

Jobos Bay (JOB) NERR Water Quality Metadata
January to December 2003
Latest Update: August 12, 2020

I. Data Set & Research Descriptors

1. Principal investigator(s) and contact persons

Principal Investigator:

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2. Entry verification:

After retrieving and carefully cleaning the data loggers, they are examined to detect any structural damage to the body or to the probes.

The DO

membrane is checked for ruptures and then replaced if needed. The turbidity

probe is examined to assure that no obstruction affects the wiper and that the

sensor is clean. Manipulation and observations are registered in the field log

for each deployment respectively.

The YSI is connected to a Pentium II 400 MHz IBM compatible computer and

the data are reviewed using the YSI computer program Ecowatch for Windows that

accompanies the YSI 6000 data logger. The file is uploaded in two formats, one in YSI PC6000 format and the other in Comma Delimited format, then the file is renamed to have a ".txt" extension. The YSI Ecowatch for Windows program is used to plot the data and delete the pre and post deployment data that are not in range of the other readings. The program is used to perform basic statistical analysis (i.e., min., max., mean, std. dev.). Data are initially reviewed using the Ecowatch graphing tool. Data for a month are compiled into one single Excel 2000 data sheet for further examination to detect gross outliers, and data recorded during instrument retrieval or caused by instrument failure.

Missing dates and times are checked before submitting the data to the Centralized Data Management Office. CDMO Excel macros are provided to assist in data reviewing and data editing. Data are opened with this program and empty or unrecorded data spaces are filled with periods. Columns are corrected for specific format (correct data size and number of decimal place holders are specified by the NERR CDMO). Data and time readings are also checked. This program also identifies outliers. The outliers file is saved and printed for revision of each file. Missing data and explanatory reasons are recorded in the anomalous data section (section 11) of this metadata.

Data that are found to be out of the instrument range or normal parameters for each sampling station are removed from the file and a period is inserted into the cell(s). Periods were later removed for data dissemination purposes and left blank. Explanations for changes in data are also included in the metadata. Data that are outside the "normal" range of water quality for a particular site are investigated for validity based on field observation, QC check, Ecowatch for Windows print outs, and the instrument diagnostics. The metadata form is submitted with the data to the CDMO. The data are stored in Zip and CD disks. The person responsible for the data QA/QC is Luis A. Encarnación.

3. Research Objectives:

Four data loggers are deployed in Jobos Bay. Two are deployed in inner lagoons of the Mar Negro Component and the other two in the Bay of the Jobos Bay National Estuarine Research Reserve. The instruments are suspended from a pole at a distance of 0.3 meters from the bottom at each selected site. Data from stations 9, 10, 19 and 20 are being submitted to the Centralized Data Management Office as part of the System-Wide Monitoring Program. Measurements are taken at thirty-minute intervals for approximately two-week periods. The sites are identified as representative of areas within the reserve and comparable to the sites that may be receiving impact from human activities from surroundings areas or may act as a habitat gradient in the Bay.

Station number nine (9), the impacted site, collects water quality data in a site associated with runoff from littoral and basin mangrove areas. This sampling station is located in the most inland lagoon, closest to the Thermoelectric Power Plant. It is subjected to runoff, which may include potential oil spill contamination from this industrial facility. Information compiled from historical environmental documents, indicate that station nine (9) was used as a disposal site for residues of the previously operating sugar mill operation, and therefore might have high organic input into the sediments.

Station number ten (10), located in a mangrove lagoon area towards the southwestern section of Mar Negro is considered the reference or non-impacted site.

Station number (19) is located over a sea grass bed (*Thalassia testudinum*) in the inner western part of the bay just northeast of Cayo Colchones. This station is located near the thermal outfall and operating piers of the Aguirre Power Plant Complex, both activities may have significant effects on sea grass communities. This area is exposed to barge standings, sediment re-suspension and oil spills.

Station number (20) is located on the eastern inner bay section of the Cayos Caribe cays. This station is just south of the mangrove islets associated with the Reserve's coral reefs. Water streams coming through the coral platform

may help characterize water conditions of the main marine currents reaching Jobos Bay, as well as, possible effects of industrial and chemical activities associated with Phillips Core, AES Coal Energy Plant and Pharmaceuticals located just east to this system.

