods, and find all data points that fall outside the range of what the data logger is designed to measure (i.e. outliers). The CDMO import.xls macro will allow PC users with 30-minute data to automatically create a monthly Excel file from a two-week deployment and insert periods for missing data. In addition, in November 1999 a graphing capability

was added to this macro allowing users to produce single parameter and missing data point graphs on a monthly basis. Secondly, the Excel macro is used to determine if there are any dates and times that data was not recorded due to maintenance, battery failure, or other causes. Missing dates and times are inserted into the file and a period is inserted into the cells where data would normally be. The reason for the missing data is recorded in this metadata document.

Data that was outside the "normal" range of water quality for a particular site is investigated for validity based on weather data, field observations, QC checks, PC6000 printouts, and instrument diagnostics. If the data is/are rejected from the file a period is inserted to the cell(s) and an explanation for the missing dates and times are recorded in the metadata document. The completed Metadata form is then submitted with the data file to the CDMO. Jane Garbisch was responsible for all 2001 data collection and management.

3. Research Objectives:

Hydrological studies (Ragotskie and Bryson, 1955; Imberger et al., 1983) have shown that there are three tidal excursions along the length of the Duplin River, resulting in three distinct water masses. The two monitoring sites in the Duplin River, called the Lower Duplin site and the Hunt Camp site, are located within the lower and upper water masses, respectively. Water passing the Lower Duplin site during flood tide has come from Doboy Sound, which receives input from the Altamaha River via the Intra-Coastal Waterway and from the Atlantic Ocean. The water in the lower water mass is pushed further up the Duplin or up smaller tidal creeks and some is pushed onto the marsh surface by the flood tide and recedes into the main channel during ebb tide. The water in the upper water mass, which passes the Hunt Camp station, is pushed up small creek channels and onto the marsh at each high tide. Thus the two stations monitor conditions in two hydrological separate water masses, one of which is heavily influenced by exchanges with Doboy Sound and the other which is

influenced by its twice-daily contact with the marsh surface.

Sapelo Island is only accessible by passenger ferry. Due to its isolation, the salt marsh and tidal waters of the SAP NERR show relatively little evidence of human impact. Thus the Marsh Landing dock, where the Lower Duplin site is located, the primary access point for the approximately 200-300 residents, commuters and daily visitors plus barge off loading was chosen as the most directly impacted site. The Lower Duplin site is also readily accessible and centrally located within the SAP NERR. The University of Georgia Marine Institute has used this as a monitoring site for years and SAP NERR continues to do so. The Hunt Dock site was selected in July 1999 for monitoring. It is a dock only used for transporting hunters during the fall season. It is further up the Duplin, where the primary usage of the river is for pleasure boating and crabbing. Therefore it is considered the least impacted site. The University of Georgia-Athens continues to monitor further up the Duplin and the Flume Dock site.

4. Research Methods:

The SAP NERR Water Quality Monitoring began in October of 1999, at the Marsh Landing Dock on the lower Duplin River. At this time we are only performing long term water quality monitoring and not a specific experiment. Prior to April 15, 1999 the University of Georgia-Athens Marine Institute (UGAMI) completed sampling. When SAP NERR took over the NERR monitoring from the University of GA, a second site was set up at the Marsh Landing site to be the NERR monitoring station. In order to lesson the confusion between the 2 sites, the SAP NERR site is referred to as the Lower Duplin site (LD) and is monitored at a fixed depth from the bottom (0.5m). In June 2002, the reserve returned to including the University's monitoring sites. These sites are at a fixed depth just below the surface. The sites include the Marsh Landing site, (ML) and the Flume Dock (FD). They are both hung by stainless steel chains from floating

docks at a fixed depth, approximately 1.5 m. The Hunt Dock (HD) site is just south of the Flume Dock site and also measures at 0.5m above the surface bottom. Because the ML and FD sites are surface deployments the amount of fouling is much worse when compared to the LD and HD sites. In an effort to improve the data, the YSI EDS sondes are used exclusively at these sites and the 6000 series and 6600 series sondes are used at the LD and HD sites. The EDS sondes reduce some of the fouling, but there is still considerable deterioration of probe sensitivity during deployment.

Before each YSI PC6000 data logger is deployed, calibration and maintenance is performed following the manufacturer's instructions. Calibration standards are only required for pH, conductivity, and turbidity, all other parameters are done as described in the manual. Buffer solutions for 2-point calibration (pH 7 and 10) are purchased from a scientific supply house. The conductivity standard is made using a 0.2 M solution of KCl ($24.82\text{mS/cm} = 14.92\text{g/L}$) or from serial dilution of a certified conductivity standard. The turbidity calibration uses distilled water made by the University of Georgia-Athens Marine Institute and a purchased 100 NTU certified standard. The dissolved oxygen membranes are replaced before deployment and are allowed to sit at least 24 hours prior to deployment. Calibration is then verified by running a standard as a sample after each calibration.

When deployed the weather conditions and tidal stage are recorded in the field observation log. The data logger is placed inside a length of PVC pipe attached to the dock. The Lower Duplin data logger is attached to the north side of a non-floating dock by a steel cable and run down a PVC pipe to rest 0.5m above the surface bottom. The Hunt Dock data logger is attached to the south side of a fixed dock by steel cable and run down a PVC pipe to take measurements 0.5m above the surface bottom. Because of the large tidal range, water is continually flushed through the PVC pipes, thus eliminating the problem of creating a stagnate column of water with in the pipe with data logger. Every

30 minutes during the sampling period measurements are taken for temperature, specific conductance, salinity, pH, dissolved oxygen concentration, percent saturation, depth and turbidity.

At the end of the sample period the data logger is retrieved and immediately replaced by another calibrated data logger. The data logger is then taken to the lab and runs QA/QC standards for pH, and conductivity, and dissolved oxygen, the data is uploaded, and the sonde is cleaned. Data is removed if the post calibration standards fail or if technical problems are noted. All data removed is noted in the metadata.

5. Site Location and character:

The monitoring site is located on the Marsh Landing Dock in the Duplin River on Sapelo Island. Water passing the Marsh landing site during flood tide originates from the Doboy Sound. The Doboy receives input from the Atlantic Ocean, and the Altamaha River via the Intra-Coastal Waterway. The water is pushed up the river or up smaller tidal creeks and some is pushed onto the marsh surface by the flood tide and recedes into the main channel during ebb tide. Both the Lower Duplin data and Marsh Landing data is collected at the Marsh Landing Dock.

The dock itself is used as the main dock to the island where the ferry makes several daily runs. There are also several small boats that are docked there. The surrounding area vegetation is dominated by salt marsh with *Spartina* being the predominate flora. Latitude and longitude for Lower Duplin site is as follows: 31 deg 25' 4" N, 81 deg 17' 46" W); Latitude and longitude for Hunt Dock site is as follows: (31 deg 28' 43", 81 deg 16' 23" W); Tidal range maximum for both sites is 14 feet and the salinity range is 5-35 ppt.

The Hunt Dock monitoring site is located on the Duplin River, off of Moses

Hammock, which is separated by Sapelo Island by a small tidal channel. The primary runoff at the site is from tidal creeks flowing through Spartina marsh and through the mud. Bottom habitat at this site includes soft mud and some oyster bed building along the shoreline. There is little human traffic this far up the Duplin and it is north of the people living on Sapelo. During the fall, the Hunt dock and Moses Hammock are the camping and docking site for deer hunters traveling to the island. These are controlled hunts and dates are available from the SAP NERR office if needed. The Flume Dock site is located further up the Duplin River, around Moses Hammock.

The Flume Dock (31 deg 28' 58" N, 81 deg 16' 3" W) and Marsh Landing (31 deg 25' 4" N, 81 deg 17' 46" W) sites have sondes connected to a floating dock. They hang by stainless steel chain at a fixed depth approximately one meter below the surface of the water. These sites were used since 1986 by the UGA Marine Institute. In June of 2002, the data collection was consolidated by the SAP NERR and the University. Because of the fixed placement of the sondes at the water surface the fouling of the probes is a continuous problem. The data will reflect this problem.

There are no current studies on pollutants in this area. Sapelo Island is typically considered a pristine environment, with the only pollutants nearby being contributed by the ferry dock and ferry parking lot.

6. Data collection period: (listed by each deployment)

Lower Duplin:

12/12/2001 15:00- 1/3/2002 10:00

1/3/02 10:30 - 1/26/02 10:30

1/26/02 11:00 - 2/11/02 8:30

2/11/02 9:00 - 3/5/02 17:30

3/5/02 18:30 - 3/11/02 02:00 sonde stopped collecting data

3/29/02 16:30 - 3/31/02 10:00 sonde stopped collecting data

4/12/02 9:00 - 5/1/02 8:30

5/1/02 9:00 - 5/19/02 8:00

5/19/02 9:30 - 6/2/02 15:00

6/2/02 16:00 - 6/24/02 11:00

6/24/02 - 7/4/02 Brass connectors corroded and broken off, data not retrieved

7/25/02 2:30 - 8/6/02 8:30

8/7/02 11:00 - 9/2/02 8:30
10/13/02 11:30 - 10/31/02 16:00
10/31/02 16:30 - 11/27/02 14:30
11/27/02 15:00 - 12/23/02 10:30
11/23/02 11:00 - 01/13/03 16:00

Hunt Dock:

12/8/2001 13:00 - 1/6/2002 11:00
1/7/02 11:30 - 1/27/02 15:00
1/27/02 15:30 - 2/22/02 1530
2/22/02 16:00 - 3/24/02 15:00
3/25/02 8:00 - 4/20/02 8:00
4/20/02 9:00 - 5/2/02 12:30
5/21/02 17:30 - 6/10/02 15:30
6/10/02 16:30 - 6/30/02 10:00
6/30/02 11:00 7/12/02 10:30
7/12/02 17:00 - 7/24/02 10:00
7/24/02 12:00 - 8/8/02 7:00
8/8/02 8:30 - 9/7/02 8:00
9/7/02 11:30 - 10/4/02 15:30
10/6/02 16:00 - 11/1/02 15:30
11/1/02 15:30 - 11/15/02 12:00
11/15/02 12:30 - 12/2/02 15:30
12/2/02 16:00 - 12/17/02 10:30
12/17/02 11:30 - 01/07/03 11:00

Flume Dock

6/17/02 15:00 - 7/4/02 13:30
7/4/02 15:00 - 7/17/02 17:30
7/17/02 18:00 - 7/31/02 14:30
7/31/02 15:00 - 8/16/02 13:30
8/16/02 14:30 - 9/2/02 15:00
9/2/02 15:30 - 9/13/02 16:00
9/13/02 16:30 - 9/25/02 14:30
9/25/02 15:00 - 10/16/02 14:00
10/16/02 15:30 - 11/1/02 15:30 *Time one hour off in data, clock set wrong
11/1/02 16:00 - 11/15/02 12:00
11/15/02 13:30 - 12/2/02 17:00
12/2/02 17:30 - 12/17/02 9:30 *Time one hour off in data, clock set wrong
12/17/12:00 - 01/07/03 11:30

Marsh Landing

6/19/02 15:30 - 7/9/02 14:30
7/9/02 15:00 - 7/17/02 18:30
7/17/02 19:00 - 8/1/02 10:30
8/1/02 11:00 - 8/14/02 14:30
8/14/02 15:30 - 9/2/02 8:30
9/2/02 9:00 - 9/13/02 15:00
09/13/02 15:30 - 09/23/02 13:30

9/23/02 15:30 - 10/13/02 11:30
10/13/02 12:00 - 10/30/02 15:30
10/30/02 16:00 - 11/18/02 16:30
11/18/02 18:00 - 12/9/02 15:00
12/9/02 15:30 - 12/23/02 10:30
12/23/02 11:00 - 01/11/03 17:30

7. Distribution

According to the Ocean and Coastal Resource Management Data Dissemination Policy for the NERRS System-Wide Monitoring Program, NOAA/ERD retains the right to analyze, synthesize and publish summaries of the NERRS System-Wide Monitoring Program data. The PI retains the right to be fully credited for having collected and processed the data. Following academic courtesy standards, the PI and NERR site where the data were collected will be contacted and fully acknowledged in any subsequent publications in which any part of the data are used. Manuscripts resulting from the NOAA/OCRM supported research that are produced for publication in open literature, including refereed scientific journals will acknowledge that the research was conducted under an award from the Estuarine Reserves Division, Office of Ocean and Coastal Resource Management, National Ocean Service, National Oceanic and Atmospheric Administration. The data set enclosed within this package/transmission is only as good as the quality assurance and quality control procedures outlined by the enclosed metadata reporting statement. The user bears all responsibility for it subsequent use/misuse in any further analyses or comparisons. The Federal government does not assume liability to the Recipient of third persons, not will the Federal government reimburse or indemnify the Recipient for its liability due to any losses resulting in any way from the use of this data.

