

Tijuana River (TJR) NERR Water Quality Metadata
January to December 2005
Last Revised: August 13, 2020

I. Data Set and Research Descriptors

1) Principal Investigators and contact persons

Jeff Crooks, Research Coordinator	301 Caspian Way Imperial Beach, CA 91932 Phone: (619) 575-3613 Fax: (619) 575-6913 E-mail: jcrooks@tijuanaestuary.org
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Clay Phillips, Reserve Manager	301 Caspian Way Imperial Beach, CA 91932 Phone: (619) 575-3613 Fax: (619) 575-6913 E-mail: cphillip@parks.ca.gov
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Michelle Cordrey, Research Specialist	301 Caspian Way Imperial Beach, CA 91932 Phone: (619) 575-3613 Fax: (619) 575-6913 E-mail: mcordrey@tijuanaestuary.org
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2) Entry Verification

Deployment data are uploaded from the YSI data logger to a Personal Computer (IBM compatible). Data plots are produced and examined and erroneous data are detected using the PC6000 or EcoWatch software from YSI. Notes are made of any unusual data during that deployment. Files are exported from EcoWatch in a comma-delimited format (.CSV) and opened in Microsoft Excel for pre-processing with the EQWin format macro that was developed by the CDMO to reformat the header columns, insert station codes, insert a corrected time column and allow the technician to remove any pre- and post-deployment data from the file. Where deployment overlap occurs between files, the data produced by the newly calibrated sonde is accepted as being the most accurate. The pre-processed file is then ready to be copied into the EQWin water.eqi file where the data are QA/QC checked and archived in a database. EQWin queries, reports and graphs are used to discover data set outliers (values which fall outside the range that the instrument is designed to measure) and large changes in the data. EQWin is also used to generate statistics, view graphs, create customized queries and reports of the data, cross query the water, weather and nutrient data and finally export the data to the CDMO. All data is archived on a fileserver which is backed up to a remote location daily. The person responsible for the data management is Michelle Cordrey.

3) Research Objectives

The Tijuana River National Estuarine Research Reserve is impacted heavily by both periodic raw sewage outflows and urban development. Only about a quarter of the reserve's 2,531 acres are tidally influenced, with few channels deep enough for datalogger deployment. Two stations were originally set up: a treatment

station was set up close to the mouth on the Southern end of the Oneonta Slough, while a control station was set up on the northern end of Oneonta Slough. The treatment station location was chosen because it would be the site most affected by sewage outflow. Deployment at the treatment station, however, was continually halted by both shifting sediment and massive wracks of kelp (*Macrocystis pyrifera*), which would often bury the deployment set-up on incoming tides. After a number of different deployment equipment designs were implemented, with no success, logging at this site was terminated.

We currently have four YSI datalogger stations installed at the reserve. The siting of the stations is designed to investigate spatial gradients of water quality parameters across the reserve as well as document the water quality changes over time to areas in the reserve which have been restored to increase tidal flushing. The original control station in the northern end of Oneonta Slough is still in place. The second station, Tidal Linkage, is located in the North arm of the reserve in a constructed channel designed to increase tidal exchange in that portion of the reserve. Data logging at the Tidal Linkage station began in May 1997 but has not been continuous due to episodic sedimentation events. A third datalogger station is located at the inlet to the Model Marsh, a recently constructed 20-acre restoration site in the southern arm of the estuary. The Model Marsh was opened to tidal flushing in February 2000 and data logging at the station began in October 2000. The newest site, called Boca Rio, was established in December 2004 and is located near the mouth of the river. The River Channel station was located on a tidally influenced section of the Tijuana River, the largest source of freshwater to the reserve. Data logging at the River Channel station began in August 2002. Due to unusually heavy sedimentation resulting from heavy rainfall, the site was discontinued in November 2004. A new site called Boca Rio was established in December 2004 and is located near the mouth of the river.

4) Research Methods (Dataloggers)

Dataloggers at the Model Marsh, Oneonta Slough, and Boca Rio stations are deployed using a 4-inch diameter PVC pipe that is strapped vertically to two "rail" style fence posts driven into the sediment. Multiple 1.5 inch holes have been drilled around the bottom of the tube to permit unrestricted water flow to the sensors. During deployment the datalogger units are then placed into and rest on a bolt fixed across the bottom of the tubes. This same method was used at the River Channel station when it was in use. Dataloggers deployed at the Tidal Linkage station are deployed horizontally, in a 4-inch diameter pvc pipe that is fastened to 4 copper pipes that have been driven into the sediment until refusal.

The sampling period is two weeks for non-EDS loggers and between three and four weeks when using EDS loggers, with measurements taken every 30 minutes. Measurements for specific conductivity, salinity, dissolved oxygen (percent saturation), dissolved oxygen (mg/l), temperature, turbidity and water level are recorded. At the end of each two week period, the YSI data logger units are brought back to the laboratory for downloading, cleaning and recalibration and are usually redeployed in the field within 24 to 48 hours. These procedures are carried out according to the methods described in the YSI Operations Manual (see sections 3 and 7). Calibration standards for specific conductivity and turbidity are purchased from YSI and pH standards are purchased pre-made from VWR scientific. The QA/QC procedures for the collected data are followed as given in the CDMO Operations Manual version 4.0.

5) Site location and character

General site Characteristics (TJE)

- a) Tidal exchange (extremes): approx. -2 +7 MLLW,
- b) Salinity: 4 ppt (extreme rain events) to 38 ppt
- c) Latitude and longitude: 32 deg. 34 min. N, 117 deg. 07 min. W
- d) Potential impacts: storm drain runoff from military airfield and adjacent residential areas and regular, occasional sewage spills (especially during winter 10-15 MGD) into the Tijuana River from Mexico. The area surrounding the estuary is heavily developed by residential housing as is the watershed which drains into the estuary. Approximately 2/3 of the watershed is in Mexico. The North Eastern section of the reserve is bordered by a military helicopter training base. Vegetation in the area is dominated by common pickleweed (*Spartina virginica*) and Pacific cordgrass (*Spartina foliosa*).
- e) The dominant freshwater source to the estuary is the Tijuana River, which drains a 4,483 sq. km watershed. Stream flows in the river vary considerably from season to season and year to year with no flow during many months with a mean annual discharge of .82 cubic meters per second (cms). Additional freshwater sources are storm drains located mostly in the northern arm of the estuary. The entire estuary is shallow and has a relatively small tidal prism (0.36 Mm³) so even low freshwater flows result in reduced salinity throughout the reserve. Estimated residence times for freshwater entering the estuary vary from 7 hours to a few days depending on the tidal and mouth conditions. Rainfall within the watershed accounts for most of the freshwater entering the reserve with 90 percent of the mean annual rainfall falling between November and April. Discharges of freshwater with untreated sewage occur year round although these have decreased with the construction of binational water treatment plant.
- f) Pollutants: Known pollutants include macro waste (tires, plastic bottles), human sewage, agricultural waste products (animal fecal matter, herbicides, pesticides), and detergents (phosphates). Potential pollutants include PCBs and heavy metals.

Specific Site characteristics: Oneonta Slough (OS)

- a) Orientation of site: The Datalogger station is located on the upper portion of Oneonta Slough. The channel runs North to South and is located on the northwestern edge of the reserve. Latitude is 32 deg 34 min 04.8 sec N, longitude is 117 deg 07 min 52.3 sec W.
- b) The elevation of the channel bottom directly below the datalogger is approx. 0.55 meters NGVD (date of last survey was 2001).
- c) Channel width is approx. 20 meters. Datalogger site is located 1km from mouth
- d) tide range: 0.3 to 1.78 meters above channel bottom
- e) salinity range: 0.32 to 37.5 ppt
- f) Bottom type: sand and sediment
- g) Area adjacent to west side of channel is developed. There is a 50 meter buffer of natural vegetation between development and the channel. Area adjacent to east side of channel is relatively natural.
- h) Direct impacts are estimated to be runoff from streets into channel during rain events.

Specific Site Characteristics: Model Marsh (MM)

- a) Orientation of site: The datalogger station is located in the middle of a natural channel which runs north to south. The channel is approximately 20 meters north of a newly constructed 20 acre mudflat restoration area in the southern section of the reserve. Latitude is 32deg 32min 52.1sec longitude: 117deg 7min 22.5sec due to heavy sedimentation.

- b) The elevation of the channel bottom: -.39 meters NGVD (date of last survey was 2001)
- c) Channel width: 5 meters
- d) tide range: 0.2 to 1.6 meters above channel bottom
- e) salinity range: 0.03 to 37.1 ppt
- f) Bottom type: Mostly mud with some sand

Specific Site Characteristics: Tidal Linkage (TL)

- a) Orientation of site: Datalogger station is located in the middle of the constructed channel known as the Tidal Linkage. The channel runs northwest to southwest and is located adjacent to the visitor's center in the northeastern section of the reserve. Latitude is 32 deg 34 min 27.9 sec N, longitude is 117 deg 07 min 37.8 sec W.
- b) The elevation of the channel bottom: No current survey data available.
- c) Channel width: Approximately 5 meters at both the old and new sites
- d) tide range: 0.2 to 1.6 meters above channel bottom
- e) salinity range: 0.03 to 37.1 ppt
- f) Bottom type: very fine mud.

Specific Site Characteristics: River Channel (RC) - Not Active in 2005

- a) Orientation of site: Datalogger station is located in the main channel of the Tijuana River, the main drainage of the watershed. The channel runs East to West. Latitude is 32 deg 33 min 28.4 sec N and longitude is 117 deg 06 min 21.8 sec W. On November 11, 2004 the site was relocated 10 meters due west of the given coordinates due to increased sedimentation at the previous location.
- b) The elevation of the channel bottom: No current survey data available.
- c) Channel width: Approximately 10 meters
- d) Bottom type: mostly sand, some mud.

Specific Site characteristics: Boca Rio (BR)

- a) Orientation of site: Datalogger station is located approximately 300 meters north of the Tijuana River in the middle of a channel which runs north to south. Latitude is 32 33 34.3 N and Longitude is 117 deg 07 min 43.7 sec W.
- b) The elevation of channel bottom: No current survey data available
- c) Channel width: Approximately 10 meters
- d) tide range: 0.5 to 2.14 meters above channel bottom
- e) salinity range: 0.14 to 35.6 ppt
- f) Bottom type: mostly sand, very little mud

6) Data Collection period

Unless otherwise noted, YSI model 6600 EDS dataloggers were used to collect data for the following dates and times.

Oneonta Slough

Deploy Date	Time	Retrieve Date	Time	notes
12/31/04	16:30	01/19/05	16:00	
01/21/05	14:30	02/16/05	15:00	
02/18/05	15:30	03/17/05	11:30	
03/18/05	16:30	04/14/05	11:30	
04/18/05	16:00	05/03/05	12:30	
05/04/05	15:30	05/18/05	11:30	
05/19/05	15:00	06/15/05	11:00	
06/16/05	12:30	07/06/05	14:00	
07/07/05	15:00	07/27/05	09:30	
07/29/05	09:30	08/18/05	13:30	

08/23/05	08:30	08/31/05	15:00
09/03/05	08:30	09/15/05	10:00
09/16/05	13:30	10/03/05	13:00
10/04/05	15:00	10/21/05	15:00
10/22/05	17:30	11/06/05	17:00
11/07/05	20:00	11/22/05	20:30
11/24/05	01:00	12/10/05	10:30
12/11/05	15:30	01/07/06	17:30

Tidal Linkage

Deploy Date	Time	Retrieve Date	Time
12/31/04	16:00	02/11/05	14:30
02/18/05	13:00	03/17/05	10:30
03/18/05	17:30	04/14/05	11:30
04/18/05	16:00	05/03/05	12:30
05/04/05	15:30	05/05/18	12:30
05/19/05	16:00	06/02/05	11:30
06/16/05	12:00	07/06/05	14:30
07/07/05		07/27/05	no data
07/29/05	09:00	08/18/05	12:00
08/19/05	15:30	08/31/05	10:30
09/02/05	18:30	09/15/05	10:30
09/16/05	14:30	10/03/05	13:30
10/04/05	15:00	10/21/05	16:00
10/22/05	17:30	11/06/05	17:30
11/07/05	20:00	11/22/05	21:30
11/24/05	01:30	12/10/05	11:30
12/11/05	15:30	01/08/06	12:30

Model Marsh

Deploy Date	Time	Retrieve Date	Time
11/24/04	16:30	01/19/05	14:30
02/03/05	14:30	02/27/05	13:30
03/01/05	16:00	03/17/05	13:00
03/18/05	15:00	04/14/05	09:30
04/18/05	14:30	05/03/05	11:00
05/04/05	14:00	05/18/05	10:00
05/19/05	14:00	06/17/05	13:30
06/17/05	13:30	07/07/05	13:30
07/07/05	13:30	07/28/05	11:00
07/28/05	11:00	08/19/05	16:00
08/19/05	16:00	09/02/05	17:00
09/02/05	17:00	09/16/05	12:30
09/16/05	12:30	10/06/05	06:00
10/06/05	06:00	10/22/05	18:30
10/22/05	18:30	11/07/05	17:30
11/07/05	19:00	11/23/05	23:30
11/24/05	00:00	12/11/05	14:30
12/11/05	15:00	01/07/06	11:30

River Channel Discontinued

Boca Rio

Deploy Date	Time	Retrieve Date	Time
12/23/04	15:30	01/19/05	15:00
01/21/05	14:00	02/16/05	13:00

02/17/05	14:30	03/17/05	15:00	
03/18/05	16:30	04/14/05	10:30	
04/18/05	13:30	05/03/05	12:00	
05/04/05		05/18/05		no data
05/19/05	15:00	06/20/05	12:30	
06/20/05	13:00	07/07/05	14:30	
07/07/05		07/29/05		no data
07/29/05	10:30	08/19/05	14:30	
08/19/05	15:30	09/01/05	16:30	
09/02/05	15:30	09/15/05	13:00	
09/16/05	15:00	10/03/05	14:00	
10/06/05	05:00	10/21/05	17:30	
10/22/05	19:30	11/06/05	18:00	
11/07/05	20:30	11/22/05	20:30	
11/23/05	23:30	12/10/05	11:30	
12/11/05	14:00	01/10/06	14:30	

7) Distribution

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 this 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 its subsequent use/misuse in any further analyses or comparisons. The Federal government does not assume liability to the Recipient or third persons, nor 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 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.