4. Research methods:

The National Estuarine Research Reserve Water Quality Monitoring Program began sampling at Station nine (9) on December 20, 1995 and Station ten (10) on February 1, 1996. Monitoring at station 19 began in April 2002 and at station 20 in June 2002. Long term water quality monitoring is being performed at these stations.

Before each YSI 6000 data logger is deployed, calibration and maintenance is performed following the manufacturer's instruction (YSI Manual addendum 7/94, sections 3, 4 and 7). Calibration standards are only required for pH, salinity, and turbidity, all other parameters are done as described in the manual. Buffer solutions for two-point calibration (pH 7 and pH 10) are purchased from a scientific supply company. Salinity is calibrated with a specific conductance standard 100 mS/cm and is purchased from a scientific supply company.

The two-point turbidity calibration is performed using a 0 NTU (DI water) and 100 NTU standard purchased from a scientific company. The dissolved oxygen membranes are replaced before deployment and are allowed to sit at least 24 hours prior to deployment. Weather conditions and tide stage are recorded in the field observation log during deployment. Measurements of DO, pH, salinity, specific conductance, and temperature, are taken with other calibrated field instruments to check the accuracy of the instrumentation.

Each YSI data logger is tied with steel cable to a wrought iron galvanized pole, which is plunged into the sediments at each sampling area. Data loggers are suspended from a pole at 0.3 meter from the bottom of the selected site. Every 30 minutes during the sampling period, the following measurements are recorded: date, time, temperature, specific conductance, salinity, dissolved

oxygen saturation, dissolved oxygen concentration, depth, pH, and turbidity. Every two weeks the data loggers are retrieved, uploaded, cleaned, inspected, and calibrated as noted previously. The data logger is then ready to be deployed again.

5. Site location and character:

The Jobos Bay National Estuarine Research Reserve (JBNERR) is located on the southern coastal plain of the island of Puerto Rico, a reserve within the West Indies geographical area. JBNERR is composed of two major areas: (1) Mar Negro, located on the western margin of the Bay, and (2) Cayos Caribe, a chain of 15 tear-shaped islets located to the southeast. The Mar Negro area comprises the bulk of the Reserve, and consists of mangrove forests and a complex system of lagoons and channels interspersed with salt and mud flats. Coral reefs and sea grass beds, with small beach deposits and upland areas fringe Cayos Caribe mangrove islands.

Station 9 is an impacted site and is located on the northeastern section of the Mar Negro component. This sampling station is associated with mangrove lagoon areas and receives runoff from mudflats, the Thermoelectric Power Plant, and adjacent areas. The tidal range varies from 12 to 14 inches near the monitoring station. The salinity at the vicinity of the monitoring station varies from 26.0 ppt to 41.1 ppt. The average depth at station 09 is 1 meter. The bottom is covered by a thick layer of thin sediments with a high content of organic material. Brown and green algae are also present at this site, but a better assessment is needed. The station pole is located at 17° 56' 36.8" N and 66° 14' 18.5" W. Fresh water input to the station comes only from runoff and rain. There is not any direct source of fresh water.

Station 10 is located in a mangrove lagoon not impacted directly by any upland or marine activities. It provides a reference for comparison of data obtained in other stations, especially to the station in Mar Negro lagoon. The

tidal range varies from 12 to 14 inches. The salinity at the vicinity of the monitoring station varies from 27.0 ppt to 41.7 ppt. The average depth at station 10 is 1 meter. The bottom is covered with a layer of fine sediments with organic material, followed by a layer of calcareous material mainly from shells and oysters. At this site, we can find sea grass (*Thalassia*), calcareous algae (*Halimeda* sp.), green algae (*Caulerpa* sp.) and brown algae (*Dictyota* sp.) among others. The pole is located at 17° 56' 20.3" N and 66° 45' 26.7" W. Fresh water input to the station comes only from runoff and rain. There is not any direct source of fresh water.