NERR water quality data and metadata can be obtained from the Research Coordinator at the individual NERR site (please see Section 2.2-1 Principal investigators and contact persons), from the Data Manager at the Centralized Data Management Office (please see personnel directory under the general information link on the CDMO home page) and online at the CDMO home page <http://cdmo.baruch.sc.edu>. Data are available in text tab-delimited format, Microsoft Excel spreadsheet format and comma-delimited format.

8. Associated researchers and projects:

Sapelo Island has a long history of maintaining research. In 1953, the University of Georgia Marine Institute (UGAMI) was formed and the island became a working laboratory for many. The research continues today with SAP NERR and UGAMI creating a unique partnership with much of the current research being done facilitated by SAP NERR and UGAMI together. Given UGAMI's long history on Sapelo, a bibliographic list of over 800 articles of current and previous research can be found on the UGAMI website. (<http://www.uga.edu/ugami>).

9. Variable sequence, range of measurements, units, resolution, and accuracy:

YSI 6000/6600 datalogger

Variable	Range of Measurements	Resolution	
Accuracy			
Date	1-12, 1-31, 00-99 (Mo,Day,Yr)	1 mo, 1 day, 1 yr	NA
Time	0-24, 0-60, 0-60 (Hr,Min,Sec)	1 hr, 1 min, 1 s	NA
Temp	-5 to 45 (c)	0.01 C	+/-
0.15C			
Sp COND	0-100 (mS/cm)	0.01mS/cm	+/-0.5%
Of			
reading + 0.001mS/Cm			
Salinity	0-70 Parts per thousand (ppt)	0.01 ppt	+/- 1%
of			
Reading or 0.1 ppt, (whichever is greater)			
DO	0-200 (% air saturation)	0.1% @air sat	+/-2%
@air			
Saturation			
DO	200-500 (% air saturation	0.1% @ air sat	+/- 6%
@			
Saturation			
DO	0-20 (mg/l)	0.01 mg/l	+/-
0.2mg/l			
DO	20-50 (mg/l)	0.01 mg/l	+/-
0.6mg/l			
Depth (shallow)	0-9.1 (m)	0.001m	+/-
0.018m			
PH	2-14 units	0.01 units	+/-
0.2units			
Turb	0-1000 NTU	0.1 NTU	+/- 5%
of			
Reading or 2 NTU (whichever is greater)			

Data columns are separated by tabs. Each file contains a two line column header

at the top of the page which identifies measurements and units for each column.

10. Coded variable indicator and variable code definitions:

LD = Lower Duplin

HD = Hunt Dock

FD = Flume Dock

ML = Marsh Landing

11. Data Anomalies:

Hunt Dock

January

1/1/02 0:00 - 1/7/02 11:00 no turbidity probe deployed.

1/6/02 11:30 - 1/7/02 11:00 no sonde deployed at this time, all data missing.

1/25/02 13:30 - 23:00 DO reading negative values. Cause unknown.

1/26/02 5:00 DO recorded negative value. Cause unknown.

1/27/02 15:30 - 1/31/02 23:30 no turbidity probe deployed.

The following times have unusual spikes in turbidity, cause unknown.

Data was retained due to post calibration procedures within acceptable limits.

01/15/02 17:30 959 NTU

The following times turbidity recorded negative and/or zero values.

Negative

values often happen when the value is close to zero.

01/08/2002 20:30:00 -0001

01/09/2002 05:00:00 0000

01/09/2002 05:30:00 0000

01/09/2002 09:30:00 0000

01/09/2002 10:00:00 0000

01/09/2002 20:30:00 0000

01/09/2002 21:00:00 0000

01/09/2002 21:30:00 -0001

01/10/2002 04:00:00 0000

01/10/2002 09:00:00 0000

01/10/2002 09:30:00 0000

01/10/2002 10:00:00 0000

01/10/2002 21:30:00 0000

01/11/2002 23:00:00 -0001

The following times had all data removed due to exposure above the water's surface during low tide:

01/01/2002 02:00:00- 01/01/2002 04:30:00

01/01/2002 15:00:00- 01/01/2002 17:00:00

01/02/2002 03:00:00- 01/02/2002 05:00:00

01/03/2002 05:30:00

01/03/2002 16:30:00- 01/03/2002 19:00:00

01/04/2002 05:00:00- 01/04/2002 07:00:00

01/04/2002 18:00:00- 01/04/2002 19:00:00

01/05/2002 07:00:00- 01/05/2002 08:00:00

01/05/2002 19:00:00- 01/05/2002 20:00:00

01/07/2002	20:00:00-	01/07/2002	23:30:00
01/08/2002	09:30:00-	01/08/2002	11:30:00
01/08/2002	21:30:00-	01/09/2002	00:00:00
01/09/2002	10:30:00-	01/09/2002	12:30:00
01/09/2002	22:00:00-	01/10/2002	01:00:00
01/10/2002	11:00:00-	01/10/2002	14:00:00
01/10/2002	23:00:00-	01/11/2002	02:00:00
01/11/2002	12:00:00-	01/11/2002	14:30:00
01/11/2002	23:30:00-	01/12/2002	02:30:00
01/12/2002	13:00:00-	01/12/2002	15:00:00
01/13/2002	01:00:00-	01/13/2002	03:30:00
01/13/2002	13:30:00-	01/13/2002	15:30:00
01/14/2002	01:30:00-	01/14/2002	04:00:00
01/14/2002	14:30:00-	01/14/2002	16:00:00
01/15/2002	02:30:00-	01/15/2002	04:00:00
01/15/2002	15:00:00-	01/15/2002	17:00:00
01/16/2002	03:00:00-	01/16/2002	05:00:00
01/16/2002	15:30:00-	01/16/2002	17:30:00
01/17/2002	04:00:00-	01/17/2002	05:00:00
01/17/2002	16:30:00-	01/17/2002	18:00:00
01/18/2002	04:30:00-	01/18/2002	05:00:00
01/18/2002	17:00:00-	01/18/2002	18:00:00
01/20/2002	18:30:00-	01/20/2002	19:30:00
01/24/2002	22:00:00-	01/24/2002	23:30:00
01/25/2002	10:30:00-	01/25/2002	12:00:00
01/25/2002	23:30:00-	01/26/2002	00:00:00
01/26/2002	23:30:00-	01/27/2002	01:30:00
01/27/2002	12:30:00-	01/27/2002	14:00:00
01/28/2002	00:00:00-	01/28/2002	03:00:00
01/28/2002	13:00:00-	01/28/2002	15:30:00
01/29/2002	01:00:00-	01/29/2002	04:00:00
01/29/2002	13:30:00-	01/29/2002	16:30:00
01/30/2002	01:30:00-	01/30/2002	05:00:00
01/30/2002	14:30:00-	01/30/2002	17:30:00
01/31/2002	02:30:00-	01/31/2002	05:30:00
01/31/2002	15:30:00-	01/31/2002	18:00:00

February

2/1/02 0:00 - 2/28/02 23:30 no turbidity probe deployed

2/1/02 16:00 - 19:30 no data recorded by sonde, not even the date and time.

2/22/02 16:00 DO values substantially increase with the new deployment.

The low values from the previous deployment (2/1/02-2/22/02) are suspect. It is difficult to say why the values show such a discrepancy between the two sondes. Both sondes passed the accepted post calibration procedures, therefore the data was retained.

The following times had all data removed due to exposure above the water's surface during low tide:

02/01/2002	03:30:00-	02/01/2002	06:30:00
02/02/2002	04:30:00-	02/02/2002	07:00:00
02/02/2002	18:00:00-	02/02/2002	19:00:00
02/04/2002	07:30:00-	02/04/2002	09:00:00
02/04/2002	19:00:00-	02/04/2002	21:00:00
02/07/2002	22:00:00-	02/08/2002	00:30:00

02/09/2002	00:00:00		
02/11/2002	01:00:00-	02/11/2002	02:30:00
02/11/2002	13:30:00-	02/11/2002	15:00:00
02/12/2002	01:30:00-	02/12/2002	03:30:00
02/12/2002	14:30:00-	02/12/2002	15:30:00
02/13/2002	02:00:00-	02/13/2002	04:00:00
02/13/2002	15:00:00-	02/13/2002	16:30:00
02/14/2002	03:00:00-	02/14/2002	04:00:00
02/16/2002	17:00:00-	02/16/2002	17:30:00
02/17/2002	05:00:00-	02/17/2002	06:00:00
02/17/2002	17:00:00-	02/17/2002	18:00:00
02/24/2002	23:30:00-	02/25/2002	01:30:00
02/25/2002	12:30:00-	02/25/2002	13:30:00
02/26/2002	00:00:00-	02/26/2002	02:30:00
02/26/2002	13:00:00-	02/26/2002	15:00:00
02/27/2002	00:30:00-	02/27/2002	04:00:00
02/27/2002	13:00:00-	02/27/2002	16:30:00
02/28/2002	01:30:00-	02/28/2002	04:30:00
02/28/2002	14:00:00-	02/28/2002	17:00:00

March

3/1/02 0:00 - 3/31/02 23:30 no turbidity probe deployed
 3/31/02 18:00 -18:30 DO negative value, cause unknown. Dissolved oxygen for the

entire deployment 03/25/02 08:00 - 04/20/02 08:00 should be considered suspect.

3/24/02 15:30 - 3/25 07:30 all data missing, no sonde deployed.

The following times had all data removed due to exposure above the water's surface during low tide:

03/01/2002	02:30:00-	03/01/2002	05:30:00
03/01/2002	15:00:00-	03/01/2002	17:30:00
03/02/2002	04:00:00-	03/02/2002	06:00:00
03/02/2002	16:30:00-	03/02/2002	18:30:00
03/03/2002	05:00:00-	03/03/2002	07:00:00
03/03/2002	16:30:00-	03/03/2002	19:30:00
03/04/2002	05:30:00-	03/04/2002	08:30:00
03/04/2002	17:00:00-	03/04/2002	20:00:00
03/05/2002	06:30:00-	03/05/2002	08:30:00
03/05/2002	18:30:00-	03/05/2002	20:00:00
03/09/2002	23:30:00-	03/10/2002	00:30:00
03/10/2002	11:30:00-	03/10/2002	13:00:00
03/11/2002	00:00:00-	03/11/2002	01:00:00
03/12/2002	14:00:00		
03/13/2002	01:30:00-	03/13/2002	02:30:00
03/13/2002	13:30:00-	03/13/2002	15:00:00
03/14/2002	01:30:00-	03/14/2002	03:30:00
03/14/2002	14:00:00-	03/14/2002	16:00:00
03/15/2002	02:30:00-	03/15/2002	04:00:00
03/15/2002	14:30:00-	03/15/2002	16:30:00
03/16/2002	02:30:00-	03/16/2002	04:00:00
03/16/2002	15:00:00-	03/16/2002	17:00:00
03/17/2002	03:00:00-	03/17/2002	05:00:00
03/17/2002	15:30:00-	03/17/2002	17:30:00
03/18/2002	04:00:00-	03/18/2002	05:00:00

03/18/2002	16:30:00-	03/18/2002	17:30:00
03/25/2002	11:00:00-	03/25/2002	12:00:00
03/25/2002	23:00:00-	03/26/2002	00:30:00
03/26/2002	11:30:00-	03/26/2002	13:00:00
03/26/2002	23:30:00-	03/27/2002	02:00:00
03/27/2002	12:00:00-	03/27/2002	14:30:00
03/28/2002	00:30:00-	03/28/2002	03:00:00
03/28/2002	13:30:00-	03/28/2002	15:00:00
03/29/2002	02:00:00-	03/29/2002	04:00:00
03/29/2002	14:00:00-	03/29/2002	16:00:00
03/30/2002	02:30:00-	03/30/2002	04:30:00
03/30/2002	15:00:00-	03/30/2002	17:00:00
03/31/2002	03:30:00-	03/31/2002	05:30:00
03/31/2002	15:30:00-	03/31/2002	17:30:00

April

4/1/02 0:00 - 4/20/02 8:00 No turbidity probe deployed

4/20/02 8:30 all data missing, no sonde deployed.