8) Associated researchers and projects

NERR SWMP water quality and weather data are used in a variety of reserve-based and external research and education programs. Water quality data from the Tijuana River, which rarely experiences mouth closure, provides an interesting contrast to data from other regional systems, which experience frequent closure events. Also, the SWMP water data are incorporated into a high school curriculum developed at the reserve. NERR SWMP Tier 1 nutrient sampling is being conducted at all water quality datalogger stations. NERR SWMP meteorological sampling is being conducted at 1 station which is located near the Tidal Linkage water quality station. Within the watershed nutrient sampling

and flow studies are being conducted by Dr. Richard Gersberg of the San Diego State University Department of Public Health. In addition, much of the reserve is used as a testbed for research related to adaptive marsh restoration, with recent attention on the Model Marsh. Within the watershed, above the River Channel site, nutrient sampling and flow studies are being conducted by Dr. Richard Gersberg of the San Diego State University Department of Public Health. The Model Marsh is the ongoing site of research being conducted by PERL which focuses on methods for increasing the success of saltmarsh revegetation projects.

II. Physical Structure Descriptors

9) Sensor Specifications

YSI 6600/YSI 6600EDS datalogger

Parameter: Temperature

Units: Celsius (C)

Sensor Type: Thermistor

Model #: 6560

Range: -5 to 45 °C

Accuracy: +/-0.15 °C

Resolution: 0.01 °C

Parameter: Conductivity

Units: milli-Siemens per cm (mS/cm)

Sensor Type: 4-electrode cell with autoranging

Model #: 6560

Range: 0 to 100 mS/cm

Accuracy: +/-0.5% of reading + 0.001 mS/cm

Resolution: 0.001 mS/cm to 0.1 mS/cm (range dependent)

Parameter: Salinity

Units: parts per thousand (ppt)

Sensor Type: Calculated from conductivity and temperature

Range: 0 to 70 ppt

Accuracy: +/- 1.0% of reading or 0.1 ppt, whichever is greater

Resolution: 0.01 ppt

Parameter: Dissolved Oxygen % saturation

Units: percent air saturation (%)

Sensor Type: Rapid Pulse - Clark type, polarographic

Model #: 6562

Range: 0 to 500 % air saturation

Accuracy: 0-200 % air saturation, +/- 2 % of the reading or 2 % air saturation, whichever is greater; 200-500 % air saturation, +/- 6 % of the reading

Resolution: 0.1 % air saturation

Parameter: Dissolved Oxygen mg/L (Calculated from % air saturation, temperature and salinity)

Units: milligrams per Liter (mg/L)

Sensor Type: Rapid Pulse - Clark type, polarographic

Model #: 6562

Range: 0 to 50 mg/L

Accuracy: 0 to 20 mg/L, +/- 2 % of the reading or 0.2 mg/L, whichever is greater; 20 to 50 mg/L, +/- 6 % of the reading

Resolution: 0.01 mg/L

Parameter: Non-Vented Level - Shallow (Depth)

Units: feet or meters (ft or m)

Sensor Type: Stainless steel strain gauge

Range: 0 to 30 ft (9.1 m)

Accuracy: +/- 0.06 ft (0.018 m)

Resolution: 0.001 ft (0.001 m)

Parameter: Vented Level - Deep (Depth)

Units: feet or meters (ft or m)

Sensor Type: Stainless steel strain gauge

Range: 0 to 656 ft (200 m)

Accuracy: +/- 1 ft (0.3 m)

Resolution: 0.001 ft (0.001 m)

Parameter: pH

Units: units

Sensor Type: Glass combination electrode

Model #: 6561

Range: 0 to 14 units

Accuracy: +/- 0.2 units

Resolution: 0.01 units

Parameter: Turbidity

Units: nephelometric turbidity units (NTU)

Sensor Type: Optical, 90 ° scatter, with mechanical cleaning

Model #: 6136

Range: 0 to 1000 NTU

Accuracy: +/- 5 % reading or 2 NTU (whichever is greater)

Resolution: 0.1 NTU

The reliability of the dissolved oxygen (DO) data after 96 hours post-deployment for non-EDS (Extended Deployment System) data sondes may be problematic due to fouling which forms on the DO probe membrane during some deployments (Wenner et al. 2001). Many reserves have upgraded to YSI 6600 EDS data sondes, which increase DO accuracy and longevity by reducing the environmental effects of fouling. The user is therefore advised to consult the metadata and to exercise caution when utilizing the DO data beyond the initial 96-hour time period. However, this potential drift is not always problematic for some uses of the data, ie. periodicity analysis. It should be noted that the amount of fouling is site specific and that not all data are affected. The Research Coordinator at the specific NERR site should be contacted concerning the reliability of the DO data because of the site and seasonal variation in the fouling of the DO sensor.

The NERRS System-Wide Monitoring Program utilizes YSI data sondes that can be equipped with either depth or water level sensors. Both sensors measure water depth, but by convention, level sensors refer to atmospherically vented measurements and depth refers to non-vented measurements. Standard calibration protocols for the non-vented sensor use the atmosphere pressure at the time of calibration. Therefore, changes in atmospheric pressure between calibrations appear as changes in water depth. The error is equal to approximately 1.03 cm for every 1 millibar change in atmospheric pressure. This error is eliminated for level sensors because they are vented to the atmosphere throughout the deployment time interval. If proper atmospheric pressure data is available, non-vented sensor depth measurements can be corrected for deployments between calibrations. Readings for both vented and non-vented sensors are automatically compensated for water density changes due to variations in temperature and

salinity. The Research Coordinator at the specific NERR site should be contacted in order to obtain information regarding atmospheric pressure data availability.

10) Coded variable definitions

Site definitions:

OS = Oneonta Slough, MM = Model Marsh, TL = Tidal Linkage, RC = River Channel,
BR = Boca Rio

Station codes:

tjroswq = Tijuana River Oneonta Slough Water Quality
tjrmmwq = Tijuana River Model Marsh Water Quality
tjrtlwq = Tijuana River Tidal Linkage Water Quality
tjrbrwq = Tijuana River Boca Rio Water Quality

11) Data anomalies (suspect data)

Turbidity statement: There were a few instances at this NERR site where turbidity recorded small negative values (-0001 thru -0006). Turbidity has a range of accuracy of +/-2 NTU. Most of these small negative values were within this range. Those larger negative readings may be due to a small calibration error, but for the purposes of this dataset are considered to be within the sensor's range of accuracy and were not edited or deleted.

Oneonta Slough:

OS January 2005

a) Negative or 0 depth values were recorded on the following dates and times. Sensors were not out of the water so data were not removed:

01/07/2005 13:00:00 - 15:30:00
01/23/2005 14:30:00 - 17:00:00
01/25/2005 15:30:00 - 18:30:00
01/26/2005 16:00:00 - 18:00:00

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
01/05/2005	03:00:00	1081
01/05/2005	03:30:00	1293
01/05/2005	04:00:00	1294
01/05/2005	04:30:00	1294
01/05/2005	05:00:00	1294
01/10/2005	05:30:00	1137
01/11/2005	21:00:00	1338
01/11/2005	21:30:00	1339
01/11/2005	22:00:00	1340
01/11/2005	22:30:00	1340
01/12/2005	00:00:00	1266
01/12/2005	07:30:00	1326
01/12/2005	08:00:00	1298

OS February 2005

a) Negative or 0 depth values were recorded on the following dates and times. Sensors were not out of the water so data were not removed:

2/4/2005	15:30:00 - 16:00:00
2/5/2005	14:00:00 - 17:00:00
2/6/2005	15:00:00 - 17:00:00
2/9/2005	16:30:00 - 18:00:00
2/10/2005	03:30:00 - 04:30:00
2/10/2005	16:30:00 - 19:30:00
2/11/2005	04:00:00 - 05:30:00

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
02/22/2005	05:30:00	1237
02/22/2005	06:00:00	1161
02/23/2005	06:30:00	1320
02/23/2005	07:00:00	1318
02/23/2005	07:30:00	1317
02/23/2005	08:00:00	1316
02/23/2005	08:30:00	1317
02/23/2005	09:00:00	1317
02/23/2005	09:30:00	1317
02/23/2005	10:00:00	1306

OS March 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
03/21/2005	07:00:00	1343
03/23/2005	07:00:00	1212
03/27/2005	21:00:00	1040
03/27/2005	22:00:00	1322
03/28/2005	20:00:00	1338
03/29/2005	10:30:00	1036
03/29/2005	18:30:00	1191
03/29/2005	22:00:00	1324
03/29/2005	23:30:00	1322
03/30/2005	06:00:00	1331
03/30/2005	09:00:00	1335
03/30/2005	14:00:00	1022
03/30/2005	17:30:00	1414
03/30/2005	19:00:00	1264
03/30/2005	20:00:00	1381
03/30/2005	21:00:00	1351
03/30/2005	22:00:00	1341
03/31/2005	01:30:00	1335
03/31/2005	03:00:00	1221
03/31/2005	05:30:00	1115
03/31/2005	08:00:00	1328
03/31/2005	10:00:00	1371
03/31/2005	13:00:00	1273
03/31/2005	15:00:00	1108
03/31/2005	17:00:00	1398

03/31/2005	18:30:00	1140
03/31/2005	19:00:00	1179
03/31/2005	19:30:00	1413
03/31/2005	20:30:00	1319
03/31/2005	22:30:00	1042

OS April 2005

a) Negative or 0 depth values were recorded on the following dates and times.
Sensors were not out of the water so data were not removed:

04/02/2005	14:30:00	
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b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

04/01/2005	00:00:00	1343
04/01/2005	01:00:00	1235
04/01/2005	02:00:00	1152
04/01/2005	02:30:00	1336
04/01/2005	03:30:00	1308
04/01/2005	04:30:00	1114
04/01/2005	05:00:00	1337
04/01/2005	06:00:00	1328
04/01/2005	08:00:00	1048
04/01/2005	09:00:00	1365
04/01/2005	10:30:00	1387
04/01/2005	11:30:00	1406
04/01/2005	12:30:00	1420
04/01/2005	13:30:00	1422
04/01/2005	14:30:00	1436
04/01/2005	15:30:00	1418
04/01/2005	16:30:00	1421
04/01/2005	17:30:00	1416
04/01/2005	18:30:00	1411
04/01/2005	19:30:00	1402
04/01/2005	20:30:00	1391
04/01/2005	21:30:00	1224
04/01/2005	22:30:00	1379
04/01/2005	23:00:00	1305
04/02/2005	00:00:00	1375
04/02/2005	01:00:00	1367
04/02/2005	02:00:00	1213
04/02/2005	03:00:00	1336
04/02/2005	03:30:00	1049
04/02/2005	04:30:00	1355
04/02/2005	05:30:00	1170
04/02/2005	07:30:00	1139
04/02/2005	09:00:00	1363
04/02/2005	10:00:00	1052
04/02/2005	13:00:00	1433
04/02/2005	14:00:00	1153
04/02/2005	15:00:00	1441
04/02/2005	15:30:00	1436
04/02/2005	16:30:00	1417
04/02/2005	19:30:00	1372
04/02/2005	21:00:00	1365
04/03/2005	00:00:00	1365

04/03/2005	00:30:00	1139
04/03/2005	04:30:00	1331
04/03/2005	05:00:00	1330
04/03/2005	08:00:00	1097
04/03/2005	16:00:00	1424
04/03/2005	16:30:00	1416
04/03/2005	20:00:00	1167
04/03/2005	23:00:00	1382
04/03/2005	23:30:00	1384
04/05/2005	06:30:00	1308
04/29/2005	18:30:00	1294
04/29/2005	19:30:00	1261
04/30/2005	14:30:00	1169
04/30/2005	17:00:00	1143

OS May 2005

a) Negative or 0 depth values were recorded on the following dates and times. Sensors were not out of the water so data were not removed:

5/5/2005	02:00:00 - 03:30:00
5/5/2005	14:00:00 - 15:00:00
5/6/2005	03:00:00 - 04:30:00
5/10/2005	05:00:00 - 06:30:00
5/11/2005	05:00:00 - 09:00:00
5/12/2005	05:30:00 - 10:00:00
5/13/2005	06:00:00 - 11:00:00
5/14/2005	07:00:00 - 12:00:00
5/15/2005	08:30:00 - 12:00:00
5/16/2005	09:30:00 - 12:30:00
5/17/2005	11:30:00 - 12:30:00
5/24/2005	5:30:00
5/27/2005	6:00:00

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

05/01/2005	05:30:00	1027
05/01/2005	06:30:00	1394
05/01/2005	07:30:00	1025
05/02/2005	08:30:00	1198
05/02/2005	17:30:00	1306
05/03/2005	06:00:00	1113
05/03/2005	07:00:00	1022
05/03/2005	08:00:00	1365
05/03/2005	09:00:00	1403
05/03/2005	10:00:00	1418
05/03/2005	11:00:00	1441

OS June 2005

a) Negative depth readings were recorded, but the probes remained in the water. Data was not removed for the following dates and times:

6/1/2005	10:30:00 - 13:00:00
6/2/2005	00:30:00 - 02:00:00
6/3/2005	02:00:00 - 03:30:00
6/4/2005	02:30:00 - 05:00:00
6/5/2005	03:00:00 - 05:30:00
6/6/2005	03:30:00

6/8/2005	04:30:00 - 05:30:00
6/9/2005	04:30:00 - 05:00:00
6/10/2005	05:00:00 - 09:00:00
6/11/2005	05:30:00 - 09:30:00
6/12/2005	06:30:00 - 09:30:00
6/13/2005	07:30:00 - 10:30:00
6/14/2005	08:30:00 - 11:00:00
6/18/2005	02:30:00 - 03:00:00
6/19/2005	02:30:00 - 04:30:00
6/20/2005	03:00:00 - 05:30:00
6/21/2005	04:00:00 - 06:30:00
6/22/2005	04:00:00 - 07:00:00
6/23/2005	04:30:00 - 08:00:00
6/24/2005	05:00:00 - 09:00:00
6/25/2005	05:30:00 - 09:30:00
6/26/2005	06:00:00 - 10:00:00
6/27/2005	06:30:00 - 10:30:00
6/28/2005	7:30:00
6/29/2005	09:30:00 - 10:30:00
6/29/2005	23:30:00
6/30/2005	00:00:00 - 01:00:00