Station 19 is located on the western inner section of the bay at a distance of 233 meters from Cayo Colchones Mangroves over sea grass beds (*Thalassia testudinum*). Tidal ranges in this area vary from 12 to 14 inches. The salinity at the vicinity of the monitoring station varies from 30.0 ppt to 36.0 ppt. The average depth at this station is of 2 meters. The YSI' sonde is deployed at about 1 foot from the bottom. The bottom is of sandy composition. Sea grass, algae, echinoderms and other related organisms could be found in the area. The pole is located at 17° 56' 28.15885" N and 66° 13' 45.28784" W. There is no freshwater input to this area.

Station 20 is located in the inner eastern section at about 190 meters of Cayos Caribe Mangrove islets and at about 688 meters from the coral reef barrier. This station is the closest to Mar Caribe. It has a sandy bottom, with calcareous and coral fragments, sea grass (*Thalassia*) communities, echinoderms and other associated organisms. Tidal ranges in this area vary from 12 to 14 inches. The salinity at the vicinity of the monitoring station varies from 30.0 ppt to 36.0 ppt. The average depth of the site is 2 meters. There is no freshwater input to this area. The pole is located at 17° 55' 49.14258" N and 66° 12' 41.29771" W.

Data from stations 9, 10, 19 and 20 are being submitted to the CDMO. Eight sondes are permanently devoted to taking readings from these four sites, to assure continuous readings while sondes are taken out of the water for data

upload and maintenance. This will avoid data gaps for the stations between sonde maintenance procedures. Due to errors in calibration, turbidity data in these files is considered inadequate. All monitoring is considered long term.

6. Data collection period:

Station nine (9) sampling with the YSI began on December 20, 1995.
 Station ten (10) sampling with the YSI began on February 1, 1996.
 Station nineteen (19) sampling with the YSI began on April 1, 2002.
 Station twenty (20) sampling with the YSI began on May 13, 2002.

Began	Ended		
Station 09			
18-Dec-02	10:00	8-Jan-03	9:30
8-Jan-03	10:00	21-Jan-03	9:00
21-Jan-03	9:30	11-Feb-03	9:30
11-Feb-03	10:00	25-Feb-03	9:30
25-Feb-03	10:00	11-Mar-03	9:30
11-Mar-03	10:30	26-Mar-03	8:30
26-Mar-03	9:30	8-Apr-03	8:30
8-Apr-03	9:00	23-Apr-03	9:00
23-Apr-03	9:30	6-May-03	10:00
6-May-03	10:30	20-May-03	9:00
20-May-03	9:30	3-Jun-03	10:30
3-Jun-03	11:00	17-Jun-03	8:00
17-Jul-03	8:30	1-Jul-03	9:30
1-Jul-03	10:00	15-Jul-03	9:00
15-Jul-03	9:30	30-Jul-03	8:00
30-Jul-03	8:30	12-Ago-03	9:30
12-Ago-03	10:00	28-Ago-03	9:30
28-Ago-03	10:00	9-Sept-03	9:00
9-Sept-03	9:30	23-Sept-03	9:00
23-Sept-03	9:30	7-Oct-03	8:00
7-Oct-03	8:30	21-Oct-03	8:30
21-Oct-03	9:00	4-Nov-03	9:30
4-Nov-03	10:00	20-Nov-03	9:00
20-Nov-03	9:30	9-Dec-03	8:30
9-Dec-03	9:00	23-Dec-03	10:00

Station 10			
18-Dec-02	10:30	8-Jan-03	10:00
08-Jan-03	10:30	21-Jan-03	9:00
21-Jan-03	9:30	11-Feb-03	9:00
11-Feb-03	10:00	25-Feb-03	9:00
25-Feb-03	9:30	11-Mar-03	9:00
11-Mar-03	9:30	26-Mar-03	9:30
26-Mar-03	10:30	8-Apr-03	8:30
8-Apr-03	9:00	23-Apr-03	8:30
23-Apr-03	9:00	6-May-03	9:30

6-May-03	10:00	20-May-03	8:30
20-May-03	9:30	3-Jun-03	08:30
3-Jun-03	9:00	17-Jul-03	8:30
17-Jun-03	9:00	1-Jul-03	9:00
1-Jul-03	10:00	15-Jul-03	9:00
15-Jul-03	9:30	30-Jul-03	8:30
30-Jul-03	9:00	12-Aug-03	10:00
12-Aug-03	10:30	28-Aug-03	9:00
28-Aug-03	9:30	9-Sep-03	9:30
9-Sep-03	10:00	23-Sep-03	9:30
23-Sep-03	10:00	7-Oct-03	8:30
7-Oct-03	9:30	21-Oct-03	9:00
21-Oct-03	9:30	4-Nov-03	10:00
4-Nov-03	11:00	20-Nov-03	9:30
20-Nov-03	9:30	9-Dec-03	8:30
9-Dec-03	8:00	23-Dec-03	10:00