The following times had all data removed due to exposure above the water's surface during low tide:

4/1/2002	4:30:00-	6:00:00
4/1/2002	16:30:00-	17:30:00
4/2/2002	6:00:00-	1:00:00
4/10/2002	12:30:00-	4:00:00
04/11/2002	01:30:00	
04/12/2002	14:00:00-	4:30:00
4/13/2002	14:00:00-	15:00:00
4/14/2002	15:00:00-	15:30:00
4/15/2002	3:30:00	
4/15/2002	15:00:00-	6:00:00
4/16/2002	4:00:00-	04:30:00
4/22/2002	9:30:00-	10:30:00
4/22/2002	22:00:00-	23:00:00
4/23/2002	11:00:00	
4/24/2002	0:00:00	
4/24/2002	11:30:00-	12:30:00
4/25/2002	0:00:00-	1:00:00
4/25/2002	12:00:00-	14:00:00
4/26/2002	0:30:00-	3:00:00
4/26/2002	13:00:00-	15:00:00
4/27/2002	2:00:00-	3:30:00
4/27/2002	14:00:00-	15:30:00
4/28/2002	2:30:00-	4:30:00
4/28/2002	14:00:00-	16:30:00
4/29/2002	3:00:00-	5:30:00
4/29/2002	15:00:00-	17:30:00
4/30/2002	4:00:00-	5:30:00

May

DO data 05/23/02 16:30 - 06/05/02 18:00 is unusually high. Data was retained

due to post calibration procedures being within acceptable limits.

5/21/02 17:30 - 5/31/02 23:30 no turbidity probe deployed

The following times had all data removed due to exposure above the water's surface during low tide:

05/01/2002	05:30:00-	05/01/2002	06:00:00
05/02/2002	06:00:00-	05/02/2002	07:00:00
05/24/2002	00:30:00-	05/24/2002	01:00:00
05/24/2002	11:30:00-	05/24/2002	13:30:00
05/25/2002	00:30:00-	05/25/2002	02:00:00
05/25/2002	12:30:00-	05/25/2002	14:30:00
05/26/2002	01:30:00-	05/26/2002	03:00:00
05/26/2002	13:00:00-	05/26/2002	15:00:00
05/27/2002	02:30:00-	05/27/2002	04:00:00
05/27/2002	14:00:00-	05/27/2002	15:30:00
05/28/2002	03:30:00-	05/28/2002	04:30:00

5/21 03:00 - 5/21/02 17:00 all data missing, no sonde deployed.

June

DO data 05/23/02 16:30 - 06/05/02 18:00 is unusually high. Data was retained

due to post calibration procedures being within acceptable limits.

6/1/02 0:00 -6/10/02 15:30 no turbidity probe deployed

6/10/02 16:00 all data missing, no sonde deployed

6/30/02 10:30 all data missing, no sonde deployed

The following times have unusual spikes in turbidity, cause unknown.

Data was retained due to post calibration procedures within acceptable limits.

06/20/2002	20:30:00	1142.7
06/20/2002	21:30:00	1374.5
06/20/2002	22:30:00	1384.2
06/21/2002	23:30:00	1057.9
06/22/2002	00:00:00	1375.8
06/22/2002	00:30:00	1039.6
06/22/2002	01:00:00	1374.6
06/22/2002	01:30:00	1363.2
06/22/2002	02:00:00	1373.9
06/22/2002	03:30:00	1376.7
06/22/2002	04:30:00	1376.2
06/22/2002	05:30:00	1376.4
06/22/2002	08:30:00	1376.2
06/22/2002	09:30:00	1375.4
06/22/2002	23:00:00	1237.1
06/25/2002	04:30:00	1381.1
06/25/2002	05:30:00	1381.4

6/30/02 11:00 - 23:30 no turbidity probe deployed

The following times had all data removed due to exposure above the water's surface during low tide:

06/11/2002	14:00:00-	06/11/2002	15:00:00
06/12/2002	14:30:00-	06/12/2002	15:30:00
06/13/2002	04:00:00		
06/13/2002	15:30:00-	06/13/2002	16:00:00
06/14/2002	04:30:00-	06/14/2002	05:00:00

06/14/2002	16:30:00-	06/14/2002	17:00:00
06/15/2002	05:30:00-	06/15/2002	06:00:00
06/16/2002	06:30:00		
06/18/2002	08:30:00		
06/19/2002	09:00:00-	06/19/2002	09:30:00
06/20/2002	10:30:00-	06/20/2002	11:00:00
06/23/2002	00:30:00-	06/23/2002	02:00:00
06/23/2002	12:00:00-	06/23/2002	14:00:00
06/24/2002	01:30:00-	06/24/2002	03:00:00
06/24/2002	13:00:00-	06/24/2002	15:00:00
06/25/2002	02:00:00-	06/25/2002	03:30:00
06/25/2002	13:30:00-	06/25/2002	15:30:00
06/26/2002	02:30:00-	06/26/2002	04:30:00
06/26/2002	14:30:00-	06/26/2002	16:30:00
06/27/2002	03:00:00-	06/27/2002	05:00:00
06/27/2002	15:00:00-	06/27/2002	16:30:00
06/28/2002	04:00:00-	06/28/2002	06:00:00
06/28/2002	16:00:00-	06/28/2002	17:30:00
06/29/2002	04:30:00-	06/29/2002	06:30:00
06/29/2002	17:00:00-	06/29/2002	17:30:00
06/30/2002	05:30:00-	06/30/2002	07:00:00

July

7/1/02 0:00 - 7/31/02 23:30 no turbidity probe deployed
 7/12/02 11:30 -16:30 all data missing, no sonde deployed
 7/24/02 10:30 - 11:30 all data missing, no sonde deployed
 07/02/2002 23:00:00 DO data has negative value, cause unknown
 07/03/2002 01:00:00 DO data has negative value, cause unknown
 07/31/2002 22:30 - 07/31/2002 23:30 DO data deleted due to fouling.
 The following times had all data removed due to exposure above the
 water's surface during low tide:

07/01/2002	07:00:00		
07/08/2002	12:30:00-	07/08/2002	13:00:00
07/09/2002	01:30:00-	07/09/2002	02:00:00
07/09/2002	12:30:00-	07/09/2002	14:30:00
07/10/2002	01:30:00-	07/10/2002	03:00:00
07/10/2002	13:00:00-	07/10/2002	15:30:00
07/11/2002	01:30:00-	07/11/2002	04:30:00
07/11/2002	13:30:00-	07/11/2002	16:30:00
07/12/2002	02:30:00-	07/12/2002	05:00:00
07/13/2002	04:30:00-	07/13/2002	05:00:00
07/13/2002	16:30:00-	07/13/2002	17:30:00
07/14/2002	04:30:00-	07/14/2002	06:30:00
07/14/2002	17:00:00-	07/14/2002	19:00:00
07/15/2002	05:00:00-	07/15/2002	07:30:00
07/15/2002	18:00:00-	07/15/2002	19:30:00
07/16/2002	06:00:00-	07/16/2002	08:00:00
07/16/2002	19:30:00-	07/16/2002	20:00:00
07/17/2002	07:30:00-	07/17/2002	08:30:00
07/17/2002	21:00:00		
07/18/2002	08:30:00-	07/18/2002	09:30:00
07/19/2002	09:00:00-	07/19/2002	11:00:00

07/19/2002	22:30:00-	07/19/2002	23:00:00
07/20/2002	10:00:00-	07/20/2002	12:00:00
07/20/2002	23:00:00-	07/21/2002	01:00:00
07/21/2002	11:00:00-	07/21/2002	13:00:00
07/22/2001	00:30:00-	01:30:00	
07/22/2002	12:00:00-	07/22/2002	13:30:00
07/23/2002	01:00:00-	07/23/2002	02:30:00
07/23/2002	12:30:00-	07/23/2002	14:30:00
07/24/2002	02:00:00-	07/24/2002	03:30:00
07/24/2002	13:30:00-	07/24/2002	15:30:00
07/25/2002	02:30:00-	07/25/2002	04:00:00
07/25/2002	14:00:00-	07/25/2002	16:00:00
07/26/2002	03:00:00-	07/26/2002	05:00:00
07/26/2002	15:00:00-	07/26/2002	16:30:00
07/27/2002	03:30:00-	07/27/2002	05:30:00
07/27/2002	16:00:00-	07/27/2002	16:30:00
07/28/2002	04:30:00-	07/28/2002	06:00:00
07/29/2002	05:00:00-	07/29/2002	06:30:00
07/30/2002	05:30:00-	07/30/2002	07:00:00

August

08/01/02 00:00 - 08/06/02 08:30 DO data deleted due to fouling.

8/1/02 0:00 - 8/30/02 23:30 no turbidity probe deployed.

8/8/02 7:30 - 8:00 all data missing, no sonde deployed

Please note that hunt season starts in August causing an increase in traffic at the dock and campers at the site.

The following times had all data removed due to exposure above the water's surface during low tide:

08/09/2002	15:00:00-	08/09/2002	15:30:00
08/10/2002	15:30:00-	08/10/2002	16:30:00
08/11/2002	04:00:00-	08/11/2002	05:00:00
08/11/2002	16:00:00-	08/11/2002	17:30:00
08/12/2002	04:30:00-	08/12/2002	06:00:00
08/12/2002	17:00:00-	08/12/2002	18:30:00
08/13/2002	05:30:00-	08/13/2002	06:30:00
08/14/2002	06:30:00-	08/14/2002	07:30:00
08/15/2002	07:30:00-	08/15/2002	08:00:00
08/17/2002	09:30:00-	08/17/2002	10:30:00
08/17/2002	22:30:00-	08/17/2002	23:00:00
08/18/2002	10:00:00-	08/18/2002	12:00:00
08/18/2002	23:30:00-	08/19/2002	00:30:00
08/19/2002	11:00:00-	08/19/2002	12:30:00
08/20/2002	00:30:00		
08/21/2002	01:00:00-	08/21/2002	02:00:00
08/21/2002	13:00:00-	08/21/2002	14:00:00
08/22/2002	02:00:00-	08/22/2002	02:30:00
08/22/2002	13:30:00-	08/22/2002	14:30:00
08/23/2002	02:30:00-	08/23/2002	03:30:00
08/23/2002	14:30:00-	08/23/2002	15:00:00
08/24/2002	03:00:00-	08/24/2002	04:00:00
08/24/2002	15:00:00-	08/24/2002	16:00:00
08/25/2002	03:30:00-	08/25/2002	04:30:00

September

9/1/02 0:00 - 9/30/02 23:30 no turbidity probe deployed
9/7/02 8:30 - 11:00 all data missing, no sonde deployed
9/7/02 18:00 - 20:00 DO values reading negative due to an unknown cause
9/8/02 17:00 DO values increase due to an unknown cause and continue to stay up for the rest of the month. Values were retained in the data set as the post calibration verifications were within acceptable limits.

The following times had all data removed due to exposure above the water's surface during low tide:

09/05/2002	12:30:00-	09/05/2002	13:30:00
09/06/2002	01:00:00-	09/06/2002	02:00:00
09/06/2002	13:00:00-	09/06/2002	15:00:00
09/07/2002	02:00:00-	09/07/2002	03:00:00
09/07/2002	14:00:00-	09/07/2002	16:00:00
09/08/2002	02:30:00-	09/08/2002	04:30:00
09/08/2002	15:00:00-	09/08/2002	16:30:00
09/09/2002	03:00:00-	09/09/2002	05:00:00
09/09/2002	16:00:00-	09/09/2002	17:30:00
09/10/2002	04:00:00-	09/10/2002	05:30:00
09/10/2002	17:00:00-	09/10/2002	18:30:00
09/11/2002	04:30:00-	09/11/2002	06:30:00
09/11/2002	18:00:00-	09/11/2002	19:00:00
09/12/2002	05:30:00-	09/12/2002	07:00:00
09/14/2002	22:00:00		
09/16/2002	10:00:00-	09/16/2002	11:00:00
09/16/2002	23:00:00-	09/17/2002	00:00:00
09/17/2002	11:00:00-	09/17/2002	12:00:00

October

10/1/02 0:00 - 10/31/02 23:30 no turbidity probe deployed
10/4/02 16:00 - 10/6/02 15:30 all data missing, no sonde deployed
10/23/02 1:00 - 10/31/02 23:30 Water temperature increased 20 degrees in a half hour. Temperature stayed unusually high. Temperature data was removed due to suspected probe failure. The corresponding conductivity, DO mg/L, depth, pH, turbidity, and salinity data was also removed as it is temperature dependent.

The following times had all data removed due to exposure above the water's surface during low tide:

10/03/2002	11:00:00-	10/03/2002	12:00:00
10/03/2002	23:30:00-	10/04/2002	01:00:00
10/04/2002	12:00:00-	10/04/2002	13:30:00
10/07/2002	01:30:00-	10/07/2002	03:30:00
10/07/2002	14:30:00-	10/07/2002	16:30:00
10/08/2002	02:30:00-	10/08/2002	04:30:00
10/08/2002	15:30:00-	10/08/2002	17:00:00
10/09/2002	04:30:00		

November

11/1/02 0:00 - 11/30/02 23:30 Water temperature increased 20 degrees in a half hour. Temperature stayed unusually high. Temperature data was removed due to suspected probe failure. The corresponding conductivity, DO mg/L, depth, pH, turbidity, and salinity data was also removed as it is

temperature dependent.