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

06/01/2005	15:30:00	1681
06/02/2005	01:30:00	1662
06/02/2005	02:00:00	1140
06/02/2005	09:00:00	1650
06/02/2005	10:30:00	1661
06/02/2005	11:30:00	1668
06/02/2005	16:00:00	1664
06/02/2005	16:30:00	1435
06/02/2005	18:00:00	1648
06/02/2005	19:30:00	1645
06/03/2005	17:30:00	1605
06/03/2005	18:30:00	1658
06/03/2005	20:30:00	1655
06/03/2005	21:00:00	1652
06/03/2005	21:30:00	1656
06/03/2005	23:00:00	1655
06/04/2005	00:00:00	1668
06/05/2005	19:30:00	1649
06/06/2005	21:30:00	1553
06/07/2005	01:30:00	1663
06/08/2005	21:00:00	1005
06/08/2005	23:30:00	1655
06/09/2005	02:00:00	1669

OS July 2005

a) Negative turbidity readings recorded. Probable cause due to sensor calibrating too closely to bottom of calibration cup. Dates and times recorded are:

7/21/2005	19:00:00 - 21:00:00
7/22/2005	11:00:00
7/22/2005	22:30:00 - 23:00:00
7/23/2005	00:00:00

7/23/2005 11:00:00 - 12:00:00
7/23/2005 20:00:00 - 20:30:00
7/23/2005 23:30:00
7/24/2005 22:30:00 - 23:30:00
7/26/2005 0:30:00

b) Negative depth readings were recorded, but the probes remained in the water. Data was not removed for the following dates and times:

7/1/2005 00:00:00 - 03:30:00
7/2/2005 00:30:00 - 04:30:00
7/3/2005 01:30:00 - 05:30:00
7/4/2005 02:30:00 - 05:30:00
7/5/2005 03:00:00 - 06:30:00
7/6/2005 03:30:00 - 07:00:00
7/10/2005 05:30:00 - 06:30:00
7/11/2005 05:30:00 - 08:30:00
7/18/2005 03:00:00 - 04:00:00
7/19/2005 03:30:00 - 05:00:00
7/20/2005 03:30:00 - 06:00:00
7/21/2005 04:30:00 - 06:30:00
7/22/2005 05:00:00 - 07:30:00
7/23/2005 06:00:00 - 06:30:00
7/25/2005 06:30:00 - 08:30:00
7/26/2005 06:00:00 - 08:30:00

c) Lower than average pH values were recorded beginning on 07/30/2005 until the end of the month. No reason was found and probe was functioning within range. Data were not removed.

c) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

07/26/2005 01:00:00 1678

OS August 2005

a) Negative turbidity readings recorded. Probable cause due to sensor calibrating too closely to bottom of calibration cup. Dates and times recorded are:

8/3/2005 17:00:00
8/5/2005 20:00:00

b) Negative depth readings were recorded, but the probes remained in the water. Data was not removed for the following dates and times:

8/2/2005 02:30:00 - 05:30:00
8/3/2005 03:30:00 - 04:00:00
8/4/2005 04:30:00
8/5/2005 04:30:00
8/7/2005 05:00:00 - 06:30:00
8/8/2005 05:30:00 - 07:30:00
8/9/2005 5:30:00
8/17/2005 03:00:00 - 05:00:00
8/18/2005 04:00:00 - 05:30:00
8/29/2005 03:00:00
8/30/2005 03:30:00 - 04:00:00

c) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

08/05/2005 01:30:00 1039
08/05/2005 19:30:00 1561

08/13/2005 18:00:00 1011
08/17/2005 21:30:00 1819
08/23/2005 14:30:00 1218

e) Lower than average pH values were recorded beginning on 08/01/2005 through 08/02/2005. No reason was found and probe was functioning within range. Data were not removed.

OS August 2005
No anomalies

OS September 2005
No anomalies

OS October 2005

a) 10/04/2005 15:00:00 - 10/21/2005 15:00:00; Timestamp was off by +1 minute. Data were corrected to nearest 30 minute interval.

b) 10/25/2005 08:00:00 - 11/06/2005 17:00:00, turbidity minimum values higher than average. Post calibration data shows sensor was operating within acceptable range and no unusual fouling was noted on sensor.

c) Beginning on 10/22/2002 until the end of the month, average dissolved oxygen levels declined steadily. Sensor was functioning properly so data were not removed. Likely related to increased presence of macroalgae within the lagoon.

OS November 2005

a) 11/24/2005 01:00:00 - 12/10/2005 10:30:00, turbidity minimum values were slightly higher than average. Calibration error suspected. Data were not removed.

OS December 2005

a) Between 12/11/2005 through 12/22/2005 recorded dissolved oxygen values were above average and began to decline. Post calibration showed probe to be functioning within normal range so data were not removed.

b) Beginning 12/22/2005 03:30:00 through 12/29/2005 04:30:00, Most parameters measured showed lower than average variation. Likely caused by decreased tidal flow at the mouth of the estuary which resulted from sedimentation.

c) Negative depth readings were recorded, but the probes remained in the water. Data was not removed for the following dates and times:
12/31/2005 17:30:00 - 19:30:00

Tidal Linkage:

TL January 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
01/10/2005	11:00	1223
01/10/2005	13:00	1229
01/10/2005	15:30	1239
01/10/2005	16:00	1240
01/10/2005	17:30	1240

01/10/2005	18:00	1225
01/10/2005	19:30	1206
01/10/2005	21:00	1234
01/10/2005	22:30	1235
01/11/2005	00:00	1234
01/11/2005	00:30	1225
01/11/2005	02:00	1233
01/11/2005	02:30	1231
01/11/2005	03:30	1229
01/11/2005	05:00	1230
01/11/2005	06:00	1230
01/11/2005	07:30	1230
01/11/2005	09:30	1224
01/11/2005	15:00	1232
01/11/2005	16:30	1226
01/13/2005	03:30	1215
01/14/2005	18:00	1226
01/15/2005	09:30	1224
01/15/2005	11:00	1237
01/15/2005	15:30	1250
01/15/2005	16:00	1252
01/15/2005	16:30	1252
01/15/2005	17:30	1250
01/15/2005	18:00	1243
01/15/2005	18:30	1248
01/15/2005	19:30	1246
01/15/2005	20:00	1245
01/15/2005	20:30	1244
01/15/2005	21:00	1243
01/15/2005	21:30	1243
01/15/2005	22:00	1242
01/15/2005	22:30	1241
01/15/2005	23:00	1240
01/15/2005	23:30	1238
01/16/2005	00:00	1234
01/16/2005	00:30	1231
01/16/2005	01:00	1232
01/16/2005	01:30	1231
01/16/2005	02:00	1230
01/16/2005	02:30	1230
01/16/2005	03:00	1229
01/16/2005	03:30	1228
01/16/2005	04:00	1227
01/16/2005	04:30	1226
01/16/2005	05:00	1225
01/16/2005	05:30	1224
01/16/2005	06:00	1223
01/16/2005	06:30	1222
01/16/2005	07:00	1210
01/16/2005	08:00	1210
01/16/2005	08:30	1224
01/16/2005	09:00	1225
01/16/2005	09:30	1226
01/16/2005	10:00	1232
01/16/2005	10:30	1239
01/16/2005	11:00	1178
01/16/2005	11:30	1230

01/16/2005	12:00	1264
01/16/2005	12:30	1277
01/16/2005	13:00	1283
01/16/2005	13:30	1284
01/16/2005	14:00	1288
01/16/2005	14:30	1290
01/16/2005	15:00	1292
01/16/2005	15:30	1292
01/16/2005	16:00	1292
01/16/2005	16:30	1289
01/16/2005	17:00	1287
01/16/2005	17:30	1283
01/16/2005	18:00	1280
01/16/2005	18:30	1277
01/16/2005	19:00	1272
01/16/2005	19:30	1268
01/16/2005	20:00	1267
01/16/2005	20:30	1264
01/16/2005	21:00	1262
01/16/2005	21:30	1260
01/16/2005	22:00	1259
01/16/2005	22:30	1258
01/16/2005	23:00	1256
01/16/2005	23:30	1255
01/17/2005	00:00	1247
01/17/2005	00:30	1239
01/17/2005	01:00	1244
01/17/2005	01:30	1243
01/17/2005	02:00	1242
01/17/2005	02:30	1241
01/17/2005	03:00	1241
01/17/2005	03:30	1238
01/17/2005	04:00	1238
01/17/2005	04:30	1234
01/17/2005	05:00	1239
01/17/2005	05:30	1239
01/17/2005	06:00	1236
01/17/2005	06:30	1233
01/17/2005	07:00	1233
01/17/2005	07:30	1227
01/17/2005	08:00	1226
01/17/2005	08:30	1229
01/17/2005	09:00	1226
01/17/2005	09:30	1230
01/17/2005	10:00	1238
01/17/2005	10:30	1245
01/17/2005	11:00	1256
01/17/2005	11:30	1266
01/17/2005	12:00	1274
01/17/2005	12:30	1292
01/17/2005	13:00	1300
01/17/2005	13:30	1306
01/17/2005	14:30	1304
01/17/2005	15:00	1304
01/17/2005	16:00	1300
01/17/2005	16:30	1296
01/17/2005	17:00	1294

01/17/2005	17:30	1292
01/17/2005	18:00	1288
01/17/2005	18:30	1283
01/17/2005	19:00	1281
01/17/2005	19:30	1279
01/17/2005	20:30	1275
01/17/2005	21:00	1273
01/17/2005	21:30	1272
01/17/2005	22:30	1268
01/17/2005	23:00	1267
01/18/2005	00:00	1262
01/18/2005	00:30	1258
01/18/2005	01:00	1255
01/18/2005	02:00	1252
01/18/2005	02:30	1251
01/18/2005	03:00	1250
01/18/2005	03:30	1249
01/18/2005	04:00	1248
01/18/2005	05:00	1247
01/18/2005	05:30	1248
01/18/2005	06:00	1246
01/18/2005	06:30	1243
01/18/2005	07:00	1244
01/18/2005	07:30	1237
01/18/2005	08:00	1228
01/18/2005	08:30	1231
01/18/2005	09:00	1233
01/18/2005	09:30	1236
01/18/2005	10:00	1239
01/18/2005	10:30	1245
01/18/2005	11:00	1248
01/18/2005	11:30	1263
01/18/2005	12:00	1272
01/18/2005	12:30	1283
01/18/2005	13:00	1298
01/18/2005	13:30	1309
01/18/2005	14:00	1315
01/18/2005	14:30	1316
01/18/2005	15:00	1326
01/18/2005	15:30	1324
01/18/2005	16:30	1309
01/18/2005	17:00	1309
01/18/2005	17:30	1305
01/18/2005	18:00	1294
01/18/2005	18:30	1289
01/18/2005	19:00	1285
01/18/2005	19:30	1284
01/18/2005	20:00	1279
01/18/2005	20:30	1278
01/18/2005	21:00	1275
01/18/2005	21:30	1274
01/18/2005	22:00	1273
01/18/2005	22:30	1271
01/18/2005	23:00	1269
01/18/2005	23:30	1267
01/19/2005	00:00	1247
01/19/2005	00:30	1248

01/19/2005	01:00	1238
01/19/2005	01:30	1192
01/19/2005	02:00	1187
01/19/2005	02:30	1188
01/19/2005	03:00	1189
01/19/2005	03:30	1181
01/19/2005	04:00	1177
01/19/2005	04:30	1179
01/19/2005	05:00	1190
01/19/2005	05:30	1188
01/19/2005	06:00	1196
01/19/2005	06:30	1204
01/19/2005	07:00	1210
01/19/2005	07:30	1218
01/19/2005	08:00	1220
01/19/2005	08:30	1219
01/19/2005	09:00	1221
01/19/2005	09:30	1223
01/19/2005	10:00	1228
01/19/2005	10:30	1235
01/19/2005	11:00	1242
01/19/2005	11:30	1105
01/19/2005	12:00	1271
01/19/2005	13:00	1280
01/19/2005	13:30	1287
01/19/2005	14:00	1294
01/19/2005	14:30	1048
01/19/2005	15:00	1293
01/19/2005	16:00	1296
01/19/2005	16:30	1295
01/19/2005	17:30	1280
01/19/2005	18:30	1263
01/19/2005	19:00	1256
01/19/2005	19:30	1254
01/19/2005	20:00	1253
01/19/2005	21:00	1248
01/19/2005	21:30	1165
01/19/2005	22:00	1242
01/19/2005	22:30	1238
01/19/2005	23:00	1234
01/19/2005	23:30	1232
01/20/2005	00:00	1228
01/20/2005	00:30	1227
01/20/2005	01:00	1224
01/20/2005	01:30	1222
01/20/2005	02:00	1223
01/20/2005	02:30	1221
01/20/2005	03:00	1221
01/20/2005	03:30	1223
01/20/2005	04:00	1223
01/20/2005	04:30	1214
01/20/2005	05:00	1206
01/20/2005	05:30	1194
01/20/2005	06:00	1194
01/20/2005	06:30	1203
01/20/2005	07:00	1216
01/20/2005	08:00	1218

01/20/2005	08:30	1218
01/20/2005	09:00	1218
01/20/2005	09:30	1219
01/20/2005	10:30	1221
01/20/2005	11:30	1229
01/20/2005	12:00	1235
01/20/2005	12:30	1244
01/20/2005	13:00	1246
01/20/2005	13:30	1252
01/20/2005	14:00	1256
01/20/2005	14:30	1261
01/20/2005	15:00	1263
01/20/2005	15:30	1265
01/20/2005	16:00	1266
01/20/2005	17:00	1265
01/20/2005	17:30	1267
01/20/2005	18:00	1267
01/20/2005	18:30	1259
01/20/2005	19:00	1256
01/20/2005	19:30	1251
01/20/2005	20:00	1250
01/20/2005	20:30	1247
01/20/2005	21:00	1247
01/20/2005	21:30	1245
01/20/2005	22:00	1245
01/20/2005	22:30	1244
01/20/2005	23:00	1243
01/20/2005	23:30	1242
01/21/2005	00:00	1240
01/21/2005	00:30	1240
01/21/2005	01:00	1237
01/21/2005	01:30	1236
01/21/2005	02:00	1234
01/21/2005	02:30	1233
01/21/2005	03:30	1213
01/21/2005	04:00	1167
01/21/2005	04:30	1204
01/21/2005	05:00	1181
01/21/2005	05:30	1196
01/21/2005	06:00	1205
01/21/2005	06:30	1160
01/21/2005	07:00	1107
01/21/2005	07:30	1160
01/21/2005	08:00	1100
01/21/2005	08:30	1221
01/21/2005	09:00	1107
01/21/2005	09:30	1219
01/21/2005	10:00	1126
01/21/2005	10:30	1070
01/21/2005	11:00	1117
01/21/2005	11:30	1227
01/21/2005	12:00	1177
01/21/2005	12:30	1190
01/21/2005	13:00	1224
01/21/2005	13:30	1210
01/21/2005	14:00	1223
01/21/2005	14:30	1267