Station 19

18-Dec-02	9:00	8-Jan-03	9:00
08-Jan-03	9:30	21-Jan-03	8:30
21-Jan-03	10:00	4-Feb-03	8:00
4-Feb-03	9:00	18-Feb-03	8:00
18-Feb-03	12:30	5-Mar-03	9:00
5-Mar-03	9:30	18-Mar-03	7:30
18-Mar-03	8:30	2-Apr-03	8:30
2-Apr-03	9:00	15-Apr-03	9:30
15-Apr-03	10:00	30-Apr-03	8:30
30-Apr-03	9:00	13-May-03	8:30
13-May-03	9:00	28-May-03	10:30
28-May-03	11:00	10-Jun-03	7:30
10-Jun-03	8:30	25-Jun-03	9:00
25-Jun-03	10:30	9-Jul-03	7:30
9-Jul-03	9:00	23-Jul-03	9:30
23-Jul-03	8:30	6-Aug-03	9:30
6-Aug-03	10:00	20-Aug-03	8:00
20-Aug-03	8:30	3-Sep-03	9:00
3-Sep-03	9:30	16-Sep-03	8:00
16-Sep-03	8:30	30-Sep-03	7:30
30-Sep-03	9:00	15-Oct-03	8:30
15-Oct-03	9:00	28-Oct-03	8:00
28-Oct-03	8:30	18-Nov-03	9:00
18-Nov-03	9:30	2-Dec-03	8:00
2-Dec-03	10:00	16-Dec-03	8:30
16-Dec-03	9:00	14-Jan-04	9:30

Station 20

18-Dec-02	9:30	8-Jan-03	9:00
08-Jan-03	9:30	21-Jan-03	8:00
21-Jan-03	8:30	4-Feb-03	8:30
4-Feb-03	9:00	18-Feb-03	9:30
18-Feb-03	10:00	5-Mar-03	9:30
5-Mar-03	10:00	18-Mar-03	10:00

18-Mar-03	10:30	2-Apr-03	9:30
2-Apr-03	10:00	15-Apr-03	9:00
15-Apr-03	9:30	30-Apr-03	8:30
30-Apr-03	9:30	13-May-03	8:30
13-May-03	9:00	28-May-03	9:30
28-May-03	10:00	10-Jun-03	10:00
10-Jun-03	10:30	25-Jun-03	10:00
25-Jun-03	10:30	9-Jul-03	7:30
9-Jul-03	8:30	23-Jul-03	9:30
23-Jul-03	11:00	6-Aug-03	8:30
6-Aug-03	10:00	20-Aug-03	8:30
20-Aug-03	8:30	3-Sep-03	10:00
3-Sep-03	9:30	16-Sep-03	8:00
16-Sep-03	8:30	30-Sep-03	9:00
30-Sep-03	8:30	15-Oct-03	10:00
15-Oct-03	11:00	28-Oct-03	9:00
28-Oct-03	8:30	18-Nov-03	9:30
18-Nov-03	10:30	2-Dec-03	8:30
2-Dec-03	9:30	16-Dec-03	8:00
16-Dec-03	9:00	14-Jan-04	11:30

7. Distribution

According to the Ocean and Coastal Resource Management Data Dissemination Policy
for the NERRS System-wide Monitoring Program:

NOAA/ERD retains the right to analyze, synthesize and publish summaries of the NERRS System-wide Monitoring Program data. The PI retains the right to be fully credited for having collected and processed the data. Following academic courtesy standards, the PI and the NERR site where the data are collected will be contacted and fully acknowledge in any subsequent publication in which any part of the data are used. Manuscripts resulting from the NOAA/OCRM supported research that are produced for publication in open literature, including referenced scientific journals, will acknowledge that the research was conducted under an award from the Estuarine Reserves Division, Office of Ocean and Coastal Resources 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 analysis 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 section 1. Principal Investigator and contact persons), from the Data Manager at the Central Data Management Office, (please see personnel directory under general information link on CDMO homepage (<http://cdmo.baruch.sc.edu>)). Data are available in text tab-delimited format. Microsoft Excel spreadsheet format and comma-delimited format.