11/1/02 15:30 - 11/15/02 12:00 all data missing sonde failed during deployment

11/1/02 0:00 - 11/30/02 23:30 no turbidity probe deployed

December

12/1/02 0:00 - 12/02/02 15:30 Water temperature increased 20 degrees in a half hour. Temperature stayed unusually high. Temperature data was removed due to suspected probe failure. The corresponding conductivity, DO

mg/L, depth, pH, turbidity, and salinity data was also removed as it is temperature dependent.

12/17/02 11:00 all data missing, sonde not deployed

12/1/02 0:00-12/31/02 23:30 no turbidity probe deployed

12/29/02 12:00 DO value spikes to 296.9%, unknown cause. Data retained.

The following times had all data removed due to exposure above the water's surface during low tide:

12/01/2002	00:00:00-	12/01/2002	01:00:00
12/01/2002	11:00:00-	12/01/2002	13:00:00
12/01/2002	23:00:00-	12/02/2002	01:30:00
12/02/2002	12:00:00-	12/02/2002	14:00:00
12/02/2002	23:30:00-	12/03/2002	02:00:00
12/03/2002	12:30:00-	12/03/2002	14:30:00
12/04/2002	00:30:00-	12/04/2002	02:30:00
12/04/2002	15:00:00		
12/05/2002	02:00:00-	12/05/2002	03:30:00
12/05/2002	14:30:00-	12/05/2002	16:30:00
12/06/2002	02:30:00-	12/06/2002	04:00:00
12/06/2002	16:00:00-	12/06/2002	17:00:00
12/07/2002	04:00:00-	12/07/2002	04:30:00
12/07/2002	16:30:00-	12/07/2002	17:30:00
12/08/2002	17:30:00-	12/08/2002	18:00:00
12/14/2002	10:00:00-	12/14/2002	11:00:00
12/14/2002	22:00:00-	12/14/2002	23:30:00
12/15/2002	23:00:00-	12/16/2002	00:00:00
12/16/2002	23:30:00-	12/17/2002	01:00:00
12/20/2002	14:00:00-	12/20/2002	16:30:00
12/21/2002	01:30:00-	12/21/2002	04:00:00
12/21/2002	15:00:00-	12/21/2002	16:30:00
12/22/2002	02:30:00-	12/22/2002	05:30:00
12/22/2002	15:30:00-	12/22/2002	18:00:00
12/23/2002	03:00:00-	12/23/2002	05:30:00
12/23/2002	16:30:00-	12/23/2002	18:00:00
12/24/2002	05:00:00-	12/24/2002	05:30:00
12/24/2002	17:30:00-	12/24/2002	18:30:00
12/25/2002	06:00:00-	12/25/2002	07:30:00
12/25/2002	17:30:00-	12/25/2002	20:30:00
12/26/2002	07:00:00-	12/26/2002	08:30:00
12/26/2002	19:00:00-	12/26/2002	20:00:00
12/27/2002	08:30:00-	12/27/2002	09:00:00
12/27/2002	20:30:00-	12/27/2002	21:00:00
12/28/2002	09:30:00-	12/28/2002	10:00:00
12/28/2002	21:30:00-	12/28/2002	23:00:00
12/29/2002	10:00:00-	12/29/2002	11:30:00

12/29/2002 22:00:00- 12/30/2002 00:00:00
12/30/2002 11:00:00- 12/30/2002 12:30:00
12/30/2002 23:00:00- 12/31/2002 01:00:00
12/31/2002 12:00:00- 12/31/2002 13:30:00
12/31/2002 23:30:00

Lower Duplin:

January

1/1/02 0:00 - 1/31/02 no turbidity probe deployed
1/28/02 14:00 - 1/31/02 23:30 all data removed because sonde apparently became hung up in the tube during deployment above the water level.

February

2/1/02 0:00 -2/11/02 8:30 all data removed because sonde apparently became hung up in the tube during deployment above the water level.
2/11/02 9:00 - 2/28/02 23:30 no turbidity probe deployed.

March

3/1/02 0:00 - 3/5/02 17:30 No turbidity probe deployed
3/5/02 18:00 all data missing, sonde not deployed.
3/11/02 2:30 - 3/29/02 16:00 all data missing, sonde had technical failure.
3/29/02 21:00 - 3/31/02 10:00 Turbidity data removed after spike in value > 1000 NTU. After spike in value, turbidity continued stay abnormally high.
3/31/02 10:30 - 3/31/02 23:30 all data missing, sonde had technical failure.

April

4/1/02 0:00 - 4/12/02 8:30 all data missing, sonde had technical failure.
4/12/02 9:00 - 4/30/02 23:30 During this deployment the sonde became heavily fouled. This probably accounts for the unusually high turbidity values and the degradation of the other parameters' values. The data was reported but should be considered suspect.

The following times turbidity values reported were out of range. Data was maintained, though should be considered suspect. Sonde very fouled during deployment.

04/15/2002	16:00:00	1360.6
04/16/2002	13:30:00	1328.6
04/17/2002	04:00:00	1096.4
04/17/2002	04:30:00	1362
04/17/2002	05:00:00	1362.3
04/17/2002	08:00:00	1194.8

May

5/1/02 9:00 - 5/19/02 9:00 No turbidity probe deployed
5/1/02 9:00 - 5/19/02 9:00 DO data removed,all readings were abnormally high including post calibration. Membrane difficulty suspected

June

6/2/02 15:30 all data missing, sonde not deployed
6/2/02 16:00 - 6/24/02 11:00 No turbidity or DO probe deployed
6/24/02 11:30 - 6/30/02 23:30 all data lost due to sonde failure

July

7/1/02 0:00 - 7/25/02 2:00 all data lost due to sonde failures.
7/31/02 14:00 Turbidity spike, cause unknown.

August

The following times turbidity values reported were out of range. Data was maintained. The negative values often occur for values close to 0.00. The high values are caused by an known reason, possibly by fish that was caught in the guard.

08/04/2002 17:00:00 1274
08/10/2002 04:00:00 -0001
08/12/2002 12:00:00 -0001
08/13/2002 18:30:00 -0001
08/14/2002 06:30:00 -0001

Turbidity data were deleted 08/14/2002 14:00 - 08/31/2002 23:30 due to out of

range values caused when fish was caught in sonde guard.

8/6/02 9:00 8/7/02 10:30 all data missing, no sonde deployed

The following times had data removed due to sonde exposed at low tide.

There was a tropical storm Cristobal off the coast during deployment.

The winds from this storm affected our tides.

8/11/02 17:00

8/12/02 5:00

8/18/02 11:00

8/19/02 11:30

8/24/02 3:30

September

Turbidity data were deleted 09/01/2002 00:00 - 09/02/2002 08:30 due to out of

range values caused when fish was caught in sonde guard.

9/2/02 9:00- 9/30 23:30 all data missing due to sonde failure

October

10/1/02 0:00 - 10/13/02 11:00 all data missing due to sonde failure

10/13/02 11:30 -10/31/02 23:30 no turbidity probe deployed

10/31/02 16:30 all data removed. Sonde became exposed during low tide.

10/31/02 17:00-19:30 DO values increase.

November

11/1/02 0:00 - 11/30/02 23:30 no turbidity probe deployed

11/6/02 14:30 -17:00 all data removed. Sonde became exposed during low tide.

11/30/02 23:00 - 23:30 all data removed. Sonde became exposed during low tide.

December

12/01/02 00:00 all data removed. Sonde became exposed during low tide.

12/03/02 01:00 all data removed. Sonde became exposed during low tide.
12/1/02 0:30 - 12/31/02 23:30 no turbidity probe deployed

Flume Dock

Due to the nature of the deployment, the sondes deployed at the flume dock are very prone to heavily fouling. Anti-fouling paint has not appeared to improve the situation, nor has the new EDS sondes developed by YSI. All data from this site when evaluated, should take this into consideration, especially turbidity because it consistently reads negative. It is a problem the reserve is well aware of and trying to improve.

June

6/1/02 0:00 - 6/17/02 14:30 no sonde deployed
6/29/02 2:30 turbidity spike (849 NTU), cause unknown
6/30/02 2:30 turbidity spike (171 NTU), cause unknown
Turbidity values reading negative throughout deployment. This occurs when value is near 0.
06/17/02 15:00 - 07/04/02 13:30 Specific Conductivity suspect because data deteriorates as sonde becomes fouled.
pH data for deployment 06/17/02 15:00 - 07/04/02 13:30 deleted due to broken pH
probe installed in datalogger not collecting true data.

July

pH data for deployment 06/17/02 15:00 - 07/04/02 13:30 deleted due to broken pH
probe installed in datalogger not collecting true data.
06/17/02 15:00 - 07/04/02 13:30 Specific Conductivity suspect because data deteriorates as sonde becomes fouled.
07/22/02 15:00 - 07/31 14:30 DO saturation and concentration deleted due to possible membrane failure.
The following values for turbidity are anomalous. The negative values typically indicate values near 0. The data was not deleted, though because of its erratic values, it should be considered suspect.
The probe becomes very fouled despite the new EDS wiper system.

07/01/2002	00:00:00	-0001
07/01/2002	00:30:00	-0009
07/01/2002	01:00:00	-0007
07/01/2002	01:30:00	-0008
07/01/2002	02:00:00	-0008
07/01/2002	03:00:00	-0002
07/01/2002	03:30:00	-0006
07/01/2002	04:00:00	-0004
07/01/2002	05:30:00	-0005
07/01/2002	09:00:00	-0005
07/01/2002	10:00:00	-0002
07/01/2002	10:30:00	-0002
07/01/2002	12:00:00	-0001
07/01/2002	13:00:00	-0005

07/01/2002	14:00:00	-0005
07/01/2002	14:30:00	-0001
07/02/2002	09:30:00	1002
07/02/2002	22:30:00	1010
07/03/2002	01:00:00	1103
07/03/2002	04:00:00	1054
07/03/2002	11:00:00	1020
07/03/2002	16:00:00	1275
07/03/2002	19:00:00	1424
07/03/2002	23:00:00	1325
07/04/2002	06:00:00	1414
07/04/2002	07:00:00	1043
07/04/2002	11:00:00	1409
07/17/2002	21:30:00	1016
07/18/2002	04:30:00	-0012
07/18/2002	05:00:00	-0015
07/18/2002	09:00:00	1729
07/18/2002	21:00:00	1146
07/18/2002	21:30:00	1357
07/19/2002	04:00:00	1141
07/19/2002	05:30:00	-0023
07/19/2002	06:00:00	-0013
07/19/2002	06:30:00	-0010
07/19/2002	15:00:00	-0019
07/19/2002	16:00:00	-0012
07/19/2002	19:00:00	-0002
07/19/2002	19:30:00	-0023
07/19/2002	20:00:00	-0010
07/19/2002	20:30:00	-0013
07/19/2002	21:30:00	-0001
07/19/2002	23:00:00	1515
07/20/2002	00:30:00	-0007
07/20/2002	01:00:00	-0009
07/20/2002	03:30:00	-0021
07/20/2002	04:00:00	-0004
07/20/2002	04:30:00	-0022
07/20/2002	06:00:00	-0032
07/20/2002	06:30:00	-0028
07/20/2002	07:30:00	-0001
07/20/2002	16:30:00	-0026
07/20/2002	17:00:00	-0004
07/20/2002	17:30:00	-0015
07/20/2002	19:00:00	-0031
07/20/2002	19:30:00	-0027
07/20/2002	20:00:00	-0026
07/20/2002	20:30:00	-0008
07/20/2002	21:00:00	-0031
07/20/2002	21:30:00	-0027
07/20/2002	23:30:00	1050
07/21/2002	01:00:00	-0003
07/21/2002	01:30:00	-0019
07/21/2002	02:00:00	-0004
07/21/2002	03:00:00	-0034
07/21/2002	04:00:00	-0034