01/21/2005	15:00	1252
01/21/2005	16:00	1274
01/21/2005	17:00	1275
01/21/2005	17:30	1277
01/21/2005	18:00	1275
01/21/2005	19:00	1257
01/21/2005	19:30	1040
01/21/2005	20:00	1054
01/21/2005	20:30	1245
01/21/2005	21:00	1189
01/21/2005	21:30	1106
01/21/2005	22:00	1229
01/21/2005	22:30	1100
01/21/2005	23:00	1070
01/21/2005	23:30	1090
01/22/2005	00:00	1090
01/22/2005	00:30	1120
01/22/2005	01:00	1090
01/22/2005	06:00	1226
01/22/2005	06:30	1010
01/22/2005	07:00	1172
01/22/2005	09:00	1211
01/22/2005	09:30	1029
01/22/2005	10:30	1120
01/22/2005	11:00	1114
01/22/2005	11:30	1231
01/22/2005	12:00	1234
01/22/2005	12:30	1240
01/22/2005	13:00	1228
01/22/2005	13:30	1197
01/22/2005	14:00	1199
01/22/2005	14:30	1227
01/22/2005	15:00	1229
01/22/2005	15:30	1223
01/22/2005	16:00	1145
01/22/2005	16:30	1197
01/22/2005	17:00	1135
01/22/2005	17:30	1166
01/22/2005	18:00	1249
01/22/2005	18:30	1262
01/22/2005	19:00	1235
01/22/2005	19:30	1205
01/22/2005	20:30	1089
01/22/2005	22:00	1243
01/22/2005	22:30	1026
01/22/2005	23:00	1032
01/22/2005	23:30	1097
01/23/2005	00:00	1163
01/23/2005	00:30	1175
01/23/2005	01:00	1212
01/23/2005	01:30	1211
01/23/2005	02:00	1244
01/23/2005	04:30	1012
01/23/2005	05:00	1050
01/23/2005	05:30	1059
01/23/2005	06:00	1032
01/23/2005	06:30	1144

01/23/2005	07:00	1027
01/23/2005	07:30	1040
01/23/2005	08:00	1069
01/23/2005	08:30	1089
01/23/2005	09:00	1108
01/23/2005	09:30	1113
01/23/2005	10:00	1119
01/23/2005	10:30	1148
01/23/2005	11:00	1113
01/23/2005	11:30	1153
01/23/2005	12:00	1229
01/23/2005	12:30	1113
01/23/2005	13:00	1045
01/23/2005	13:30	1126
01/23/2005	14:00	1051
01/23/2005	14:30	1095
01/23/2005	15:00	1186
01/23/2005	15:30	1234
01/23/2005	16:00	1134
01/23/2005	16:30	1181
01/23/2005	17:00	1219
01/23/2005	17:30	1231
01/23/2005	18:00	1263
01/23/2005	18:30	1115
01/23/2005	19:00	1167
01/23/2005	19:30	1111
01/23/2005	20:00	1135
01/23/2005	20:30	1118
01/23/2005	21:00	1242
01/23/2005	21:30	1174
01/23/2005	22:00	1197
01/23/2005	22:30	1237
01/23/2005	23:00	1239
01/23/2005	23:30	1177
01/24/2005	00:00	1049
01/24/2005	00:30	1100
01/24/2005	01:00	1100
01/24/2005	01:30	1118
01/24/2005	02:00	1154
01/24/2005	02:30	1149
01/24/2005	03:00	1240
01/24/2005	03:30	1189
01/24/2005	04:00	1126
01/24/2005	04:30	1129
01/24/2005	05:00	1239
01/24/2005	05:30	1238
01/24/2005	06:00	1187
01/24/2005	06:30	1198
01/24/2005	07:00	1172
01/24/2005	07:30	1177
01/24/2005	08:00	1203
01/24/2005	08:30	1205
01/24/2005	09:00	1207
01/24/2005	09:30	1149
01/24/2005	10:00	1087
01/24/2005	10:30	1095
01/24/2005	11:00	1182

01/24/2005	11:30	1162
01/24/2005	12:00	1130
01/24/2005	12:30	1153
01/24/2005	13:00	1152
01/24/2005	13:30	1172
01/24/2005	14:00	1105
01/24/2005	14:30	1181
01/24/2005	15:00	1188
01/24/2005	15:30	1220
01/24/2005	16:00	1226
01/24/2005	16:30	1234
01/24/2005	17:00	1261
01/24/2005	17:30	1251
01/24/2005	18:00	1263
01/24/2005	18:30	1160
01/24/2005	19:00	1218
01/24/2005	19:30	1232
01/24/2005	20:00	1107
01/24/2005	20:30	1233
01/24/2005	21:00	1203
01/24/2005	21:30	1212
01/24/2005	22:00	1155
01/24/2005	22:30	1245
01/24/2005	23:00	1208
01/24/2005	23:30	1210
01/25/2005	00:00	1208
01/25/2005	00:30	1243
01/25/2005	01:00	1221
01/25/2005	01:30	1243
01/25/2005	02:00	1243
01/25/2005	02:30	1145
01/25/2005	03:00	1243
01/25/2005	03:30	1192
01/25/2005	04:00	1191
01/25/2005	04:30	1212
01/25/2005	05:00	1236
01/25/2005	05:30	1237
01/25/2005	06:00	1160
01/25/2005	06:30	1185
01/25/2005	07:00	1227
01/25/2005	07:30	1224
01/25/2005	08:30	1224
01/25/2005	09:00	1223
01/25/2005	09:30	1225
01/25/2005	10:00	1149
01/25/2005	10:30	1226
01/25/2005	11:00	1197
01/25/2005	11:30	1205
01/25/2005	12:00	1214
01/25/2005	12:30	1202
01/25/2005	13:00	1232
01/25/2005	13:30	1234
01/25/2005	14:00	1236
01/25/2005	14:30	1200
01/25/2005	15:00	1091
01/25/2005	15:30	1248
01/25/2005	16:00	1250

01/25/2005	16:30	1252
01/25/2005	17:00	1220
01/25/2005	17:30	1217
01/25/2005	18:00	1225
01/25/2005	18:30	1218
01/25/2005	19:00	1217
01/25/2005	19:30	1234
01/25/2005	20:00	1217
01/25/2005	20:30	1235
01/25/2005	21:00	1169
01/25/2005	21:30	1199
01/25/2005	22:00	1169
01/25/2005	22:30	1176
01/25/2005	23:00	1168
01/25/2005	23:30	1176
01/26/2005	00:00	1180
01/26/2005	00:30	1196
01/26/2005	01:00	1203
01/26/2005	01:30	1207
01/26/2005	02:00	1190
01/26/2005	02:30	1192
01/26/2005	03:00	1181
01/26/2005	03:30	1192
01/26/2005	04:00	1187
01/26/2005	04:30	1181
01/26/2005	05:00	1183
01/26/2005	05:30	1230
01/26/2005	06:00	1191
01/26/2005	06:30	1202
01/26/2005	07:00	1214
01/26/2005	07:30	1213
01/26/2005	08:00	1213
01/26/2005	08:30	1205
01/26/2005	09:00	1211
01/26/2005	09:30	1215
01/26/2005	10:00	1200
01/26/2005	10:30	1206
01/26/2005	11:00	1230
01/26/2005	11:30	1230
01/26/2005	12:00	1210
01/26/2005	12:30	1211
01/26/2005	13:00	1227
01/26/2005	13:30	1234
01/26/2005	14:00	1222
01/26/2005	14:30	1222
01/26/2005	15:00	1231
01/26/2005	15:30	1040
01/26/2005	16:00	1247
01/26/2005	16:30	1250
01/26/2005	17:00	1251
01/26/2005	17:30	1250
01/26/2005	18:00	1249
01/26/2005	18:30	1250
01/26/2005	19:00	1251
01/26/2005	19:30	1247
01/26/2005	20:00	1249
01/26/2005	20:30	1249

01/26/2005	21:00	1244
01/26/2005	21:30	1242
01/26/2005	22:00	1239
01/26/2005	22:30	1235
01/26/2005	23:00	1234
01/26/2005	23:30	1236
01/27/2005	00:00	1236
01/27/2005	00:30	1236
01/27/2005	01:00	1236
01/27/2005	01:30	1236
01/27/2005	02:00	1236
01/27/2005	02:30	1236
01/27/2005	03:00	1237
01/27/2005	03:30	1237
01/27/2005	04:00	1237
01/27/2005	04:30	1234
01/27/2005	05:00	1235
01/27/2005	05:30	1235
01/27/2005	06:00	1236
01/27/2005	06:30	1233
01/27/2005	07:00	1230
01/27/2005	07:30	1227
01/27/2005	08:00	1226
01/27/2005	08:30	1142
01/27/2005	09:00	1225
01/27/2005	09:30	1228
01/27/2005	10:00	1230
01/27/2005	10:30	1231
01/27/2005	11:00	1232
01/27/2005	11:30	1234
01/27/2005	12:00	1235
01/27/2005	12:30	1236
01/27/2005	13:00	1238
01/27/2005	13:30	1239
01/27/2005	14:00	1241
01/27/2005	14:30	1242
01/27/2005	15:00	1246
01/27/2005	15:30	1247
01/27/2005	16:00	1250
01/27/2005	16:30	1251
01/27/2005	17:00	1251
01/27/2005	17:30	1251
01/27/2005	18:00	1251
01/27/2005	18:30	1024
01/27/2005	19:00	1248
01/27/2005	19:30	1247
01/27/2005	20:00	1246
01/27/2005	20:30	1244
01/27/2005	21:00	1241
01/27/2005	21:30	1237
01/27/2005	22:00	1230
01/27/2005	22:30	1226
01/27/2005	23:00	1223
01/27/2005	23:30	1224
01/28/2005	00:00	1224
01/28/2005	00:30	1225
01/28/2005	01:00	1224

01/28/2005	01:30	1224
01/28/2005	02:00	1224
01/28/2005	02:30	1223
01/28/2005	03:00	1222
01/28/2005	03:30	1223
01/28/2005	04:00	1223
01/28/2005	04:30	1222
01/28/2005	05:00	1222
01/28/2005	05:30	1221
01/28/2005	06:00	1221
01/28/2005	06:30	1220
01/28/2005	07:00	1218
01/28/2005	07:30	1214
01/28/2005	08:00	1209
01/28/2005	08:30	1200
01/28/2005	09:00	1199
01/28/2005	09:30	1206
01/28/2005	10:00	1208
01/28/2005	10:30	1220
01/28/2005	11:00	1225
01/28/2005	11:30	1227
01/28/2005	12:00	1228
01/28/2005	12:30	1229
01/28/2005	13:00	1230
01/28/2005	13:30	1231
01/28/2005	14:00	1232
01/28/2005	14:30	1234
01/28/2005	15:00	1235
01/28/2005	15:30	1236
01/28/2005	16:00	1236
01/28/2005	16:30	1237
01/28/2005	17:00	1236
01/28/2005	17:30	1235
01/28/2005	18:00	1233
01/28/2005	18:30	1233
01/28/2005	19:00	1233
01/28/2005	19:30	1230
01/28/2005	20:00	1224
01/28/2005	20:30	1221
01/28/2005	21:00	1219
01/28/2005	21:30	1219
01/28/2005	22:00	1218
01/28/2005	22:30	1218
01/28/2005	23:00	1219
01/28/2005	23:30	1219
01/29/2005	00:00	1219
01/29/2005	00:30	1219
01/29/2005	01:00	1220
01/29/2005	01:30	1220
01/29/2005	02:00	1219
01/29/2005	02:30	1218
01/29/2005	03:00	1215
01/29/2005	03:30	1212
01/29/2005	04:00	1208
01/29/2005	04:30	1205
01/29/2005	05:00	1202
01/29/2005	05:30	1199

01/29/2005	06:00	1200
01/29/2005	06:30	1201
01/29/2005	07:00	1202
01/29/2005	07:30	1197
01/29/2005	08:00	1196
01/29/2005	08:30	1196
01/29/2005	09:00	1197
01/29/2005	09:30	1200
01/29/2005	10:00	1204
01/29/2005	10:30	1206
01/29/2005	11:00	1207
01/29/2005	11:30	1143
01/29/2005	12:00	1210
01/29/2005	12:30	1212
01/29/2005	13:00	1214
01/29/2005	13:30	1216
01/29/2005	14:00	1217
01/29/2005	14:30	1219
01/29/2005	15:00	1223
01/29/2005	15:30	1227
01/29/2005	16:00	1230
01/29/2005	16:30	1232
01/29/2005	17:00	1233
01/29/2005	17:30	1232
01/29/2005	18:00	1232
01/29/2005	18:30	1231
01/29/2005	19:00	1229
01/29/2005	19:30	1227
01/29/2005	20:00	1226
01/29/2005	20:30	1225
01/29/2005	21:00	1224
01/29/2005	21:30	1224
01/29/2005	22:00	1220
01/29/2005	22:30	1217
01/29/2005	23:00	1215
01/29/2005	23:30	1215
01/30/2005	00:00	1214
01/30/2005	00:30	1213
01/30/2005	01:00	1213
01/30/2005	01:30	1214
01/30/2005	02:00	1214
01/30/2005	02:30	1214
01/30/2005	03:00	1214
01/30/2005	03:30	1213
01/30/2005	04:00	1214
01/30/2005	04:30	1214
01/30/2005	05:00	1213
01/30/2005	05:30	1213
01/30/2005	06:00	1213
01/30/2005	06:30	1211
01/30/2005	07:00	1210
01/30/2005	07:30	1209
01/30/2005	08:00	1210
01/30/2005	08:30	1211
01/30/2005	09:00	1213
01/30/2005	09:30	1214
01/30/2005	10:00	1215