8. Associated researchers and projects:

As part of the NERRS System-wide Monitoring Program, monthly samples for nutrients and chlorophyll were conducted from January to December 2003. Nutrient sampling at Station 9 is conducted using an ISCO sampler, which collects samples every two hours during a twenty-four hour period. Grab samples are also collected in all four YSI monitoring stations. Analysis of the samples is being performed by the Virginia Institute of Marine Science, VIMS, in Virginia.

Another project is the water monitoring program for ammonium, nitrate, nitrite, ortho-phosphate, chlorophyll and pheophytin. For this, an ISCO 6712 Portable Sampler is used. The sampler is an automatic instrument that can be easily moved from site to site. Constructed from durable, corrosion-resistant materials, the sampler withstands the hostile environments of industrial and municipal monitoring sites. It is located at one of our four principal, long-term stations and it is programmed to take samples every two hours. The samples are collected every month following an established protocol and sent to the Virginia Institute of Marine Sciences for further analysis.

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

YSI 6000/6600 data logger

Variable	Range of Measurements	Resolution	
Accuracy			
Date	1-12, 1-31, 00-99 (Mo,Day,Yr)	1 mo, 1 day, 1 yr	NA
Time	0-24, 0-60, 0-60 (Hr,Min,Sec)	1 hr, 1 min, 1 s	NA
Temp	-5 to 45 (c)	0.01 C	+/-
0.15C			

Sp COND	0-100 (mS/cm)	0.01mS/cm	+/-0.5%
Of			
reading + 0.001mS/Cm			
Salinity	0-70 Parts per thousand (ppt)	0.01 ppt	+/- 1%
of			
Reading or 0.1 ppt, (whichever is greater)			
DO	0-200 (% air saturation)	0.1% @air sat	+/-2%
@air			
Saturation			
DO	200-500 (% air saturation	0.1% @ air sat	+/- 6%
@			
Saturation			
DO	0-20 (mg/l)	0.01 mg/l	+/-
0.2mg/l			
DO	20-50 (mg/l)	0.01 mg/l	+/-
0.6mg/l			
Depth (shallow)	0-9.1 (m)	0.001m	+/-
0.018m			
PH	2-14 units	0.01 units	+/-
0.2units			
Turb	0-1000 NTU	0.1 NTU	+/- 5%
of			
Reading or 2 NTU (whichever is greater)			

Data columns are separated by tabs. Each file contains a two line Column header at the top of the page, which identifies measurements and Units.

10. Coded variable indicator and variable code definitions:

Station code: job09wq = Station 9
 Station code: job10wq = Station 10
 Station code: job19wq = Station 19
 Station code: job20wq = Station 20
 File definitions: site/file definition/month/year (ex: 10wq0803 = Station 10 water quality data from August of 2003).

11. Data anomalies:

January 2003

Station 09

No turbidity data 01/01/03 00:00 - 01/08/03 09:30 due to sensor being repaired.

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

01/21/03	9:30:00 through 01/21/03	16:00:00
01/21/03	18:00:00 through 01/22/03	6:00:00
01/22/03	7:00:00 through 01/22/03	14:00:00
01/22/03	15:30:00 through 01/23/03	6:00:00
01/23/03	7:00:00 through 01/23/03	14:30:00
01/23/03	15:30:00 through 01/23/03	17:00:00