07/21/2002	07:00:00	-0034
07/21/2002	07:30:00	-0029
07/21/2002	08:00:00	-0025
07/21/2002	09:00:00	-0035
07/21/2002	10:00:00	-0006
07/21/2002	11:00:00	-0005
07/21/2002	14:00:00	-0029
07/21/2002	14:30:00	-0006
07/21/2002	15:00:00	-0007
07/21/2002	15:30:00	-0037
07/21/2002	17:00:00	-0016
07/21/2002	17:30:00	-0034
07/21/2002	18:00:00	-0012
07/21/2002	18:30:00	-0024
07/21/2002	19:00:00	-0020
07/21/2002	19:30:00	-0014
07/21/2002	20:00:00	-0037
07/21/2002	20:30:00	-0025
07/21/2002	21:00:00	-0015
07/21/2002	21:30:00	-0019
07/21/2002	22:00:00	-0025
07/21/2002	22:30:00	-0033
07/21/2002	23:00:00	-0029
07/21/2002	23:30:00	-0004
07/22/2002	00:00:00	-0027
07/22/2002	00:30:00	-0006
07/22/2002	02:00:00	-0023
07/22/2002	02:30:00	-0013
07/22/2002	03:00:00	-0023
07/22/2002	03:30:00	-0035
07/22/2002	04:00:00	-0026
07/22/2002	04:30:00	-0023
07/22/2002	05:00:00	-0027
07/22/2002	05:30:00	-0037
07/22/2002	06:00:00	-0036
07/22/2002	06:30:00	-0036
07/22/2002	07:00:00	-0019
07/22/2002	07:30:00	-0028
07/22/2002	08:00:00	-0033
07/22/2002	08:30:00	-0038
07/22/2002	09:00:00	-0030
07/22/2002	09:30:00	-0027
07/22/2002	10:00:00	-0031
07/22/2002	10:30:00	-0009
07/22/2002	11:00:00	-0032
07/22/2002	11:30:00	-0016
07/22/2002	12:00:00	-0021
07/22/2002	12:30:00	-0012
07/22/2002	13:00:00	-0007
07/22/2002	13:30:00	-0023
07/22/2002	14:00:00	-0019
07/22/2002	14:30:00	-0027
07/22/2002	15:00:00	-0005
07/22/2002	15:30:00	-0036

07/22/2002	16:00:00	-0022
07/22/2002	16:30:00	-0034
07/22/2002	17:00:00	-0028
07/22/2002	17:30:00	-0033
07/22/2002	18:00:00	-0028
07/22/2002	18:30:00	-0036
07/22/2002	19:00:00	-0036
07/22/2002	19:30:00	-0025
07/22/2002	20:30:00	-0021
07/22/2002	21:00:00	-0031
07/22/2002	21:30:00	-0021
07/22/2002	22:00:00	-0029
07/22/2002	22:30:00	-0027
07/22/2002	23:00:00	-0028
07/22/2002	23:30:00	-0033
07/23/2002	00:00:00	-0021
07/23/2002	00:30:00	-0020
07/23/2002	01:00:00	-0001
07/23/2002	01:30:00	-0011
07/23/2002	02:00:00	-0003
07/23/2002	02:30:00	-0007
07/23/2002	03:00:00	-0013
07/23/2002	03:30:00	-0031
07/23/2002	04:00:00	-0037
07/23/2002	04:30:00	-0038
07/23/2002	05:00:00	-0038
07/23/2002	05:30:00	-0030
07/23/2002	06:00:00	-0033
07/23/2002	06:30:00	-0034
07/23/2002	07:00:00	-0037
07/23/2002	07:30:00	-0036
07/23/2002	08:00:00	-0035
07/23/2002	08:30:00	-0029
07/23/2002	09:00:00	-0032
07/23/2002	09:30:00	-0033
07/23/2002	10:00:00	-0033
07/23/2002	10:30:00	-0031
07/23/2002	11:00:00	-0031
07/23/2002	11:30:00	-0013
07/23/2002	12:00:00	-0006
07/23/2002	12:30:00	-0017
07/23/2002	13:30:00	-0007
07/23/2002	14:30:00	-0002
07/23/2002	15:00:00	-0023
07/23/2002	15:30:00	-0008
07/23/2002	16:00:00	-0029
07/23/2002	16:30:00	-0024
07/23/2002	17:00:00	-0036
07/23/2002	17:30:00	-0034
07/23/2002	18:00:00	-0028
07/23/2002	18:30:00	-0035
07/23/2002	19:00:00	-0036
07/23/2002	19:30:00	-0037
07/23/2002	20:00:00	-0038

07/23/2002	20:30:00	-0027
07/23/2002	21:00:00	-0033
07/23/2002	21:30:00	-0025
07/23/2002	22:00:00	-0028
07/23/2002	22:30:00	-0032
07/23/2002	23:00:00	-0030
07/23/2002	23:30:00	-0032
07/24/2002	00:00:00	-0035
07/24/2002	00:30:00	-0005
07/24/2002	01:00:00	-0020
07/24/2002	01:30:00	-0022
07/24/2002	02:00:00	-0016
07/24/2002	02:30:00	-0024
07/24/2002	03:30:00	-0010
07/24/2002	04:00:00	-0026
07/24/2002	04:30:00	-0017
07/24/2002	05:00:00	-0020
07/24/2002	05:30:00	-0024
07/24/2002	06:00:00	-0038
07/24/2002	06:30:00	-0037
07/24/2002	07:00:00	-0038
07/24/2002	07:30:00	-0026
07/24/2002	08:00:00	-0038
07/24/2002	08:30:00	-0026
07/24/2002	09:00:00	-0037
07/24/2002	09:30:00	-0039
07/24/2002	10:00:00	-0032
07/24/2002	10:30:00	-0032
07/24/2002	11:00:00	-0025
07/24/2002	11:30:00	-0034
07/24/2002	12:00:00	-0033
07/24/2002	12:30:00	-0014
07/24/2002	13:00:00	-0023
07/24/2002	13:30:00	-0028
07/24/2002	14:00:00	-0010
07/24/2002	14:30:00	-0014
07/24/2002	15:00:00	-0004
07/24/2002	15:30:00	-0012
07/24/2002	16:00:00	-0027
07/24/2002	16:30:00	-0032
07/24/2002	17:00:00	-0033
07/24/2002	17:30:00	-0029
07/24/2002	18:00:00	-0036
07/24/2002	18:30:00	-0035
07/24/2002	19:00:00	-0034
07/24/2002	19:30:00	-0033
07/24/2002	20:00:00	-0035
07/24/2002	20:30:00	-0035
07/24/2002	21:00:00	-0033
07/24/2002	21:30:00	-0036
07/24/2002	22:00:00	-0038
07/24/2002	22:30:00	-0037
07/24/2002	23:00:00	-0032
07/24/2002	23:30:00	-0029

07/25/2002	00:00:00	-0027
07/25/2002	00:30:00	-0029
07/25/2002	01:00:00	-0031
07/25/2002	01:30:00	-0038
07/25/2002	02:00:00	-0033
07/25/2002	02:30:00	-0029
07/25/2002	03:00:00	-0031
07/25/2002	03:30:00	-0031
07/25/2002	04:00:00	-0033
07/25/2002	04:30:00	-0029
07/25/2002	05:00:00	-0030
07/25/2002	05:30:00	-0030
07/25/2002	06:00:00	-0036
07/25/2002	06:30:00	-0033
07/25/2002	07:00:00	-0034
07/25/2002	07:30:00	-0033
07/25/2002	08:00:00	-0034
07/25/2002	08:30:00	-0039
07/25/2002	09:00:00	-0034
07/25/2002	09:30:00	-0030
07/25/2002	10:00:00	-0035
07/25/2002	10:30:00	-0034
07/25/2002	11:00:00	-0030
07/25/2002	11:30:00	-0032
07/25/2002	12:00:00	-0029
07/25/2002	12:30:00	-0029
07/25/2002	13:00:00	-0025
07/25/2002	13:30:00	-0022
07/25/2002	14:00:00	-0017
07/25/2002	14:30:00	-0019
07/25/2002	15:00:00	-0017
07/25/2002	15:30:00	-0020
07/25/2002	16:00:00	-0022
07/25/2002	16:30:00	-0014
07/25/2002	17:00:00	-0011
07/25/2002	17:30:00	-0014
07/25/2002	18:30:00	-0012
07/25/2002	19:00:00	-0017
07/25/2002	19:30:00	-0009
07/25/2002	20:00:00	-0021
07/25/2002	20:30:00	-0018
07/25/2002	21:00:00	-0013
07/25/2002	21:30:00	-0004
07/25/2002	22:00:00	-0008
07/25/2002	22:30:00	-0022
07/25/2002	23:00:00	-0015
07/25/2002	23:30:00	-0024
07/26/2002	00:00:00	-0012
07/26/2002	00:30:00	-0023
07/26/2002	01:00:00	-0013
07/26/2002	01:30:00	-0023
07/26/2002	02:00:00	-0017
07/26/2002	06:30:00	-0006
07/26/2002	08:00:00	-0025

07/26/2002	08:30:00	-0012
07/26/2002	09:00:00	-0003
07/26/2002	15:00:00	1189
07/26/2002	15:30:00	1067
07/26/2002	16:00:00	1176
07/26/2002	16:30:00	1067
07/26/2002	17:00:00	1057
07/26/2002	17:30:00	1099
07/26/2002	18:00:00	1224
07/27/2002	09:00:00	1228
07/27/2002	11:30:00	1203
07/27/2002	15:00:00	1196
07/27/2002	15:30:00	1156
07/27/2002	17:30:00	1366
07/27/2002	18:00:00	1057
07/27/2002	19:30:00	1273
07/27/2002	20:00:00	1738
07/27/2002	22:00:00	1289
07/27/2002	23:00:00	1139
07/27/2002	23:30:00	1225
07/28/2002	07:30:00	1524
07/28/2002	09:00:00	1719
07/28/2002	12:30:00	1211
07/28/2002	17:00:00	1138
07/28/2002	17:30:00	1376
07/28/2002	22:00:00	1333
07/29/2002	01:30:00	1027
07/29/2002	03:00:00	1188
07/29/2002	06:00:00	1030
07/29/2002	07:00:00	1075
07/29/2002	10:00:00	1098
07/29/2002	11:00:00	1046
07/29/2002	16:30:00	1518
07/29/2002	17:00:00	1523
07/30/2002	03:00:00	1325
07/30/2002	20:30:00	1773
07/31/2002	08:00:00	1578
07/31/2002	08:30:00	1748
07/31/2002	09:00:00	1247
07/31/2002	09:30:00	1131
07/31/2002	10:00:00	1576

7/15/02 17:30 - 7/17/02 17:30 Turbidity data removed due to fouling.
 7/17/02 18:00 - 7/31/02 14:30 Turbidity values are erratic. As stated
 above, the data was maintained but should be considered suspect.

August:

8/12/02 4:30 - 8/16/02 14:00 turbidity data removed - probe fouled
 8/16/02 14:30 - 8/31/02 23:30 no pH probe deployed
 8/19/02 9:00 - 8/31/02 23:30 Turbidity data removed - probe fouled
 The following are anomalous turbidity values

08/16/2002	14:30:00	-0005
08/16/2002	15:00:00	-0005
08/16/2002	15:30:00	-0005

08/16/2002	16:00:00	-0006
08/16/2002	16:30:00	-0005
08/16/2002	17:00:00	-0002
08/16/2002	20:30:00	-0002
08/16/2002	21:00:00	-0001
08/16/2002	21:30:00	-0001
08/16/2002	22:00:00	-0003
08/16/2002	22:30:00	-0004
08/16/2002	23:00:00	-0002
08/16/2002	23:30:00	-0003
08/17/2002	00:00:00	-0004
08/17/2002	00:30:00	-0004
08/17/2002	01:00:00	-0004
08/17/2002	01:30:00	-0005
08/17/2002	02:00:00	-0004
08/17/2002	02:30:00	-0005
08/17/2002	03:00:00	-0005
08/17/2002	03:30:00	-0006
08/17/2002	04:00:00	-0006
08/17/2002	04:30:00	-0005
08/17/2002	05:00:00	-0005
08/17/2002	05:30:00	-0004
08/17/2002	06:00:00	-0004
08/17/2002	06:30:00	-0004
08/17/2002	07:00:00	-0004
08/17/2002	07:30:00	-0003
08/17/2002	08:00:00	-0003
08/17/2002	08:30:00	-0004
08/17/2002	09:00:00	-0003
08/17/2002	09:30:00	-0004
08/17/2002	10:00:00	-0002
08/17/2002	10:30:00	-0002
08/17/2002	11:00:00	-0002
08/17/2002	11:30:00	-0002
08/17/2002	12:00:00	-0001
08/17/2002	12:30:00	-0003
08/17/2002	13:00:00	-0003
08/17/2002	13:30:00	-0004
08/17/2002	14:00:00	-0003
08/17/2002	14:30:00	-0004
08/17/2002	15:00:00	-0004
08/17/2002	15:30:00	-0003
08/17/2002	16:00:00	-0002
08/17/2002	16:30:00	-0005
08/17/2002	17:00:00	-0005
08/17/2002	17:30:00	-0002
08/17/2002	18:00:00	-0003
08/17/2002	21:00:00	-0001
08/17/2002	21:30:00	-0001
08/17/2002	22:00:00	-0002
08/17/2002	23:00:00	-0002
08/17/2002	23:30:00	-0001
08/18/2002	00:00:00	-0002
08/18/2002	00:30:00	-0002

08/18/2002	01:00:00	-0004
08/18/2002	01:30:00	-0003
08/18/2002	02:00:00	-0004
08/18/2002	02:30:00	-0004
08/18/2002	03:00:00	-0004
08/18/2002	03:30:00	-0005
08/18/2002	04:00:00	-0005
08/18/2002	04:30:00	-0005
08/18/2002	05:00:00	-0005
08/18/2002	05:30:00	-0005
08/18/2002	06:00:00	-0004
08/18/2002	06:30:00	-0003
08/18/2002	07:00:00	-0003
08/18/2002	07:30:00	-0002
08/18/2002	08:00:00	-0002
08/18/2002	08:30:00	-0002
08/18/2002	09:00:00	-0002
08/18/2002	10:30:00	-0001
08/18/2002	11:30:00	-0001
08/18/2002	15:00:00	-0001

September

9/1/02 0:00 - 9/2/02 15:00 no pH probe deployed
 9/1/02 0:00 - 9/2/02 15:00 turbidity data removed
 9/7/02 13:00 - 9/13/02 16:00 turbidity data removed
 9/20/02 13:00 - 9/25/02 14:30 turbidity data removed
 9/25/02 15:00 - 9/30/02 23:30 no pH probe deployed

The following are anomalous turbidity values. Negative values typically occur when the value is near 0.