01/30/2005	10:30	1214
01/30/2005	11:00	1215
01/30/2005	11:30	1214
01/30/2005	12:00	1215
01/30/2005	12:30	1215
01/30/2005	13:00	1216
01/30/2005	14:00	1224
01/30/2005	14:30	1227
01/30/2005	15:00	1230
01/30/2005	15:30	1232
01/30/2005	16:00	1234
01/30/2005	16:30	1236
01/30/2005	17:00	1236
01/30/2005	17:30	1235
01/30/2005	18:00	1234
01/30/2005	18:30	1233
01/30/2005	19:00	1231
01/30/2005	19:30	1230
01/30/2005	20:00	1230
01/30/2005	20:30	1229
01/30/2005	21:00	1228
01/30/2005	21:30	1228
01/30/2005	22:00	1228
01/30/2005	22:30	1227
01/30/2005	23:00	1224
01/30/2005	23:30	1222
01/31/2005	00:00	1220
01/31/2005	00:30	1220
01/31/2005	01:00	1220
01/31/2005	01:30	1220
01/31/2005	02:00	1220
01/31/2005	02:30	1219
01/31/2005	03:00	1219
01/31/2005	03:30	1218
01/31/2005	04:00	1218
01/31/2005	04:30	1218
01/31/2005	05:00	1219
01/31/2005	05:30	1218
01/31/2005	06:00	1218
01/31/2005	06:30	1219
01/31/2005	07:00	1219
01/31/2005	07:30	1219
01/31/2005	08:00	1219
01/31/2005	08:30	1220
01/31/2005	09:00	1222
01/31/2005	09:30	1227
01/31/2005	10:00	1233
01/31/2005	10:30	1242
01/31/2005	11:00	1250
01/31/2005	11:30	1254
01/31/2005	12:00	1257
01/31/2005	12:30	1258
01/31/2005	13:00	1261
01/31/2005	13:30	1262
01/31/2005	14:00	1264
01/31/2005	14:30	1264
01/31/2005	15:00	1270

01/31/2005	15:30	1272
01/31/2005	16:00	1273
01/31/2005	16:30	1271
01/31/2005	17:00	1020
01/31/2005	17:30	1268
01/31/2005	18:00	1267
01/31/2005	18:30	1265
01/31/2005	19:00	1262
01/31/2005	19:30	1260
01/31/2005	20:00	1258
01/31/2005	20:30	1256
01/31/2005	21:00	1253
01/31/2005	21:30	1252
01/31/2005	22:00	1251
01/31/2005	22:30	1248
01/31/2005	23:00	1196
01/31/2005	23:30	1238

TL February 2005

a) Lower than average depth values were recorded between 02/11/2005 04:30 - 05:30. Likely cause not known. Data were not removed.

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
02/01/2005	00:00	1232
02/01/2005	00:30	1230
02/01/2005	01:00	1226
02/01/2005	01:30	1224
02/01/2005	02:00	1222
02/01/2005	02:30	1021
02/01/2005	03:00	1216
02/01/2005	03:30	1223
02/01/2005	04:00	1065
02/01/2005	04:30	1219
02/01/2005	05:00	1223
02/01/2005	05:30	1223
02/01/2005	06:00	1223
02/01/2005	06:30	1222
02/01/2005	07:30	1221
02/01/2005	08:00	1220
02/01/2005	08:30	1221
02/01/2005	09:00	1221
02/01/2005	09:30	1224
02/01/2005	10:00	1230
02/01/2005	10:30	1240
02/01/2005	11:00	1254
02/01/2005	11:30	1262
02/01/2005	12:00	1038
02/01/2005	12:30	1289
02/01/2005	13:00	1298
02/01/2005	14:00	1307
02/01/2005	15:00	1315
02/01/2005	15:30	1320
02/01/2005	16:00	1316

02/01/2005	16:30	1313
02/01/2005	17:00	1309
02/01/2005	17:30	1306
02/01/2005	18:00	1301
02/01/2005	18:30	1295
02/01/2005	19:00	1292
02/01/2005	19:30	1289
02/01/2005	20:00	1286
02/01/2005	20:30	1283
02/01/2005	21:30	1278
02/01/2005	22:30	1271
02/01/2005	23:00	1262
02/01/2005	23:30	1257
02/02/2005	00:30	1246
02/02/2005	01:00	1246
02/02/2005	01:30	1242
02/02/2005	02:00	1240
02/02/2005	02:30	1237
02/02/2005	03:00	1237
02/02/2005	03:30	1237
02/02/2005	04:30	1236
02/02/2005	05:00	1237
02/02/2005	05:30	1236
02/02/2005	06:00	1236
02/02/2005	06:30	1236
02/02/2005	07:00	1235
02/02/2005	08:00	1229
02/02/2005	08:30	1221
02/02/2005	09:00	1224
02/02/2005	10:00	1235
02/02/2005	10:30	1244
02/02/2005	11:00	1259
02/02/2005	11:30	1271
02/02/2005	12:00	1281
02/02/2005	13:00	1292
02/02/2005	13:30	1308
02/02/2005	14:00	1313
02/02/2005	14:30	1320
02/02/2005	15:00	1324
02/02/2005	15:30	1326
02/02/2005	16:00	1327
02/02/2005	16:30	1324
02/02/2005	17:30	1311
02/02/2005	18:30	1298
02/02/2005	19:30	1289
02/02/2005	20:00	1285
02/02/2005	20:30	1282
02/02/2005	21:00	1278
02/02/2005	21:30	1275
02/02/2005	22:00	1272
02/02/2005	23:00	1265
02/02/2005	23:30	1260
02/03/2005	00:30	1255
02/03/2005	01:00	1251
02/03/2005	01:30	1249
02/03/2005	02:00	1248
02/03/2005	02:30	1247

02/03/2005	03:00	1246
02/03/2005	03:30	1245
02/03/2005	04:00	1244
02/03/2005	04:30	1244
02/03/2005	05:00	1243
02/03/2005	05:30	1242
02/03/2005	06:00	1236
02/03/2005	06:30	1231
02/03/2005	07:00	1229
02/03/2005	07:30	1228
02/03/2005	08:00	1227
02/03/2005	08:30	1227
02/03/2005	09:00	1228
02/03/2005	09:30	1228
02/03/2005	10:00	1232
02/03/2005	10:30	1237
02/03/2005	11:00	1251
02/03/2005	11:30	1262
02/03/2005	12:00	1273
02/03/2005	12:30	1287
02/03/2005	13:00	1296
02/03/2005	13:30	1302
02/03/2005	14:00	1305
02/03/2005	14:30	1310
02/03/2005	15:00	1308
02/03/2005	15:30	1305
02/03/2005	16:00	1298
02/03/2005	16:30	1296
02/03/2005	17:00	1293
02/03/2005	17:30	1291
02/03/2005	18:00	1285
02/03/2005	18:30	1280
02/03/2005	19:00	1276
02/03/2005	19:30	1269
02/03/2005	20:00	1272
02/03/2005	20:30	1269
02/03/2005	21:00	1269
02/03/2005	21:30	1270
02/03/2005	22:00	1270
02/03/2005	22:30	1268
02/03/2005	23:00	1266
02/03/2005	23:30	1263
02/04/2005	00:00	1261
02/04/2005	00:30	1258
02/04/2005	01:00	1257
02/04/2005	01:30	1255
02/04/2005	02:00	1249
02/04/2005	02:30	1243
02/04/2005	03:00	1238
02/04/2005	03:30	1231
02/04/2005	04:00	1231
02/04/2005	04:30	1228
02/04/2005	05:30	1205
02/04/2005	06:00	1203
02/04/2005	06:30	1203
02/04/2005	07:00	1204
02/04/2005	07:30	1205

02/04/2005	08:00	1206
02/04/2005	08:30	1208
02/04/2005	09:00	1209
02/04/2005	09:30	1211
02/04/2005	10:00	1213
02/04/2005	10:30	1219
02/04/2005	11:00	1227
02/04/2005	11:30	1236
02/04/2005	12:00	1247
02/04/2005	12:30	1261
02/04/2005	13:00	1283
02/04/2005	13:30	1293
02/04/2005	14:00	1300
02/04/2005	14:30	1301
02/04/2005	15:00	1302
02/04/2005	15:30	1297
02/04/2005	16:00	1288
02/04/2005	16:30	1277
02/04/2005	17:00	1269
02/04/2005	17:30	1216
02/04/2005	18:00	1251
02/04/2005	18:30	1262
02/04/2005	19:00	1254
02/04/2005	19:30	1250
02/04/2005	20:00	1251
02/04/2005	20:30	1254
02/04/2005	21:00	1253
02/04/2005	21:30	1250
02/04/2005	22:30	1254
02/04/2005	23:00	1254
02/04/2005	23:30	1254
02/05/2005	00:00	1254
02/05/2005	00:30	1254
02/05/2005	01:00	1252
02/05/2005	01:30	1251
02/05/2005	02:00	1250
02/05/2005	02:30	1248
02/05/2005	03:00	1245
02/05/2005	03:30	1241
02/05/2005	04:00	1237
02/05/2005	04:30	1231
02/05/2005	05:00	1227
02/05/2005	05:30	1205
02/05/2005	06:00	1204
02/05/2005	06:30	1203
02/05/2005	07:00	1203
02/05/2005	07:30	1203
02/05/2005	08:00	1204
02/05/2005	08:30	1205
02/05/2005	09:00	1206
02/05/2005	09:30	1206
02/05/2005	10:00	1208
02/05/2005	10:30	1209
02/05/2005	11:00	1211
02/05/2005	11:30	1215
02/05/2005	12:00	1222
02/05/2005	12:30	1229

02/05/2005	13:00	1236
02/05/2005	13:30	1243
02/05/2005	14:00	1248
02/05/2005	14:30	1255
02/05/2005	15:00	1259
02/05/2005	15:30	1264
02/05/2005	16:00	1267
02/05/2005	16:30	1269
02/05/2005	17:00	1271
02/05/2005	17:30	1273
02/05/2005	18:00	1272
02/05/2005	18:30	1271
02/05/2005	19:00	1266
02/05/2005	19:30	1261
02/05/2005	20:00	1251
02/05/2005	20:30	1247
02/05/2005	21:00	1245
02/05/2005	21:30	1243
02/05/2005	22:00	1243
02/05/2005	22:30	1241
02/05/2005	23:00	1241
02/05/2005	23:30	1241
02/06/2005	00:00	1241
02/06/2005	00:30	1241
02/06/2005	01:00	1240
02/06/2005	01:30	1240
02/06/2005	02:00	1240
02/06/2005	02:30	1240
02/06/2005	03:00	1238
02/06/2005	03:30	1236
02/06/2005	04:00	1227
02/06/2005	04:30	1222
02/06/2005	05:00	1216
02/06/2005	05:30	1210
02/06/2005	06:00	1210
02/06/2005	06:30	1211
02/06/2005	07:30	1212
02/06/2005	08:00	1212
02/06/2005	08:30	1213
02/06/2005	09:00	1213
02/06/2005	09:30	1214
02/06/2005	10:00	1214
02/06/2005	10:30	1215
02/06/2005	11:00	1216
02/06/2005	11:30	1218
02/06/2005	12:00	1219
02/06/2005	12:30	1220
02/06/2005	13:00	1221
02/06/2005	13:30	1224
02/06/2005	14:00	1228
02/06/2005	14:30	1232
02/06/2005	15:00	1237
02/06/2005	15:30	1243
02/06/2005	16:00	1247
02/06/2005	16:30	1249
02/06/2005	17:00	1250
02/06/2005	17:30	1249

02/06/2005	18:00	1247
02/06/2005	18:30	1246
02/06/2005	19:00	1244
02/06/2005	19:30	1228
02/06/2005	20:00	1222
02/06/2005	20:30	1222
02/06/2005	21:00	1222
02/06/2005	21:30	1222
02/06/2005	22:00	1222
02/06/2005	22:30	1222
02/06/2005	23:00	1223
02/06/2005	23:30	1223
02/07/2005	00:00	1223
02/07/2005	00:30	1224
02/07/2005	01:00	1223
02/07/2005	01:30	1223
02/07/2005	02:00	1223
02/07/2005	02:30	1223
02/07/2005	03:00	1224
02/07/2005	03:30	1223
02/07/2005	04:00	1222
02/07/2005	04:30	1214
02/07/2005	05:00	1207
02/07/2005	05:30	1204
02/07/2005	06:00	1205
02/07/2005	06:30	1211
02/07/2005	07:00	1214
02/07/2005	07:30	1214
02/07/2005	08:00	1215
02/07/2005	08:30	1215
02/07/2005	09:00	1215
02/07/2005	09:30	1216
02/07/2005	10:00	1216
02/07/2005	10:30	1216
02/07/2005	11:00	1217
02/07/2005	11:30	1218
02/07/2005	12:00	1220
02/07/2005	13:00	1225
02/07/2005	13:30	1228
02/07/2005	14:00	1233
02/07/2005	14:30	1237
02/07/2005	15:00	1244
02/07/2005	15:30	1250
02/07/2005	16:00	1254
02/07/2005	16:30	1256
02/07/2005	17:00	1257
02/07/2005	17:30	1255
02/07/2005	18:00	1253
02/07/2005	18:30	1250
02/07/2005	19:00	1248
02/07/2005	19:30	1244
02/07/2005	20:00	1229
02/07/2005	20:30	1229
02/07/2005	21:00	1230
02/07/2005	21:30	1231
02/07/2005	22:00	1231
02/07/2005	22:30	1231

02/07/2005	23:00	1231
02/07/2005	23:30	1231
02/08/2005	00:00	1231
02/08/2005	00:30	1231
02/08/2005	01:00	1231
02/08/2005	02:00	1231
02/08/2005	02:30	1231
02/08/2005	03:30	1231
02/08/2005	04:00	1231
02/08/2005	04:30	1230
02/08/2005	05:30	1217
02/08/2005	06:00	1212
02/08/2005	06:30	1213
02/08/2005	07:00	1213
02/08/2005	07:30	1214
02/08/2005	08:00	1215
02/08/2005	08:30	1216
02/08/2005	09:00	1217
02/08/2005	09:30	1217
02/08/2005	10:00	1219
02/08/2005	10:30	1220
02/08/2005	11:00	1221
02/08/2005	11:30	1222
02/08/2005	12:00	1224
02/08/2005	12:30	1230
02/08/2005	13:00	1234
02/08/2005	13:30	1236
02/08/2005	14:00	1238
02/08/2005	14:30	1241
02/08/2005	15:00	1243
02/08/2005	15:30	1249
02/08/2005	16:00	1249
02/08/2005	17:00	1242
02/08/2005	17:30	1234
02/08/2005	18:00	1232
02/08/2005	18:30	1228
02/08/2005	19:00	1228
02/08/2005	19:30	1227
02/08/2005	20:00	1226
02/08/2005	20:30	1219
02/08/2005	21:00	1222
02/08/2005	21:30	1224
02/08/2005	22:00	1225
02/08/2005	22:30	1223
02/08/2005	23:00	1225
02/08/2005	23:30	1221
02/09/2005	00:00	1218
02/09/2005	00:30	1218
02/09/2005	01:00	1215
02/09/2005	01:30	1214
02/09/2005	02:00	1168
02/09/2005	02:30	1191
02/09/2005	03:00	1197
02/09/2005	03:30	1196
02/09/2005	04:00	1195
02/09/2005	04:30	1199
02/09/2005	05:00	1027