01/23/03	18:00:00	
01/23/03	19:00:00 through 01/24/03	6:00:00
01/24/03	7:00:00 through 01/24/03	16:30:00
01/24/03	17:30:00 through 01/25/03	2:30:00
01/25/03	3:30:00	
01/25/03	4:00:00 through 01/25/03	4:30:00
01/25/03	7:00:00 through 01/25/03	9:00:00
01/25/03	10:30:00 through 01/25/03	18:00:00
01/25/03	19:00:00 through 01/26/03	7:30:00
01/26/03	9:00:00 through 01/26/03	13:30:00
01/26/03	14:30:00 through 01/26/03	17:30:00
01/26/03	19:00:00 through 01/27/03	1:30:00
01/27/03	2:30:00 through 01/27/03	7:00:00
01/27/03	8:00:00 through 01/27/03	9:00:00
01/27/03	11:00:00 through 01/27/03	13:00:00
01/27/03	14:30:00 through 01/27/03	16:00:00
01/27/03	17:00:00 through 01/27/03	17:30:00
01/27/03	18:30:00 through 01/28/03	17:30:00
01/28/03	18:30:00 through 01/29/03	10:00:00
01/29/03	12:30:00 through 01/30/03	10:30:00
01/30/03	13:00:00 through 01/31/03	12:00:00
01/31/03	14:00:00 through 01/31/03	23:30:00

Negative turbidity values deleted due to problems in calibration.

01/08/03	10:00:00 through 01/13/03	6:00:00
01/13/03	7:00:00 through 01/21/03	9:00:00

High turbidity values deleted because of algal growth near the sensor
01/13/03 6:30:00

Station 10

Suspect DO (% and mg/L), Sal, Sp Cond and pH data deleted:

01/01/03	00:00:00 through 01/08/03	10:00:00
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Turbidity sensor on reparation, no turbidity data.

01/01/03	00:00:00 through 01/21/03	09:00:00
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Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

01/21/03	09:30:00 through 01/28/03	13:30:00
01/28/03	14:30:00 through 01/28/03	19:30:00
01/28/03	20:30:00 through 01/28/03	22:00:00
01/28/03	23:00:00	
01/29/03	00:30:00 through 01/29/03	01:00:00
01/29/03	02:00:00	
01/29/03	03:30:00 through 01/29/03	04:30:00
01/29/03	05:30:00	
01/29/03	06:30:00 through 01/29/03	08:30:00
01/29/03	09:30:00	
01/29/03	10:30:00 through 01/29/03	11:30:00
01/29/03	12:30:00 through 01/29/03	15:30:00
01/29/03	16:30:00 through 01/29/03	18:00:00
01/29/03	19:00:00 through 01/29/03	21:30:00
01/29/03	23:00:00	
01/30/03	08:30:00	

01/30/03 12:00:00
01/30/03 14:30:00
01/31/03 08:00:00
01/31/03 09:00:00
01/31/03 10:30:00
01/31/03 16:00:00
01/31/03 17:00:00
01/31/03 18:30:00
01/31/03 22:30:00

Station 19

No turbidity data 01/01/03 00:00 - 01/21/03 08:30 due to sensor being repaired.

The sonde was out of water for maintenance.

01/21/03 09:00:00 through 01/21/03 09:30:00

No data due to sonde malfunction (the sonde it's auto disconnecting intermittent)

01/17/03 10:00:00
01/05/03 21:00:00 - 21:30:00
01/02/03 14:00:00
01/01/03 13:00:00

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

01/21/03 10:00:00 through 01/21/03 12:30:00
01/21/03 20:00:00 through 01/25/03 15:30:00
01/25/03 17:30:00
01/25/03 19:00:00 through 01/26/03 12:00:00
01/26/03 17:00:00 through 01/26/03 18:00:00
01/26/03 19:00:00 through 01/27/03 10:30:00
01/27/03 16:30:00
01/27/03 17:30:00 through 01/28/03 03:30:00
01/28/03 04:30:00 through 01/28/03 13:00:00
01/28/03 20:00:00 through 01/29/03 12:30:00
01/29/03 14:00:00 through 01/29/03 14:30:00
01/29/03 15:30:00 through 01/30/03 11:30:00
01/30/03 14:30:00 through 01/31/03 23:30:00

Station 20

Turbidity sensor on reparation, no turbidity data.

01/01/03 00:00:00 through 01/21/03 08:00:00

Salinity, specific conductivity and pH data were deleted due to possible conductivity calibration error. DO mg/L and depth were retained.

01/08/03 09:30:00 through 01/21/03 08:00:00

Negative turbidity values were changed to 0 NTU.