09/17/2002	18:30:00	-0001
09/18/2002	06:30:00	-0001
09/18/2002	20:00:00	-0001
09/19/2002	07:30:00	-0001
09/19/2002	21:00:00	-0001

October

10/1/02 0:00 - 10/16/02 14:30 no pH probe deployed
 10/5/02 12:00 - 10/16/02 14:30 turbidity data removed
 10/16/02 15:00 all data missing, no sonde deployed
 10/16/02 15:30 - 10/17/02 0:30 DO suspect, values unusually high

November

One of the sondes deployed from 10/16 -11/1/02 read the time one hour off. The data was adjusted for this when compiled.
 The following are anomalous turbidity values. High values are probably due to fouling of probe

11/17/2002	11:30:00	1337
11/17/2002	16:30:00	1333
11/17/2002	18:30:00	1263
11/17/2002	19:30:00	1336
11/17/2002	20:30:00	1336

11/18/2002 00:30:00 1327
11/18/2002 04:00:00 1326

December

One of the sondes deployed from 12/2 -12/17/02 read the time one hour off. The data was adjusted for this when compiled.

Turbidity was deleted for deployment 12/17/02 12:00 - 12/31/02 23:30 due to calibration error.

Marsh Landing:

Due to the nature of the deployment, the sondes deployed at the Marsh Landing site are very prone to heavy fouling. Anti-fouling paint has not appeared to improve the situation, nor has the new EDS sondes developed by YSI. All data from this site when evaluated, should take this into consideration, especially turbidity because it consistently reads negative. It is a problem the reserve is well aware of and trying to improve.

June

6/1/02 0:00 - 6/19/02 15:00 all data missing, sonde not deployed
The following are anomalous turbidity data due to fouling.

06/19/2002 15:30:00 -0014
06/19/2002 16:00:00 -0026
06/19/2002 16:30:00 -0028
06/19/2002 17:00:00 -0032
06/19/2002 17:30:00 -0017
06/19/2002 19:00:00 -0001
06/19/2002 19:30:00 -0006
06/19/2002 20:00:00 -0004
06/19/2002 20:30:00 -0017
06/19/2002 21:00:00 -0031
06/19/2002 21:30:00 -0039
06/19/2002 22:00:00 -0040
06/19/2002 22:30:00 -0041
06/19/2002 23:00:00 -0041
06/19/2002 23:30:00 -0040
06/20/2002 00:00:00 -0035
06/20/2002 00:30:00 -0030
06/20/2002 01:00:00 -0030
06/20/2002 01:30:00 -0026
06/20/2002 02:00:00 -0025
06/20/2002 02:30:00 -0026
06/20/2002 03:00:00 -0033
06/20/2002 03:30:00 -0024
06/20/2002 04:00:00 -0029
06/20/2002 04:30:00 -0028
06/20/2002 05:00:00 -0033
06/20/2002 05:30:00 -0016
06/20/2002 06:00:00 -0012
06/20/2002 07:00:00 -0009
06/20/2002 07:30:00 -0007
06/20/2002 08:00:00 -0015

06/20/2002	08:30:00	-0023
06/20/2002	09:00:00	-0034
06/20/2002	09:30:00	-0038
06/20/2002	10:00:00	-0040
06/20/2002	10:30:00	-0040
06/20/2002	11:00:00	-0041
06/20/2002	11:30:00	-0041
06/20/2002	12:00:00	-0027
06/20/2002	12:30:00	-0031
06/20/2002	13:00:00	-0030
06/20/2002	13:30:00	-0023
06/20/2002	14:00:00	-0023
06/20/2002	14:30:00	-0023
06/20/2002	15:00:00	-0028
06/20/2002	15:30:00	-0011
06/20/2002	16:00:00	-0016
06/20/2002	16:30:00	-0026
06/20/2002	17:00:00	-0029
06/20/2002	17:30:00	-0034
06/20/2002	18:00:00	-0035
06/20/2002	18:30:00	-0026
06/20/2002	20:00:00	-0002
06/20/2002	21:00:00	-0005
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06/27/2002	23:30:00	-0039
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06/28/2002	07:30:00	-0031
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06/28/2002	08:30:00	-0034
06/28/2002	09:00:00	-0016
06/28/2002	09:30:00	-0027
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06/28/2002	13:30:00	-0031
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06/28/2002	14:30:00	-0039
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06/28/2002	16:00:00	-0035
06/28/2002	16:30:00	-0038
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06/28/2002	18:30:00	-0034
06/28/2002	19:00:00	-0034
06/28/2002	19:30:00	-0033
06/28/2002	20:00:00	-0037
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06/29/2002	01:00:00	-0002
06/29/2002	01:30:00	-0028
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06/29/2002	06:30:00	-0038
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06/29/2002	23:30:00	-0038
06/30/2002	00:00:00	-0039
06/30/2002	00:30:00	-0041
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06/30/2002	01:30:00	-0041
06/30/2002	02:00:00	-0030
06/30/2002	02:30:00	-0029
06/30/2002	03:00:00	-0035
06/30/2002	03:30:00	-0038
06/30/2002	04:00:00	-0040
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06/30/2002	11:30:00	-0030
06/30/2002	12:00:00	-0026
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06/30/2002	22:00:00	-0038
06/30/2002	22:30:00	-0039
06/30/2002	23:00:00	-0039
06/30/2002	23:30:00	-0037

July

7/5/2002 21:00 - 7/9/02 14:30 turbidity data removed due to fouling.

7/17/02 19:00 - 7/31/02 23:30 no pH probe deployed

7/27/02 0:30 - 7/31/02 23:30 turbidity data removed

The following turbidity data is anomalous. Negative values are typically indicative of values near 0.

07/01/2002	00:00:00	-0039
07/01/2002	00:30:00	-0041
07/01/2002	01:00:00	-0041
07/01/2002	01:30:00	-0042
07/01/2002	02:00:00	-0043
07/01/2002	02:30:00	-0042
07/01/2002	03:00:00	-0036
07/01/2002	03:30:00	-0037
07/01/2002	04:00:00	-0038
07/01/2002	04:30:00	-0039
07/01/2002	05:00:00	-0041

07/01/2002	05:30:00	-0039
07/01/2002	06:00:00	-0041
07/01/2002	06:30:00	-0042
07/01/2002	07:00:00	-0041
07/01/2002	07:30:00	-0040
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07/01/2002	08:30:00	-0040
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07/01/2002	09:30:00	-0029
07/01/2002	10:00:00	-0040
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07/01/2002	11:00:00	-0032
07/01/2002	11:30:00	-0027
07/01/2002	12:00:00	-0025
07/01/2002	12:30:00	-0025
07/01/2002	13:00:00	-0028
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07/02/2002	03:00:00	-0041
07/02/2002	03:30:00	-0036
07/02/2002	04:00:00	-0036
07/02/2002	04:30:00	-0038
07/02/2002	05:00:00	-0037
07/02/2002	05:30:00	-0040
07/02/2002	06:00:00	-0039
07/02/2002	06:30:00	-0038
07/02/2002	07:00:00	-0042
07/02/2002	07:30:00	-0041
07/02/2002	08:00:00	-0039

07/02/2002	08:30:00	-0041
07/02/2002	09:00:00	-0042
07/02/2002	09:30:00	-0044
07/02/2002	10:00:00	-0037
07/02/2002	10:30:00	-0039
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07/02/2002	12:00:00	-0038
07/02/2002	12:30:00	-0030
07/02/2002	13:00:00	-0033
07/02/2002	13:30:00	-0034
07/02/2002	14:00:00	-0035
07/02/2002	14:30:00	-0038
07/02/2002	15:00:00	-0041
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07/02/2002	16:30:00	-0033
07/02/2002	17:00:00	-0037
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07/02/2002	18:30:00	-0041
07/02/2002	19:00:00	-0040
07/02/2002	19:30:00	-0041
07/02/2002	20:00:00	-0040
07/02/2002	20:30:00	-0038
07/02/2002	21:00:00	-0041
07/02/2002	21:30:00	-0042
07/02/2002	22:00:00	-0038
07/02/2002	22:30:00	-0041
07/02/2002	23:00:00	-0040
07/02/2002	23:30:00	-0040
07/03/2002	00:00:00	-0040
07/03/2002	00:30:00	-0041
07/03/2002	01:00:00	-0041
07/03/2002	01:30:00	-0040
07/03/2002	02:00:00	-0043
07/03/2002	02:30:00	-0042
07/03/2002	03:00:00	-0041
07/03/2002	03:30:00	-0042
07/03/2002	04:00:00	-0042
07/03/2002	04:30:00	-0036
07/03/2002	05:00:00	-0036
07/03/2002	05:30:00	-0038
07/03/2002	06:00:00	-0039
07/03/2002	06:30:00	-0041
07/03/2002	07:00:00	-0041
07/03/2002	07:30:00	-0041
07/03/2002	08:00:00	-0041
07/03/2002	08:30:00	-0040
07/03/2002	09:00:00	-0039
07/03/2002	09:30:00	-0041
07/03/2002	10:00:00	-0039
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07/03/2002	11:00:00	-0036

07/03/2002	11:30:00	-0038
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07/03/2002	13:00:00	-0033
07/03/2002	13:30:00	-0031
07/03/2002	14:00:00	-0034
07/03/2002	14:30:00	-0031
07/03/2002	15:00:00	-0038
07/03/2002	15:30:00	-0039
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07/03/2002	16:30:00	-0041
07/03/2002	17:00:00	-0032
07/03/2002	17:30:00	-0035
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07/03/2002	19:00:00	-0041
07/03/2002	20:00:00	-0040
07/03/2002	20:30:00	-0040
07/03/2002	21:00:00	-0037
07/03/2002	21:30:00	-0039
07/03/2002	22:00:00	-0041
07/03/2002	22:30:00	-0042
07/03/2002	23:00:00	-0037
07/03/2002	23:30:00	-0041
07/04/2002	00:00:00	-0042
07/04/2002	00:30:00	-0041
07/04/2002	01:00:00	-0038
07/04/2002	01:30:00	-0040
07/04/2002	02:00:00	-0039
07/04/2002	02:30:00	-0038
07/04/2002	03:00:00	-0040
07/04/2002	03:30:00	-0040
07/04/2002	04:00:00	-0040
07/04/2002	04:30:00	-0041
07/04/2002	05:00:00	-0039
07/04/2002	05:30:00	-0033
07/04/2002	06:00:00	-0034
07/04/2002	06:30:00	-0036
07/04/2002	07:00:00	-0039
07/04/2002	07:30:00	-0039
07/04/2002	08:00:00	-0040
07/04/2002	08:30:00	-0039
07/04/2002	09:00:00	-0039
07/04/2002	09:30:00	-0038
07/04/2002	10:00:00	-0039
07/04/2002	10:30:00	-0037
07/04/2002	11:00:00	-0033
07/04/2002	11:30:00	-0033
07/04/2002	12:00:00	-0034
07/04/2002	12:30:00	-0033
07/04/2002	13:00:00	-0033
07/04/2002	13:30:00	-0025
07/04/2002	14:00:00	-0026
07/04/2002	14:30:00	-0027