02/09/2005	05:30	1206
02/09/2005	06:00	1198
02/09/2005	06:30	1073
02/09/2005	07:00	1189
02/09/2005	07:30	1080
02/09/2005	08:00	1197
02/09/2005	08:30	1201
02/09/2005	09:00	1202
02/09/2005	09:30	1204
02/09/2005	10:00	1205
02/09/2005	10:30	1204
02/09/2005	11:00	1206
02/09/2005	11:30	1210
02/09/2005	12:00	1213
02/09/2005	12:30	1216
02/09/2005	13:00	1215
02/09/2005	13:30	1221
02/09/2005	14:00	1224
02/09/2005	14:30	1223
02/09/2005	15:00	1224
02/09/2005	15:30	1224
02/09/2005	16:00	1223
02/09/2005	16:30	1223
02/09/2005	17:00	1227
02/09/2005	17:30	1229
02/09/2005	18:00	1228
02/09/2005	18:30	1226
02/09/2005	19:00	1234
02/09/2005	19:30	1235
02/09/2005	20:00	1222
02/09/2005	20:30	1205
02/09/2005	21:00	1199
02/09/2005	21:30	1221
02/09/2005	22:00	1227
02/09/2005	22:30	1228
02/09/2005	23:00	1223
02/09/2005	23:30	1198
02/10/2005	00:00	1218
02/10/2005	00:30	1209
02/10/2005	01:00	1206
02/10/2005	01:30	1207
02/10/2005	02:00	1194
02/10/2005	02:30	1195
02/10/2005	03:00	1221
02/10/2005	03:30	1198
02/10/2005	04:00	1222
02/10/2005	04:30	1221
02/10/2005	05:00	1221
02/10/2005	05:30	1221
02/10/2005	06:00	1221
02/10/2005	06:30	1220
02/10/2005	07:00	1194
02/10/2005	07:30	1188
02/10/2005	08:00	1195
02/10/2005	08:30	1196
02/10/2005	09:00	1211
02/10/2005	09:30	1189

02/10/2005	10:00	1216
02/10/2005	10:30	1216
02/10/2005	12:00	1212
02/10/2005	13:00	1197
02/10/2005	13:30	1213
02/10/2005	14:00	1199
02/10/2005	14:30	1191
02/10/2005	15:00	1211
02/10/2005	15:30	1186
02/10/2005	16:00	1159
02/10/2005	16:30	1196
02/10/2005	17:00	1186
02/10/2005	17:30	1209
02/10/2005	18:00	1196
02/10/2005	18:30	1191
02/10/2005	19:00	1207
02/10/2005	19:30	1209
02/10/2005	20:00	1214
02/10/2005	20:30	1211
02/10/2005	21:00	1185
02/10/2005	21:30	1186
02/10/2005	22:00	1212
02/10/2005	22:30	1206
02/10/2005	23:00	1196
02/10/2005	23:30	1194
02/11/2005	00:00	1199
02/11/2005	00:30	1195
02/11/2005	01:00	1187
02/11/2005	01:30	1154
02/11/2005	02:00	1191
02/11/2005	02:30	1186
02/11/2005	03:00	1160
02/11/2005	03:30	1178
02/11/2005	04:00	1191
02/11/2005	04:30	1192
02/11/2005	05:00	1194
02/11/2005	05:30	1216
02/11/2005	06:00	1175
02/11/2005	07:00	1204
02/11/2005	07:30	1219
02/11/2005	08:00	1184
02/11/2005	08:30	1200
02/11/2005	09:00	1202
02/11/2005	09:30	1175
02/11/2005	10:00	1183
02/11/2005	10:30	1210
02/11/2005	11:00	1215
02/11/2005	11:30	1200
02/11/2005	12:00	1198
02/11/2005	12:30	1218
02/11/2005	13:00	1217
02/11/2005	13:30	1221
02/11/2005	14:00	1220
02/11/2005	14:30	1207
02/22/2005	08:00	1229

TL March 2005

None

TL April 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
04/13/2005	07:00	1242

TL May 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
05/25/2005	17:00	1396
05/27/2005	15:00	1353
05/28/2005	14:00	1394
05/28/2005	16:00	1388
05/28/2005	17:30	1385
05/28/2005	18:30	1383
05/28/2005	21:00	1372
05/28/2005	22:00	1320
05/28/2005	23:00	1324
05/29/2005	05:30	1105
05/29/2005	09:30	1190
05/29/2005	11:00	1296
05/29/2005	15:00	1406
05/29/2005	22:00	1362

TL June 2005

a) Lower than average specific conductivity and salinity values were recorded beginning 06/16/2005 1200 until the end of the month. Likely cause was datalogger being deployed backwards in holder which caused the conductivity sensor to be approx 6cm above normal position. Depth was not affected by this as the position of the depth port remained the same.

TL July 2005

a) Lower than average specific conductivity and salinity values were recorded from the beginning of the month until 07/06/2005 14:30. Likely cause was datalogger being deployed backwards in holder which caused the conductivity sensor to be approx 6cm above normal position. Depth was not affected by this as the position of the depth port remained the same.

b) Average dissolved oxygen levels declined steadily beginning on 07/29/2005 and continuing through the end of the month. Sensor was functioning properly so data were not removed. Likely related to increased presence of macroalgae within the lagoon.

TL August 2005

a) Average dissolved oxygen levels declined from the beginning of the month through 08/08/2005. Sensor was functioning properly so data were not removed. Likely related to increased presence of macroalgae within the lagoon.

b) Higher than average minimum dissolved oxygen values were recorded between 08/19/2005 15:30 and end of month. Likely reason not known. Data were not removed.

TL September 2005

a) Higher than average minimum depth values were recorded between 09/02/2005 - 09/15/2005. Likely cause not known. Data were not removed.

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
09/03/2005	13:00	1275

TL October 2005

a) Lower than average pH values were recorded from 10/05/2005 through the end of the month. Likely cause is unknown and post-calibration data showed probe to be functioning within normal range.

b) a) Higher than average minimum depth values were recorded between 10/03/2005 - 10/21/2005. Likely cause not known. Data were not removed.

c) Average dissolved oxygen levels declined steadily beginning on 10/13/2002 and continuing through the end of the month. Sensor was functioning properly so data were not removed. Likely related to increased presence of macroalgae within the lagoon.

TL November 2005

c) Average dissolved oxygen levels declined from the beginning of the month through 11/22/2005. Sensor was functioning properly so data were not removed. Likely related to increased presence of macroalgae within the lagoon.

TL December 2005

a) Beginning 12/22/2005 03:30:00 through 12/29/2005 04:30:00, Most parameters measured showed lower than average variation. Likely caused by decreased tidal flow at the mouth of the estuary which resulted from sedimentation.

Model Marsh:

MM January 2005

None

MM February 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

02/13/2005	16:00	1002
02/18/2005	14:30	1001
02/18/2005	15:00	1003
02/18/2005	15:30	1002
02/20/2005	14:30	1003
02/20/2005	15:00	1002
02/23/2005	14:30	1001
02/23/2005	15:00	1006

02/23/2005	15:30	1009
02/23/2005	16:00	1009
02/23/2005	16:30	1006
02/24/2005	13:30	1002
02/24/2005	15:00	1013
02/24/2005	17:00	1003
02/25/2005	14:00	1008
02/25/2005	17:00	1001
02/26/2005	14:30	1006
02/26/2005	16:30	1002

MM March 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

03/21/2005	23:00	1018
03/27/2005	14:30	1019
03/28/2005	15:00	1019
03/28/2005	16:30	1032
03/29/2005	14:30	1047
03/29/2005	15:00	1051
03/29/2005	19:00	1033
03/30/2005	10:30	1002
03/30/2005	11:00	1011
03/30/2005	11:30	1018
03/30/2005	12:00	1025
03/30/2005	12:30	1028
03/30/2005	13:00	1033
03/30/2005	13:30	1037
03/30/2005	15:00	1056
03/30/2005	15:30	1058
03/30/2005	17:00	1052
03/30/2005	18:30	1041
03/30/2005	19:00	1038
03/30/2005	20:30	1035
03/30/2005	21:00	1034
03/31/2005	05:00	1001
03/31/2005	05:30	1001
03/31/2005	10:30	1004
03/31/2005	11:00	1007
03/31/2005	11:30	1012
03/31/2005	13:00	1029
03/31/2005	13:30	1036
03/31/2005	15:00	1003
03/31/2005	15:30	1052
03/31/2005	16:00	1051
03/31/2005	16:30	1010
03/31/2005	17:00	1057
03/31/2005	17:30	1054
03/31/2005	19:00	1048
03/31/2005	19:30	1045
03/31/2005	21:00	1037
03/31/2005	21:30	1034
03/31/2005	23:00	1030
03/31/2005	23:30	1029

MM April 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

04/01/2005	03:30	1013
04/01/2005	04:00	1013
04/01/2005	06:00	1004
04/01/2005	12:30	1034
04/01/2005	14:00	1050
04/01/2005	15:30	1060
04/01/2005	16:00	1058
04/01/2005	17:00	1053
04/01/2005	17:30	1049
04/01/2005	19:00	1044
04/01/2005	19:30	1042
04/01/2005	21:00	1039
04/01/2005	21:30	1036
04/01/2005	22:30	1036
04/01/2005	23:00	1035
04/02/2005	00:00	1033
04/02/2005	00:30	1032
04/02/2005	06:00	1007
04/02/2005	17:30	1049
04/02/2005	19:30	1047
04/02/2005	21:30	1040
04/02/2005	23:00	1030
04/02/2005	23:30	1029
04/06/2005	14:00	1016
04/06/2005	16:00	1064
04/06/2005	17:30	1050
04/07/2005	10:30	1008
04/07/2005	13:00	1039
04/07/2005	16:30	1052
04/08/2005	11:30	1021
04/08/2005	13:00	1043
04/08/2005	13:30	1047
04/08/2005	15:00	1052
04/08/2005	15:30	1053
04/08/2005	17:00	1045
04/09/2005	12:30	1014
04/09/2005	14:00	1043
04/09/2005	14:30	1045
04/09/2005	16:00	1050
04/09/2005	16:30	1027
04/09/2005	18:00	1030
04/09/2005	18:30	1019
04/09/2005	19:00	1004
04/10/2005	13:00	1029
04/10/2005	13:30	1041
04/10/2005	14:30	1052
04/10/2005	15:00	1055
04/10/2005	16:30	1058
04/10/2005	17:00	1055
04/10/2005	18:30	1029
04/10/2005	19:00	1021
04/10/2005	19:30	1022
04/11/2005	12:00	1002

04/11/2005	12:30	1001
04/11/2005	13:00	1005
04/11/2005	14:30	1068
04/11/2005	15:00	1062
04/11/2005	16:00	1074
04/11/2005	16:30	1073
04/11/2005	17:30	1063
04/11/2005	18:00	1054
04/11/2005	19:30	1029
04/11/2005	20:00	1020
04/12/2005	10:30	1002
04/12/2005	12:00	1003
04/12/2005	12:30	1018
04/12/2005	13:00	1020
04/12/2005	14:30	1047
04/12/2005	15:00	1058
04/12/2005	16:00	1067
04/12/2005	16:30	1072
04/12/2005	18:00	1064
04/12/2005	18:30	1058
04/12/2005	20:00	1048
04/12/2005	20:30	1042
04/13/2005	09:30	1005
04/13/2005	11:00	1018
04/13/2005	12:00	1031
04/13/2005	13:00	1023
04/13/2005	14:00	1048
04/13/2005	15:00	1059
04/13/2005	16:00	1049
04/13/2005	17:00	1065
04/13/2005	17:30	1063
04/13/2005	18:30	1005
04/13/2005	19:00	1060
04/13/2005	19:30	1059
04/13/2005	21:00	1049
04/13/2005	21:30	1037
04/14/2005	03:00	1002
04/14/2005	04:30	1006
04/14/2005	05:30	1007
04/14/2005	07:00	1005
04/14/2005	08:00	1003
04/14/2005	09:30	1012

MM May 2005

None

MM June 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

06/19/2005 18:30 1047

06/21/2005 00:00 1045

MM July 2005

a) Between 07/07/2005 and 07/18/2005 average turbidity values were very high and periods of high values continued until 07/24/2005 of deployment. Likely reason not known and wiper was functioning properly. Data were not removed.