07/04/2002	15:00:00	-0029
07/04/2002	15:30:00	-0036
07/04/2002	16:00:00	-0038
07/04/2002	16:30:00	-0036
07/04/2002	17:00:00	-0036
07/04/2002	17:30:00	-0006
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07/04/2002	19:00:00	-0029
07/04/2002	19:30:00	-0033
07/04/2002	20:00:00	-0036
07/04/2002	20:30:00	-0036
07/04/2002	21:00:00	-0035
07/04/2002	21:30:00	-0037
07/04/2002	22:00:00	-0035
07/04/2002	22:30:00	-0035
07/04/2002	23:00:00	-0027
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07/05/2002	00:30:00	-0028
07/05/2002	01:00:00	-0027
07/05/2002	01:30:00	-0032
07/05/2002	02:00:00	-0028
07/05/2002	02:30:00	-0022
07/05/2002	03:00:00	-0024
07/05/2002	03:30:00	-0024
07/05/2002	04:00:00	-0029
07/05/2002	04:30:00	-0028
07/05/2002	05:00:00	-0023
07/05/2002	05:30:00	-0023
07/05/2002	06:00:00	-0017
07/05/2002	06:30:00	-0023
07/05/2002	07:00:00	-0024
07/05/2002	07:30:00	-0019
07/05/2002	08:00:00	-0025
07/05/2002	08:30:00	-0022
07/05/2002	09:00:00	-0023
07/05/2002	09:30:00	-0025
07/05/2002	10:00:00	-0025
07/05/2002	10:30:00	-0025
07/05/2002	11:00:00	-0020
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07/05/2002	12:00:00	-0009
07/05/2002	12:30:00	-0008
07/05/2002	13:00:00	-0012
07/05/2002	13:30:00	-0005
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07/05/2002	16:30:00	-0017
07/05/2002	17:00:00	-0009
07/05/2002	17:30:00	-0015
07/05/2002	19:00:00	-0006
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07/17/2002	19:00:00	-0005

07/17/2002	19:30:00	-0008
07/17/2002	20:00:00	-0009
07/17/2002	20:30:00	-0008
07/17/2002	21:00:00	-0008
07/17/2002	21:30:00	-0009
07/17/2002	22:00:00	-0009
07/17/2002	22:30:00	-0003
07/17/2002	23:00:00	-0001
07/17/2002	23:30:00	-0006
07/18/2002	00:00:00	-0003
07/18/2002	00:30:00	-0001
07/18/2002	01:00:00	-0004
07/18/2002	01:30:00	-0005
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07/18/2002	03:00:00	-0007
07/18/2002	03:30:00	-0009
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07/18/2002	07:00:00	-0006
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07/18/2002	08:30:00	-0009
07/18/2002	09:00:00	-0009
07/18/2002	09:30:00	-0009
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07/18/2002	16:00:00	-0008
07/18/2002	16:30:00	-0008
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07/18/2002	22:00:00	-0007
07/18/2002	22:30:00	-0008
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07/19/2002	00:00:00	-0002
07/19/2002	00:30:00	-0004
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07/19/2002	01:30:00	-0002
07/19/2002	02:00:00	-0004
07/19/2002	02:30:00	-0004
07/19/2002	03:00:00	-0004
07/19/2002	03:30:00	-0006
07/19/2002	04:00:00	-0006
07/19/2002	04:30:00	-0009

07/19/2002	05:00:00	-0007
07/19/2002	07:30:00	-0004
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07/19/2002	09:00:00	-0008
07/19/2002	09:30:00	-0009
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07/19/2002	10:30:00	-0009
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07/19/2002	13:30:00	-0003
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07/19/2002	14:30:00	-0003
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07/19/2002	15:30:00	-0002
07/19/2002	16:00:00	-0004
07/19/2002	16:30:00	-0004
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07/19/2002	23:00:00	-0008
07/19/2002	23:30:00	-0007
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07/20/2002	01:30:00	-0001
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07/20/2002	03:30:00	-0004
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07/20/2002	05:30:00	-0008
07/20/2002	06:00:00	-0008
07/20/2002	07:30:00	-0003
07/20/2002	08:00:00	-0004
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07/20/2002	09:30:00	-0006
07/20/2002	10:00:00	-0009
07/20/2002	10:30:00	-0008
07/20/2002	11:00:00	-0008
07/20/2002	11:30:00	-0009
07/20/2002	12:00:00	-0005
07/20/2002	12:30:00	-0008
07/20/2002	13:00:00	-0005
07/20/2002	13:30:00	-0008
07/20/2002	14:00:00	-0005
07/20/2002	15:00:00	-0001

07/20/2002	16:00:00	-0003
07/20/2002	16:30:00	-0003
07/20/2002	17:00:00	-0003
07/20/2002	18:00:00	-0005
07/20/2002	22:30:00	-0004
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07/20/2002	23:30:00	-0007
07/21/2002	00:00:00	-0007
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07/21/2002	03:30:00	-0003
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07/21/2002	05:00:00	-0004
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07/21/2002	11:30:00	-0007
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07/21/2002	12:30:00	-0009
07/21/2002	13:00:00	-0009
07/21/2002	14:00:00	-0002
07/21/2002	14:30:00	-0004
07/21/2002	15:00:00	-0003
07/21/2002	16:30:00	-0001
07/21/2002	17:00:00	-0002
07/21/2002	17:30:00	-0002
07/21/2002	18:00:00	-0004
07/21/2002	18:30:00	-0008
07/21/2002	19:00:00	-0008
07/21/2002	19:30:00	-0009
07/21/2002	23:30:00	-0003
07/22/2002	00:00:00	-0007
07/22/2002	00:30:00	-0007
07/22/2002	01:00:00	-0008
07/22/2002	01:30:00	-0008
07/22/2002	02:00:00	-0002
07/22/2002	03:30:00	-0002
07/22/2002	04:00:00	-0002
07/22/2002	05:00:00	-0001
07/22/2002	05:30:00	-0001
07/22/2002	06:00:00	-0003
07/22/2002	06:30:00	-0003
07/22/2002	07:00:00	-0006
07/22/2002	07:30:00	-0008
07/22/2002	08:00:00	-0006
07/22/2002	10:30:00	-0002

07/22/2002	11:00:00	-0004
07/22/2002	11:30:00	-0005
07/22/2002	12:00:00	-0007
07/22/2002	12:30:00	-0008
07/22/2002	13:00:00	-0009
07/22/2002	13:30:00	-0008
07/22/2002	14:00:00	-0001
07/22/2002	14:30:00	-0002
07/22/2002	15:00:00	-0001
07/22/2002	15:30:00	-0001
07/22/2002	16:00:00	-0004
07/22/2002	17:30:00	-0006
07/22/2002	18:00:00	-0002
07/22/2002	18:30:00	-0002
07/22/2002	19:00:00	-0007
07/22/2002	19:30:00	-0005
07/22/2002	20:00:00	-0007
07/22/2002	20:30:00	-0007
07/23/2002	00:00:00	-0001
07/23/2002	00:30:00	-0005
07/23/2002	01:00:00	-0007
07/23/2002	01:30:00	-0007
07/23/2002	02:00:00	-0008
07/23/2002	02:30:00	-0008
07/23/2002	03:00:00	-0007
07/23/2002	03:30:00	-0001
07/23/2002	04:30:00	-0001
07/23/2002	05:00:00	-0002
07/23/2002	05:30:00	-0003
07/23/2002	06:30:00	-0002
07/23/2002	08:00:00	-0007
07/23/2002	08:30:00	-0008
07/23/2002	11:30:00	-0002
07/23/2002	12:00:00	-0004
07/23/2002	12:30:00	-0006
07/23/2002	13:00:00	-0008
07/23/2002	13:30:00	-0008
07/23/2002	14:00:00	-0008
07/23/2002	14:30:00	-0008
07/23/2002	15:00:00	-0003
07/23/2002	18:30:00	-0002
07/23/2002	19:00:00	-0001
07/23/2002	19:30:00	-0005
07/23/2002	20:00:00	-0006
07/23/2002	20:30:00	-0009
07/23/2002	21:00:00	-0008
07/23/2002	21:30:00	-0002
07/24/2002	01:00:00	-0005
07/24/2002	01:30:00	-0008
07/24/2002	02:00:00	-0005
07/24/2002	02:30:00	-0007
07/24/2002	03:00:00	-0008
07/24/2002	03:30:00	-0005
07/24/2002	08:00:00	-0002

07/24/2002	08:30:00	-0005
07/24/2002	09:00:00	-0007
07/24/2002	09:30:00	-0008
07/24/2002	12:30:00	-0004
07/24/2002	13:00:00	-0005
07/24/2002	13:30:00	-0006
07/24/2002	14:00:00	-0008
07/24/2002	14:30:00	-0008
07/24/2002	15:00:00	-0008
07/24/2002	15:30:00	-0003
07/24/2002	16:30:00	-0003
07/24/2002	17:00:00	-0004
07/24/2002	17:30:00	-0001
07/24/2002	18:30:00	-0004
07/24/2002	19:00:00	-0001
07/24/2002	19:30:00	-0001
07/24/2002	20:00:00	-0004
07/24/2002	20:30:00	-0004
07/24/2002	21:00:00	-0006
07/24/2002	21:30:00	-0007
07/24/2002	22:00:00	-0008
07/25/2002	01:30:00	-0002
07/25/2002	02:00:00	-0005
07/25/2002	02:30:00	-0008
07/25/2002	03:00:00	-0006
07/25/2002	03:30:00	-0008
07/25/2002	04:00:00	-0009
07/25/2002	04:30:00	-0004
07/25/2002	05:30:00	-0002
07/25/2002	06:00:00	-0003
07/25/2002	09:00:00	-0005
07/25/2002	09:30:00	-0007
07/25/2002	10:00:00	-0007
07/25/2002	13:30:00	-0002
07/25/2002	14:00:00	-0005
07/25/2002	14:30:00	-0007
07/25/2002	15:00:00	-0008
07/25/2002	15:30:00	-0009
07/25/2002	16:00:00	-0005
07/25/2002	17:30:00	-0004
07/25/2002	18:00:00	-0003
07/25/2002	19:00:00	-0002
07/25/2002	19:30:00	-0003
07/25/2002	20:00:00	-0003
07/25/2002	20:30:00	-0002
07/25/2002	21:00:00	-0005
07/25/2002	21:30:00	-0007
07/25/2002	22:00:00	-0008
07/25/2002	22:30:00	-0008
07/26/2002	02:00:00	-0002
07/26/2002	02:30:00	-0003
07/26/2002	03:00:00	-0005
07/26/2002	03:30:00	-0006
07/26/2002	04:00:00	-0007

07/26/2002	04:30:00	-0007
07/26/2002	05:00:00	-0004
07/26/2002	06:30:00	-0001
07/26/2002	10:00:00	-0002
07/26/2002	10:30:00	-0003
07/26/2002	11:00:00	-0004
07/26/2002	15:30:00	-0002
07/26/2002	16:00:00	-0004
07/26/2002	16:30:00	-0001
07/26/2002	21:00:00	-0001
07/26/2002	21:30:00	-0001
07/26/2002	22:00:00	-0002
07/26/2002	22:30:00	-0003
07/26/2002	23:00:00	-0002
07/26/2002	23:30:00	-0002

August

8/1/02 0:00 - 10:30 no pH probe deployed, turbidity data removed
8/6/02 4:00 - 8/14/02 14:30 turbidity data removed due to fouling.
8/14/02 15:00 all data missing, no sonde deployed.
8/20/02 13:30 - 8/31/02 23:30 turbidity data removed due to fouling.
The following is anomalous turbidity data. Negative values typically indicate values near 0.

08/18/2002	11:30:00	-0001
08/19/2002	12:30:00	0000

September

9/1/02 0:00 - 9/2/02 8:30 turbidity data removed due to fouling.
9/6/02 4:30 - 9/13/02 15:00 turbidity data removed due to fouling.
9/15/02 0:00 - 9/23/02 15:00 turbidity data removed due to fouling.
9/13/02 15:30 - 9/23/02 15:00 no pH probe deployed
9/25/02 22:00 - 9/30/02 23:30 turbidity data removed due to fouling.
The following data is anomalous turbidity values. Values near 0 often read negative.

09/23/2002	15:30:00	-0026
09/23/2002	16:00:00	-0026
09/23/2002	16:30:00	-0024
09/23/2002	17:30:00	-0017
09/23/2002	18:30:00	-0017
09/23/2002	20:30:00	-0017
09/23/2002	22:00:00	-0025
09/23/2002	22:30:00	-0025
09/23/2002	23:00:00	-0026
09/24/2002	00:00:00	-0014
09/24/2002	00:30:00	-0003
09/24/2002	01:00:00	-0010
09/24/2002	01:30:00	-0014
09/24/2002	02:00:00	-0018
09/24/2002	02:30:00	-0022
09/24/2002	03:00:00	-0025
09/24/2002	03:30:00	-0026
09/24/2002	04:00:00	-0026
09/24/2002	04:30:00	-0027

09/24/2002	05:00:00	-0024
09/24/2002	05:30:00	-0016
09/24/2002	06:00:00	-0017
09/24/2002	06:30:00	-0021
09/24/2002	07:00:00	-0016
09/24/2002	07:30:00	-0012
09/24/2002	08:00:00	-0018
09/24/2002	08:30:00	-0008
09/24/2002	09:00:00	-0011
09/24/2002	09:30:00	-0013
09/24/2002	10:00:00	-0015
09/24/2002	10:30:00	-0019
09/24/2002	11:00:00	-0023
09/24/2002	11:30:00	-0025
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09/24/2002	14:00:00	-0004
09/24/2002	14:30:00	-0011
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09/24/2002	15:30:00	-0025
09/24/2002	16:00:00	-0025
09/24/2002	16:30:00	-0025
09/24/2002	17:00:00	-0024
09/24/2002	17:30:00	-0022
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09/24/2002	19:30:00	-0023
09/24/2002	20:00:00	-0022
09/24/2002	20:30:00	-0020
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09/24/2002	21:30:00	-0017
09/24/2002	22:00:00	-0017
09/24/2002	22:30:00	-0019
09/24/2002	23:00:00	-0022
09/24/2002	23:30:00	-0025
09/25/2002	00:00:00	-0025
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09/25/2002	20:00:00	-0023
09/25/2002	20:30:00	-0019
09/25/2002	21:00:00	-0019
09/25/2002	21:30:00	-0020

October

10/1/02 0:00 - 10/13/02 11:30 turbidity data removed
 10/30/02 16:00 - 10/31/02 23:30 turbidity data removed

November

11/1/02 0:00 - 11/18/02 16:30 turbidity data removed
 11/18/02 17:00 - 17:30 all data missing, no sonde deployed
 11/30/02 10:00 - 12/05 04:00 DO anomaly. All parameters suspect due to low battery voltage towards end of deployment.
 The following data is anomalous turbidity data.

11/18/2002	18:00:00	-0007
11/18/2002	18:30:00	-0003
11/18/2002	19:00:00	-0002
11/18/2002	19:30:00	-0001
11/18/2002	20:00:00	-0001
11/18/2002	20:30:00	-0008
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11/19/2002	00:00:00	-0003
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11/19/2002	03:30:00	-0013

11/19/2002	04:00:00	-0007
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11/29/2002	08:00:00	-0004
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11/30/2002	04:30:00	-0010
11/30/2002	05:00:00	-0012
11/30/2002	05:30:00	-0012
11/30/2002	06:00:00	-0012
11/30/2002	06:30:00	-0013
11/30/2002	07:00:00	-0015
11/30/2002	07:30:00	-0013
11/30/2002	08:30:00	-0009
11/30/2002	09:00:00	-0011
11/30/2002	09:30:00	-0012
11/30/2002	10:00:00	-0013
11/30/2002	10:30:00	-0013
11/30/2002	11:00:00	-0013
11/30/2002	11:30:00	-0013

11/30/2002	12:00:00	-0013
11/30/2002	12:30:00	-0014
11/30/2002	13:00:00	-0005
11/30/2002	13:30:00	-0013
11/30/2002	14:30:00	-0006
11/30/2002	15:30:00	-0005
11/30/2002	16:30:00	-0009
11/30/2002	17:00:00	-0009
11/30/2002	17:30:00	-0006
11/30/2002	18:00:00	-0009
11/30/2002	18:30:00	-0011
11/30/2002	19:00:00	-0012
11/30/2002	19:30:00	-0012
11/30/2002	20:00:00	-0001
11/30/2002	21:00:00	-0006
11/30/2002	21:30:00	-0007
11/30/2002	22:00:00	-0011
11/30/2002	22:30:00	-0010
11/30/2002	23:00:00	-0012
11/30/2002	23:30:00	-0012

December

11/30/02 10:00 - 12/05 04:00 DO anomaly. All parameters suspect due to low

battery voltage towards end of deployment.

The following are anomalous turbidity data.

12/01/2002	00:00:00	-0013
12/01/2002	00:30:00	-0013
12/01/2002	01:00:00	-0013
12/01/2002	01:30:00	-0002
12/01/2002	02:00:00	-0003
12/01/2002	02:30:00	-0002
12/01/2002	03:00:00	-0010
12/01/2002	03:30:00	-0007
12/01/2002	04:00:00	-0008
12/01/2002	04:30:00	-0005
12/01/2002	05:00:00	-0002
12/01/2002	05:30:00	-0001
12/01/2002	06:00:00	-0003
12/01/2002	06:30:00	-0009
12/01/2002	07:00:00	-0012
12/01/2002	07:30:00	-0011
12/01/2002	08:00:00	-0011
12/01/2002	10:30:00	-0001
12/01/2002	11:00:00	-0006
12/01/2002	11:30:00	-0002
12/01/2002	12:00:00	-0009
12/01/2002	12:30:00	-0010
12/01/2002	13:00:00	-0008
12/01/2002	13:30:00	-0009
12/01/2002	14:30:00	-0006
12/01/2002	15:00:00	-0002
12/01/2002	15:30:00	-0010

12/01/2002	16:30:00	-0004
12/01/2002	18:00:00	-0006
12/01/2002	18:30:00	-0008
12/01/2002	19:00:00	-0011
12/01/2002	19:30:00	-0011
12/01/2002	20:00:00	-0011
12/01/2002	22:30:00	-0002
12/01/2002	23:00:00	-0005
12/01/2002	23:30:00	-0007
12/02/2002	00:00:00	-0008
12/02/2002	00:30:00	-0008
12/02/2002	01:00:00	-0009
12/02/2002	01:30:00	-0004
12/02/2002	02:00:00	-0008
12/02/2002	02:30:00	-0007
12/02/2002	06:30:00	-0007
12/02/2002	07:00:00	-0004
12/02/2002	07:30:00	-0007
12/02/2002	08:00:00	-0007
12/02/2002	08:30:00	-0009
12/02/2002	12:30:00	-0001
12/02/2002	13:00:00	-0003
12/02/2002	13:30:00	-0001
12/02/2002	14:30:00	-0005
12/02/2002	16:30:00	-0001
12/02/2002	20:30:00	-0002
12/02/2002	21:00:00	-0004

12/5/02 4:00 - 12/9/02 15:00 no data collected, sonde battery failure.
 12/9/02 15:30 - 12/23/02 10:30 turbidity data removed
 12/9/02 -12/23/02 10:30 sonde time program is one hour off.
 Adjustments were made during data compilation.
 12/9/02 15:30 - 12/23/02 10:30 DO values steadily increase, cause unknown.

12. Missing Data:

Missing data are denoted by a period in the data set. Data are missing due to equipment failure where no probes deployed, maintenance/calibration of equipment, elimination of obvious outliers, or elimination of data due to calibration (both pre and post problems. For more details on deleted data, see the Anomalous Data Section (11). To find out more details about missing data, contact the Research Coordinator at the site submitting the data.

13. Post Deployment information:

Hunt Dock:

Deployment	SpCond	DO%	pH	depth	turb
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Date	found/true	found/true	found/true	found/true	
12/8/2001	24.74/24.8	95.4	7.29/7.00	-0.018	Na
1/7/02	27.2/24.8	87.7	7.23/7.41	-0.08	Na
1/27/02	23.52/24.8	106	7.51/7.41	-.313	Na
2/21/02	24.82/24.8	95.4	7.31/7.41	-0.009	Na
3/25/02	24.74/24.8	73.9	8.06/7.41	0.026	Na
4/19/02	post cal csv's not run due to sonde malfunction				
5/2/02	sonde failed				
5/21/02	21.54/24.8		116	7.36/7.41	.002 Na
6/10/02	24.58	108	7.5/7.4	-.008	wiper
missing					
6/30/02	24.11/24.8	87.6	7.39	-.220	
7/12/02	25.81/24.8	110	7.37/7.41	0.099	
7/24/02	23.72/24.8	97.7	7.31/7.41	-.041	
8/8/02	24.42/24.8	95	7.39/7.41		
9/7/02	24.94/24.8	104	7.38/7.41	0.005	
10/06/02	17.76/24.8	78	7.36/7.41	0.052	
11/1/02					
11/15/02	36.92/24.8	85	7.42/7.41	0.115	
12/2/02	26.76/24.8	98.5	7.75/7.41	0.004	
12/17/02	24.77/24.8	109	7.37/7.41	-0.001	

Lower duplin:

12/12/2001 sonde malfunction, not operating at post deployment
therefore post cal csv's not run

1/3/02	23.66/24.8	109.8	7.42/7.41	-0.027	Na
1/26/02	sonde was hung up in the PVC pipe form 1/28/02 'till 2/11,				
post calcs were not run because data would all be removed					
2/11/02	24.76/24.8	90.5	7.36/7.41	0.065	Na
3/5/02	post cal csv's not run due to sonde malfunction				
3/29/02	post cal csv's not run due to sonde malfunction				
4/12/02	23.56/24.8		8.01/7.41	-0.087	88.8/100
5/1/02	23.58/24.8	Na	6.78/7.41	-0.02	Na
5/19/02	24.27/24.8	119	7.37/7.41	-.014	1231/100
6/2/02					
7/4/02	NO DATA COLLECTED				
7/23/02	23.33/24.8	5	7.10/7.41	-.108	104.4/100
8/7/02	22.96/24.8	101.7	7.41/7.41		103.3/100
9/2/02	NO DATA				
9/24/02	NO DATA				
10/13/02	25.82/24.8	98.9	7.42/7.42	0.07	
10/31/02	23.76/24.8	125	7.63/7.41	-.052	
11/27/02	25.4/24.8	109	7.17/7.41	0.027	
12/23/02	26.05/24.8	118	7.75/7.41	-.014	

Marsh Landing

6/19/02	20.75/24.8	101.6	7.85/7.41	-.01	300/100
7/9/02	23.58/24.8	108	7.52/7.41	0.051	88/100
7/17/02	20.19/24.8	65		0.067	

8/1/02	25.75/24.8	118	7.58/7.41	-.078	1350/100
8/14/02	20.35/24.8	70	7.82/7.41	-.175	
9/2/02	21.06/24.8	103	7.5/7.41	0.026	1529/100
9/13/02	20.51/24.8	97.4			30/100
9/23/02	heavily fouled with barnacles				
10/13/02	24.22/24.8	111	7.15/7.41	-.176	94.3/100
10/30/02	24.62/24.8	117		-.026	105/100
11/18/02	sonde failed mid deployment				
12/9/02	25.55/24.8	108	6.93/7.41	0.002	108/100
12/23/02	sonde failed mid deployment				

Flume Dock

6/17/02	11.87/24.8			0.05	99.3/100
7/4/02	22.62/24.8	85	7.63/7.41	-.089	88.6/100
7/17/02	25.63/24.8	25	7.00/7.41	-.098	123/100
7/31/02	23.8/24.8	133	7.75/7.41	.006	>1000/100
8/16/02	22.5/24.8	80	6.90/7.41	-.126	200/100
9/02/02	23.36/24.8	47	7.55/7.41	-0.05	155/100
9/13/02	24.08/24.8	70	7.38/7.41	0.020	>1000/100
9/25/02	14.74/24.8	107		-.185	wiper missing
10/16/02	23.84/24.8	178	6.53/7.41	-.045	115.2
11/1/02	25.2/24.8	119	7.25/7.41	-.043	118/100
11/15/02	27.63/24.8	failed hi/lo	7.14-.05		124.1/100
12/2/02	26.73/24.8	102	7.21/7.41	0.013	102/100
12/17/02	24.96/24.8	119	7.33/7.41	-.002	108/100

14. Other remarks:

On 07/01/2021 this dataset was updated to include embedded QAQC flags for anomalous/suspect data.

System-wide monitoring data beginning in 2007 were processed to allow for QAQC flags and codes

to be embedded in the data files rather than detailed in the metadata alone (as in the

anomalous/suspect, deleted, and missing data sections above). Prior to 2006, rejected data were

deleted from the dataset so they are unavailable to be used at all, but suspect data were only

noted in the metadata document. Suspect data flags <1> were embedded retroactively in order to

allow suspect data to be easily identified and filtered from the dataset if desired for analysis

and reporting purposes. No other flags or codes were embedded in the dataset and users should

still refer to the detailed explanations above for more information.

Any time a reference is made to turbidity data being negative and/or zero, it

was recorded as a negative in the raw data file and a zero in the edited data

file due to the formatting of Excel. The technician edited none of these data

points by hand nor did he/she delete any of them.