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
07/05/2005	05:00	1052
07/05/2005	17:30	1117
07/05/2005	18:00	1094
07/05/2005	23:00	1051
07/05/2005	23:30	1057
07/07/2005	00:00	1057
07/07/2005	00:30	1027

c) Negative depth values were recorded on the following dates and times. The sensors were not out of the water so the data were not deleted:

Date	Time	Depth
07/28/2005	22:00	-0.01
07/28/2005	22:30	-0.01

MM August 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
08/19/2005	00:00	1061

b) Negative depth values were recorded on the following dates and times. The sensors were not out of the water so the data were not deleted:

Date	Time	Depth
08/03/2005	14:00	-0.03
08/03/2005	14:30	-0.09
08/03/2005	15:00	-0.11
08/03/2005	15:30	-0.10
08/03/2005	16:00	-0.01
08/04/2005	14:00	-0.06
08/04/2005	14:30	-0.13
08/04/2005	15:00	-0.17
08/04/2005	15:30	-0.18
08/04/2005	16:00	-0.17
08/04/2005	16:30	-0.12
08/05/2005	14:30	-0.09
08/05/2005	15:00	-0.14
08/05/2005	15:30	-0.18
08/05/2005	16:00	-0.20
08/05/2005	16:30	-0.21
08/05/2005	17:00	-0.17
08/05/2005	17:30	-0.03
08/06/2005	15:00	-0.06
08/06/2005	15:30	-0.10
08/06/2005	16:00	-0.14
08/06/2005	16:30	-0.15
08/06/2005	17:00	-0.15
08/06/2005	17:30	-0.11
08/07/2005	15:30	-0.03

08/07/2005	16:00	-0.06
08/07/2005	16:30	-0.07
08/07/2005	17:00	-0.09
08/07/2005	17:30	-0.10
08/07/2005	18:00	-0.10
08/07/2005	18:30	-0.03
08/08/2005	15:30	-0.02
08/08/2005	16:00	-0.07
08/08/2005	16:30	-0.11
08/08/2005	17:00	-0.14
08/08/2005	17:30	-0.15
08/08/2005	18:00	-0.15
08/08/2005	18:30	-0.15
08/08/2005	19:00	-0.12
08/08/2005	19:30	-0.05
08/09/2005	16:00	-0.01
08/09/2005	16:30	-0.05
08/09/2005	17:00	-0.09
08/09/2005	17:30	-0.11
08/09/2005	18:00	-0.11
08/09/2005	18:30	-0.11
08/09/2005	19:00	-0.10
08/09/2005	19:30	-0.09
08/09/2005	20:00	-0.07
08/09/2005	20:30	-0.01
08/10/2005	17:00	-0.05
08/10/2005	17:30	-0.09
08/10/2005	18:00	-0.11
08/10/2005	18:30	-0.13
08/10/2005	19:00	-0.13
08/10/2005	19:30	-0.12
08/10/2005	20:00	-0.11
08/10/2005	20:30	-0.10
08/10/2005	21:00	-0.09
08/10/2005	21:30	-0.04
08/11/2005	18:00	-0.03
08/11/2005	18:30	-0.07
08/11/2005	19:00	-0.10
08/11/2005	19:30	-0.11
08/11/2005	20:00	-0.11
08/11/2005	20:30	-0.10
08/11/2005	21:00	-0.09
08/11/2005	21:30	-0.08
08/11/2005	22:00	-0.07
08/11/2005	22:30	-0.06
08/11/2005	23:00	-0.04
08/11/2005	23:30	-0.02
08/12/2005	20:00	-0.01
08/12/2005	20:30	-0.04
08/12/2005	21:00	-0.05
08/12/2005	21:30	-0.04
08/12/2005	22:00	-0.04
08/12/2005	22:30	-0.04
08/12/2005	23:00	-0.03
08/12/2005	23:30	-0.03
08/13/2005	00:00	-0.02
08/13/2005	00:30	-0.02

08/13/2005	01:00	-0.01
08/13/2005	01:30	-0.01
08/17/2005	13:30	-0.04
08/17/2005	14:00	-0.04
08/18/2005	13:00	-0.07
08/18/2005	13:30	-0.13
08/18/2005	14:00	-0.17
08/18/2005	14:30	-0.20
08/18/2005	15:00	-0.23
08/18/2005	15:30	-0.21
08/18/2005	16:00	-0.10
08/19/2005	13:30	-0.04
08/19/2005	14:00	-0.09
08/19/2005	14:30	-0.13
08/19/2005	15:00	-0.16
08/19/2005	15:30	-0.18

MM September 2005

a) Negative depth values were recorded on the following dates and times. The sensors were not out of the water so the data were not deleted:

Date	Time	Depth
09/03/2005	15:30	-0.03
09/03/2005	16:00	-0.05
09/03/2005	16:30	-0.06
09/03/2005	17:00	-0.04
09/04/2005	15:30	-0.03
09/04/2005	16:00	-0.06
09/04/2005	16:30	-0.08
09/04/2005	17:00	-0.08
09/04/2005	17:30	-0.07
09/05/2005	15:30	-0.04
09/05/2005	16:00	-0.08
09/05/2005	16:30	-0.10
09/05/2005	17:00	-0.10
09/05/2005	17:30	-0.10
09/05/2005	18:00	-0.08
09/05/2005	18:30	-0.03
09/06/2005	16:00	-0.03
09/06/2005	16:30	-0.07
09/06/2005	17:00	-0.08
09/06/2005	17:30	-0.08
09/06/2005	18:00	-0.07
09/06/2005	18:30	-0.06
09/06/2005	19:00	-0.04
09/07/2005	16:30	-0.05
09/07/2005	17:00	-0.09
09/07/2005	17:30	-0.11
09/07/2005	18:00	-0.11
09/07/2005	18:30	-0.09
09/07/2005	19:00	-0.07
09/07/2005	19:30	-0.04
09/08/2005	17:30	-0.03
09/08/2005	18:00	-0.05
09/08/2005	18:30	-0.05
09/08/2005	19:00	-0.03
09/08/2005	19:30	-0.01

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
10/06/2005	16:00	1099
10/06/2005	16:30	1097
10/20/2005	12:30	1069
10/20/2005	16:00	1086
10/20/2005	17:00	1083
10/20/2005	18:00	1078
10/20/2005	19:00	1071
10/20/2005	20:00	1066
10/20/2005	21:00	1054
10/20/2005	22:00	1060
10/20/2005	23:00	1059
10/21/2005	00:00	1059
10/21/2005	01:00	1059
10/21/2005	02:00	1059
10/21/2005	03:00	1059
10/21/2005	04:00	1057
10/21/2005	05:00	1053
10/21/2005	06:00	1056
10/21/2005	07:00	1057
10/21/2005	08:00	1058
10/21/2005	09:00	1056
10/21/2005	10:00	1053
10/21/2005	11:00	1054
10/21/2005	12:00	1056
10/21/2005	13:00	1060
10/21/2005	15:00	1055
10/21/2005	16:00	1066
10/21/2005	17:30	1036
10/21/2005	18:30	1062
10/21/2005	20:00	1058
10/21/2005	22:30	1042
10/21/2005	23:30	1054
10/22/2005	01:00	1042
10/22/2005	03:30	1054
10/22/2005	04:30	1054
10/22/2005	06:00	1034
10/22/2005	07:00	1054
10/22/2005	08:30	1053
10/22/2005	09:30	1029
10/22/2005	12:00	1047
10/22/2005	14:30	1055
10/22/2005	15:30	1057
10/22/2005	16:30	1057
10/22/2005	17:30	1056

c) Negative depth values were recorded on the following dates and times. The sensors were not out of the water so the data were not deleted:

Date	Time	Depth
10/14/2005	15:00	-0.02

MM November 2005

MM December 2005

a) Beginning 12/22/2005 03:30:00 through 12/29/2005 04:30:00, Most parameters measured showed lower than average variation. Likely caused by decreased tidal flow at the mouth of the estuary which resulted from sedimentation.

Boca Rio:

BR January 2005

None

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
01/03/2005	14:00	1274
01/03/2005	14:30	1276
01/03/2005	15:00	1275
01/03/2005	15:30	1275
01/03/2005	16:00	1272
01/03/2005	16:30	1273
01/03/2005	17:00	1028
01/03/2005	17:30	1091
01/03/2005	19:30	1282
01/03/2005	20:00	1282
01/03/2005	22:00	1279
01/03/2005	23:00	1279
01/03/2005	23:30	1281
01/04/2005	00:00	1279
01/04/2005	01:00	1282
01/04/2005	01:30	1291
01/04/2005	02:00	1291
01/04/2005	14:30	1258
01/04/2005	15:30	1196
01/05/2005	01:00	1252
01/05/2005	01:30	1251
01/05/2005	02:00	1251
01/05/2005	02:30	1250
01/05/2005	03:00	1236
01/05/2005	03:30	1251
01/05/2005	04:00	1161
01/05/2005	04:30	1082
01/05/2005	06:30	1247
01/08/2005	02:30	1278
01/10/2005	03:30	1294
01/10/2005	04:00	1302
01/11/2005	19:30	1261
01/11/2005	20:00	1296
01/11/2005	20:30	1296
01/11/2005	21:00	1295
01/11/2005	21:30	1294
01/11/2005	22:00	1292
01/11/2005	22:30	1292
01/11/2005	23:00	1292
01/12/2005	00:00	1292
01/12/2005	00:30	1020
01/12/2005	01:00	1254

01/12/2005	05:00	1046
01/12/2005	05:30	1259
01/12/2005	06:00	1282
01/12/2005	07:00	1282
01/12/2005	07:30	1289
01/23/2005	06:00	1101
01/23/2005	06:30	1102
01/26/2005	20:00	1106
01/26/2005	20:30	1084
01/26/2005	21:30	1106
01/27/2005	07:30	1105
01/27/2005	13:30	1121

BR February 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
02/09/2005	07:30	1096
02/11/2005	21:00	1105
02/12/2005	08:00	1093
02/12/2005	08:30	1092
02/12/2005	09:00	1065
02/12/2005	10:00	1094
02/12/2005	10:30	1096
02/12/2005	11:00	1015
02/12/2005	11:30	1096
02/12/2005	14:00	1095
02/12/2005	21:00	1095
02/12/2005	21:30	1096
02/12/2005	22:00	1096
02/12/2005	22:30	1096
02/12/2005	23:00	1095
02/12/2005	23:30	1080
02/13/2005	01:30	1096

BR March 2005

None

BR April 2005

a) Higher than average turbidity values beginning 04/05/2005 through 04/14/2005. Postcalibration data showed sensor to functioning within acceptable range. Data were not removed.

b) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
04/05/2005	13:30	1001
04/07/2005	14:00	1003
04/07/2005	14:30	1006
04/07/2005	16:30	1010
04/08/2005	15:30	1008
04/08/2005	16:00	1010
04/09/2005	16:00	1008
04/09/2005	16:30	1007

04/11/2005 17:30 1000

BR May 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
05/22/2005	23:00	1005
05/27/2005	21:00	1007

BR June 2005

a) Highly positive turbidity values (>1000 NTU) were recorded on the following dates and times which were not consistent with the overall data set. Data were not removed.

Date	Time	Turbidity
06/29/2005	07:30	1290
06/29/2005	18:00	1262
06/29/2005	19:30	1281
06/30/2005	19:00	1262

BR July 2005

a) Lower than average pH values were recorded between 7/30/2005 and the end of the month. No reason found. Data were not deleted.

BR August 2005

a) Lower than average pH values were recorded from the beginning of the month until 08/04/2005. No reason found. Data were not deleted.

BR September 2005

BR October 2005

BR November 2005

BR December 2005

a) Beginning 12/22/2005 03:30:00 through 12/29/2005 04:30:00, Most parameters measured showed lower than average variation. Likely caused by decreased tidal flow at the mouth of the estuary which resulted from sedimentation.

12) Deleted Data

Oneonta Slough:

OS January 2005

No data were deleted

OS February 2005

No data were deleted

OS March 2005

No data were deleted

OS April 2005

No data were deleted

OS May 2005

No data were deleted

OS June 2005

a) 06/09/2005 22:30:00 - 06/15/2005 11:00:00, turbidity data was deleted. Wiper was parking on optics.

b) 06/29/2005 01:30:00 - 06/30/2005 23:30, turbidity data was deleted. Wiper was parking on optics.

OS July 2005

a) 07/01/2005 00:00 - 07/06/2005 14:00:00, turbidity data was deleted. Wiper was parking on optics.

OS August 2005

No data were deleted

OS September 2005

a) 09/16/2005 13:30:00 - 09/30/2005 23:30, pH values were abnormally high throughout deployment. Post calibration data shows sensor was not reading within acceptable range. Data were deleted.

OS October 2005

a) 10/01/2005 00:00 - 10/03/2005 13:00, pH values were abnormally high throughout deployment. Post calibration data shows sensor was not reading within acceptable range. Data were deleted.

a) 10/04/2005 15:00 - 10/21/2005 15:00, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) are missing. Recorded values showed a steady decline during deployment and Post calibration values were lower than acceptable. Data were deleted.

OS November 2005

No data were deleted

OS December 2005

No data were deleted

Tidal Linkage:

TL January 2005

a) 01/05/2005 23:00 - 01/06/2005 00:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Recorded values were outside the manufacturers specified range.

TL February 2005

a) 02/25/2005 08:00:00 - 02/28/2005 23:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Recorded values were outside the manufacturers specified range.

TL March 2005

b) 03/01/2005 00:00 - 03/17/2005 10:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Recorded values were outside the manufacturers specified range.

a) 03/31/2005 02:00:00 - 03/31/2005 23:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Recorded values were outside the manufacturers specified range.

TL April 2005

a) 04/01/2005 00:00 - 04/14/2005 11:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Recorded values were outside the manufacturers specified range.

b) Negative dissolved oxygen (percent saturation and mg/L) were deleted for the following dates and times. Suspect short-term contamination from being deployed in close proximity to sediment that contains high levels of sulfur compounds.

04/19/2005 03:30:00
04/19/2005 04:00:00
04/19/2005 08:00:00
04/19/2005 08:30:00
04/19/2005 09:00:00
04/20/2005 00:30:00
04/20/2005 01:00:00
04/20/2005 01:30:00
04/20/2005 02:00:00
04/20/2005 02:30:00
04/20/2005 03:00:00
04/20/2005 03:30:00
04/20/2005 04:00:00
04/20/2005 05:30:00
04/20/2005 06:30:00
04/20/2005 07:00:00
04/20/2005 07:30:00
04/21/2005 01:30:00
04/21/2005 02:00:00
04/21/2005 02:30:00
04/21/2005 03:00:00
04/21/2005 03:30:00
04/21/2005 04:00:00
04/22/2005 03:30:00
04/22/2005 04:00:00
04/22/2005 04:30:00
04/22/2005 05:00:00
04/22/2005 05:30:00
04/22/2005 06:00:00
04/23/2005 05:30:00
04/24/2005 03:00:00
04/24/2005 03:30:00
04/24/2005 04:00:00
04/24/2005 04:30:00
04/28/2005 22:00:00
04/28/2005 22:30:00

04/28/2005	23:00:00
04/28/2005	23:30:00
04/29/2005	02:30:00
04/29/2005	03:00:00
04/29/2005	03:30:00
04/29/2005	04:00:00
04/29/2005	04:30:00
04/29/2005	05:00:00
04/29/2005	05:30:00
04/29/2005	06:00:00
04/29/2005	06:30:00
04/29/2005	07:00:00
04/29/2005	07:30:00
04/29/2005	08:00:00
04/29/2005	22:30:00
04/30/2005	03:00:00
04/30/2005	03:30:00
04/30/2005	04:00:00
04/30/2005	04:30:00
04/30/2005	05:00:00
04/30/2005	05:30:00
04/30/2005	06:00:00
04/30/2005	06:30:00
04/30/2005	07:00:00
04/30/2005	07:30:00
04/30/2005	08:00:00

TL May 2005

a) Negative dissolved oxygen (percent saturation and mg/L) were deleted for the following dates and times. Suspect short-term contamination from being deployed in close proximity to sediment that contains high levels of sulfur compounds.

05/01/2005	01:00:00
05/01/2005	01:30:00
05/01/2005	02:00:00
05/01/2005	02:30:00
05/01/2005	03:00:00
05/01/2005	03:30:00
05/01/2005	04:00:00
05/01/2005	04:30:00
05/01/2005	05:00:00
05/01/2005	05:30:00
05/01/2005	06:00:00
05/01/2005	06:30:00
05/01/2005	07:00:00
05/01/2005	07:30:00
05/01/2005	08:00:00
05/01/2005	20:00:00
05/01/2005	20:30:00
05/01/2005	21:00:00
05/01/2005	21:30:00
05/01/2005	22:00:00
05/01/2005	22:30:00
05/01/2005	23:00:00
05/01/2005	23:30:00
05/02/2005	00:00:00
05/02/2005	00:30:00
05/02/2005	01:00:00

05/02/2005 01:30:00
05/02/2005 02:00:00
05/02/2005 02:30:00
05/02/2005 03:00:00
05/02/2005 03:30:00
05/02/2005 04:00:00
05/02/2005 04:30:00
05/02/2005 05:00:00
05/02/2005 05:30:00
05/02/2005 06:00:00
05/02/2005 06:30:00
05/02/2005 07:00:00
05/02/2005 07:30:00
05/02/2005 08:00:00
05/02/2005 20:00:00
05/02/2005 20:30:00
05/02/2005 21:00:00
05/02/2005 21:30:00
05/02/2005 22:00:00
05/02/2005 22:30:00
05/02/2005 23:00:00
05/02/2005 23:30:00
05/03/2005 00:00:00
05/03/2005 02:30:00
05/03/2005 03:30:00
05/03/2005 04:00:00

b) 05/06/2005 12:30 - 05/18/2005 12:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment and examination after deployment showed a puncture in membrane.

c) 05/19/2005 16:00 - 05/31/2005 23:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

TL June 2005

a) 06/01/2005 00:00 - 06/02/2005 11:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

b) 06/16/2005 12:00 - 06/30/2005 23:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

TL July 2005

a) 07/01/2005 00:00 - 07/06/2005 14:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

TL August 2005

a) 08/08/2005 20:30 - 08/18/2005 12:00, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

TL September 2005

a) 09/03/2005 13:30:00 - 09/15/2005 10:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

b) 09/16/2005 14:30:00 - 09/30/2005 23:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

TL October 2005

a) 10/01/2005 00:00 - 10/03/2005 13:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment.

b) 10/22/2005 17:00 - 10/31/2005 23:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/L) were deleted. Very high charge throughout deployment.

TL November 2005

a) 11/01/2005 00:00 - 11/06/2005 17:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/L) were deleted. Very high charge throughout deployment.

b) 11/24/2005 01:30 - 11/30/2005 23:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment and post calibration was out of acceptable range.

TL December 2005

a) 12/1/2005 00:00 - 12/10/2005 11:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Very high charge throughout deployment and post calibration was out of acceptable range.

Model Marsh:

MM January 2005

a) 01/01/2005 00:00 - 01/19/2005 14:30, all parameters except depth were deleted. Sonde was buried in sediment.

MM February 2005

No deleted data

MM March 2005

a) 03/05/2005 02:30 - 03/17/2005 13:00, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Sensor face was buried in sediment.

b) 3/25/2005 05:00:00, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) were deleted. Recorded values were outside the manufacturers specified range.

MM April 2005

No deleted data

MM May 2005

No deleted data

MM June 2005

No deleted data

MM July 2005
No deleted data

MM August 2005
No deleted data

MM September 2005
No deleted data

MM October 2005
No deleted data

MM November 2005
No deleted data

MM December 2005
No deleted data

Boca Rio:
BR January 2005
No data were deleted

BR February 2005
No data were deleted

BR March 2005
No data were deleted

BR April 2005
No data were deleted

BR May 2005
No data were deleted

BR June 2005
06/01/2005 22:30 - 06/20/2005 12:30, turbidity data were deleted. Wiper was parking on optics during deployment.

BR July 2005
a) dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) values were deleted for the following dates and times. Recorded values were outside manufactures specified range for the sensor:
07/30/2005,02:00:00 - 07/30,03:00:00
07/30/2005,14:00:00 - 07/30,15:00:00, 19:00:00
07/31/2005,03:00:00 - 07/31,20:00:00

BR August 2005
No data were deleted

BR September 2005
No data were deleted

BR October 2005
a) 10/06/2005 05:00 - 10/21/2005 17:30, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) values were deleted. Post-calibration reading outside acceptable range. Pre-calibration file data shows sensor started to drift before deployment.

BR November 2005
No data were deleted

BR December 2005

a) 12/11/2005,14:00:00 - 12/31,23:30:00, dissolved oxygen (percent saturation) and dissolved oxygen (mg/l) values were deleted. Faulty probe or contaminated port the likely cause.

13) Missing Data

Data are missing due to equipment failure, specific probes not being deployed, and time of maintenance or calibration of equipment. For more details on deleted data, see Deleted Data Section (12.). If additional information on missing data are needed, contact the Research Coordinator at the reserve submitting the data.

14) Post deployment information

nd = no data

numbers in parentheses are used if standard differs from those stated.

Site	Date	SpCond	DO%	Depth	pH	Turb
	mm/dd/yyyy	std(50)	std(100)	std(0)	std(7)	std(0)
BR	01/21/2005	49.14	100	-0.066	7.16	-0.5
	02/17/2005	52.94	106.5	0.028	7.08	0.2
	03/18/2005	46.79	43.7	0.008	7.25	0.7
	04/18/2005	49.63	101.1	0.019	7.06	0.6
	05/04/2005	nd	nd	nd	nd	nd
	05/19/2005	46.88	103.4	-0.074	7.02	0
	06/20/2005	48.98	97.3	nd	7.02	.4
	05/19/2005	49.78	50.4	-0.004	7.04	-1.3
	07/28/2005	48.88	95.2	0.014	6.95	0
	08/19/2005	51	109	-0.012	7	-0.3
	09/02/2005	50.67	79.3	0.021	7.69	-1.3
	09/16/2005	50.21	100.7	-0.053	7.07	-0.5
	10/04/2005	49.2	64.1	0.037	6.9	.9
	10/22/2005	49.71	104.5	0.002	6.97	-1.0
	11/07/2005	50.70	112.2	-0.017	6.92	-0.9
	11/23/2005	49.2	101.2	0.043	6.94	0.4
	12/11/2005	50.7	150	0.013	7.26	0.1
MM	01/21/2005	50	100	-0.066	7.16	-0.5
	02/03/2005	53.29	99.3	0.019	7.02	0
	03/01/2005	53.21	108	-0.014	7.06	0.8
	03/18/2005	45.28	115.9	0.009	7.05	-0.3
	04/18/2005	49.7	47	0.022	6.95	0
	05/04/2005	49.77	101.5	-0.033	6.99	0
	07/07/2005	49.32	99.3	-0.017	6.88	-0.1
	05/19/2005	48.9	109	-0.014	7	-1
	06/17/2005	50.33	97.7	nd	7.02	2

	07/28/2005	49.46	101.5	0	6.98	0.1
	08/19/2005	49.71	98	0.010	7.01	0
	09/02/2005	49.9	99.6	0.002	6.96	0.4
	09/16/2005	50.31	105.9	-0.098	6.96	-1.4
	10/04/2005	49.53	100.1	0.001	7.07	-0.2
	10/22/2005	49.37	104.6	0/002	7.00	10
	11/07/2005	50.2	99.1	0.166	7.01	-0.9
	11/23/2005	49.36	101.2	0.034	7.06	0.2
	12/11/2005	49.79	114.2	-0.001	7.04	-0.6
OS	01/20/2005	50	nd	-0.047	7	-0.5
	02/18/2005	52.37	111	0.045	7.11	1.1
	03/18/2005	45.66	94.5	-0.006	6.91	-0.1
	04/18/2005	49.52	95.5	0.015	6.91	0.9
	05/04/2005	49.81	101.3	-0.035	6.95	-0.3
	05/19/2005	49.35	105.5	-0.002	7.28	-0.1
	06/16/2005	50.25	101.2	-0.022	6.99	1.1
	07/07/2005	51.0	104.1	-0.021	7.03	-1
	07/28/2005	50.03	90.6	-0.029	7.02	2.5
	08/22/2005	49.88	99.2	0.025	6.97	-0.2
	09/02/2005	50.69	100.5	0.039	6.86	4.6
	09/16/2005	50.39	109.8	-0.086	9.711	0.3
	10/04/2005	50.23	57.5	0.13	7.15	0
	10/22/2005	49.36	99.9	0.001	7.07	-0.6
	11/07/2005	47.54	130	0.023	7.05	-0.5
	11/23/2005	50.8	103.6	0.028	7	1.2
	12/11/2005	48.74	59.6	-0.003	7.14	0.4
TL	02/17/2005	54.51	114	0.043	7.06	-0.6
	03/18/2005	45.90	105.8	0.003	7.12	1.4
	04/18/2005	49.32	103.9	0.018	6.94	0
	05/04/2005	50.83	330.1	-0.035	7.1	-0.6
	05/19/2005	49.06	143.4	-0.035	6.96	0.3
	06/16/2005	49.98	147.9	-0.026	7.00	0.6
	07/07/2005	nd	nd	nd	nd	nd
	07/28/2005	49.50	61	-0.053	7.09	0.5
	08/19/2005	49.98	111	-0.071	6.97	-0.1
	09/02/2005	50.59	127.3	0.177	7.26	0.4
	09/06/2005	50.48	140.9	-0.102	7.04	3.1
	10/22/2005	50.6	114.8	nd	6.88	-0.5
	11/07/2005	50.58	103.8	0.152	6.95	16.1
	11/23/2005	49.7	131	0.17	7.11	0.2
	12/11/2005	48.46	99.2	-0.018	7.13	-0.5

15) Other Remarks

On 08/13/2020 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.

a) Hypoxic (< 20%) and super-saturation (>100%) dissolved oxygen events were recorded at all sites. The events were cyclic (primarily diel) and the duration of each event was less than 24hrs.

b) 2003 Daily Rainfall Totals Recorded at Tijuana Estuary:

Date	Ppt (mm)
01/01/2005	0.25
01/03/2005	28.19
01/04/2005	24.13
01/07/2005	11.94
01/08/2005	1.78
01/09/2005	12.45
01/10/2005	0.51
01/11/2005	19.30
01/12/2005	1.02
01/25/2005	0.25
01/28/2005	3.05
02/10/2005	0.76
02/11/2005	24.89
02/12/2005	5.33
02/17/2005	0.51
02/18/2005	10.67
02/19/2005	1.52
02/20/2005	4.57
02/21/2005	47.24
02/22/2005	38.61
02/23/2005	5.33
03/02/2005	0.25
03/03/2005	0.25
03/04/2005	18.29
03/05/2005	4.06
03/18/2005	0.25
03/19/2005	0.51
03/22/2005	4.32
03/23/2005	1.52
03/24/2005	1.27
03/28/2005	0.25
04/08/2005	0.25
04/20/2005	0.25
04/22/2005	0.25
04/24/2005	0.51
04/28/2005	7.62
05/05/2005	0.51
05/06/2005	0.76
05/10/2005	0.25
09/20/2005	0.76
10/16/2005	0.76

10/17/2005	4.57
10/18/2005	4.83
10/19/2005	0.25
11/10/2005	1.27
11/11/2005	1.27
11/12/2005	0.76
11/21/2005	0.25
11/26/2005	0.25
12/02/2005	0.51
12/03/2005	2.29
12/31/2005	1.52

Oneonta Slough

OS January 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of January. Likely related to rain. Please refer to section 15 b. for rainfall details.

OS February 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of February. Likely related to rain. Please refer to section 15.b for rainfall details.

OS March 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of March. Likely related to rain. Please refer to section 15.b for rainfall details.

OS April 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of April. Likely related to rain. Please refer to section 15.b for rainfall details.

OS May 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of May. Likely related to rain. Please refer to section 15.b for rainfall details.

OS October 2005

d) Lower than average specific conductivity and salinity values were recorded beginning 10/17/2005 through the end of the month. Likely related to rain. Please refer to section 15.b for rainfall details.

Tidal Linkage:

TL January 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of January. Likely related to rain. Please refer to section 15.b for rainfall details.

TL February 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of February. Likely related to rain. Please refer to section 15.b for rainfall details.

TL March 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of March. Likely related to rain. Please refer to section 15.b for rainfall details.

TL April 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of April. Likely related to rain. Please refer to section 15.b for rainfall details.

TL May 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of May. Likely related to rain. Please refer to section 15.b for rainfall details.

Model Marsh:

MM January 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of January. Likely related to rain. Please refer to section 15.b for rainfall details.

MM February 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of February. Likely related to rain. Please refer to section 15.b for rainfall details.

MM March 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of March. Likely related to rain. Please refer to section 15.b for rainfall details.

MM April 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of April. Likely related to rain. Please refer to section 15.b for rainfall details.

MM May 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of May. Likely related to rain. Please refer to section 15.b for rainfall details.

MM October 2005

a) Lower than average specific conductivity and salinity values were recorded between 10/19/2005 and 10/22/2005. Likely cause by rain. See section 15.b for rainfall details.

Boca Rio:

BR January 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of January. Likely related to rain. Please refer to section 15.b for rainfall details.

BR February 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of February. Likely related to rain. Please refer to section 15.b for rainfall details.

BR March 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of March. Likely related to rain. Please refer to section 15.b for rainfall details.

BR April 2005

a) Lower than average specific conductivity and salinity and higher than average dissolved oxygen and turbidity values were recorded throughout the month of April. Likely related to rain. Please refer to section 15.b for rainfall details.

BR May 2005

a) Lower than average specific conductivity, salinity and pH values were recorded and higher than average turbidity values were recorded throughout the month of May. Likely related to rain. Please refer to section 15.b for rainfall details.