01/21/03 08:30:00 through 01/31/03 23:30:00

February 2003

Station 09

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

02/01/03	0:00:00 through 02/02/03	6:00:00
02/02/03	7:00:00 through 02/03/03	15:00:00
02/03/03	16:00:00 through 02/03/03	20:00:00
02/03/03	21:00:00	
02/03/03	21:30:00	
02/03/03	22:30:00 through 02/04/03	10:00:00
02/04/03	11:00:00 through 02/04/03	11:30:00
02/04/03	12:30:00	
02/04/03	14:00:00 through 02/04/03	15:30:00
02/04/03	16:30:00 through 02/04/03	17:00:00
02/04/03	18:00:00 through 02/04/03	20:30:00
02/04/03	21:30:00	
02/05/03	0:00:00 through 02/05/03	4:00:00
02/05/03	5:30:00 through 02/05/03	6:00:00
02/05/03	7:00:00 through 02/05/03	14:30:00
02/05/03	16:00:00 through 02/05/03	17:30:00
02/05/03	20:30:00	
02/06/03	1:30:00 through 02/06/03	4:00:00
02/06/03	7:30:00	
02/07/03	0:30:00	
02/07/03	2:00:00 through 02/07/03	2:30:00
02/07/03	4:00:00 through 02/07/03	4:30:00
02/07/03	5:30:00 through 02/07/03	13:00:00
02/07/03	14:00:00 through 02/08/03	2:30:00
02/08/03	3:30:00 through 02/08/03	7:00:00
02/08/03	8:00:00 through 02/08/03	11:00:00
02/08/03	13:30:00 through 02/08/03	14:00:00
02/08/03	15:00:00	
02/08/03	16:00:00 through 02/08/03	18:00:00
02/08/03	19:30:00	
02/08/03	21:00:00 through 02/09/03	0:00:00
02/09/03	1:00:00 through 02/09/03	6:30:00
02/09/03	10:00:00 through 02/09/03	11:30:00
02/09/03	15:00:00	
02/09/03	16:00:00 through 02/09/03	17:30:00
02/09/03	20:00:00	
02/09/03	22:00:00	
02/09/03	22:30:00 through 02/09/03	23:00:00
02/10/03	2:30:00	
02/10/03	4:00:00	
02/10/03	6:00:00	
02/11/03	0:30:00	
02/11/03	2:30:00	
02/11/03	3:30:00 through 02/11/03	5:00:00
02/11/03	6:30:00 through 02/11/03	7:30:00
02/11/03	9:00:00 through 02/11/03	9:30:00
02/12/03	3:30:00	
02/13/03	0:30:00	
02/13/03	3:00:00 through 02/13/03	3:30:00
02/13/03	4:30:00 through 02/13/03	6:00:00
02/13/03	7:00:00 through 02/13/03	8:00:00
02/13/03	21:00:00	
02/13/03	23:30:00	
02/14/03	1:00:00 through 02/14/03	3:00:00

02/14/03	4:00:00 through 02/14/03	6:00:00
02/14/03	7:00:00 through 02/14/03	8:00:00
02/14/03	21:30:00	
02/14/03	23:00:00 through 02/14/03	23:30:00
02/15/03	1:00:00	
02/15/03	3:00:00 through 02/15/03	3:30:00
02/15/03	4:30:00 through 02/15/03	6:00:00
02/15/03	7:00:00 through 02/15/03	8:00:00
02/15/03	16:30:00	
02/16/03	5:30:00	
02/16/03	7:00:00	
02/16/03	8:00:00 through 02/17/03	8:30:00
02/17/03	12:00:00	
02/17/03	19:30:00	
02/18/03	0:30:00	
02/18/03	7:30:00	
02/18/03	8:00:00 through 02/18/03	8:30:00
02/18/03	16:00:00	
02/18/03	17:30:00	
02/18/03	18:00:00	
02/18/03	21:30:00 through 02/18/03	22:00:00
02/18/03	23:00:00 through 02/18/03	23:30:00
02/19/03	1:00:00	
02/19/03	2:30:00	
02/19/03	5:30:00	
02/19/03	7:00:00 through 02/19/03	7:30:00
02/19/03	8:00:00	
02/19/03	20:00:00 through 02/19/03	20:30:00
02/19/03	22:00:00	
02/20/03	0:00:00	
02/20/03	1:00:00 through 02/20/03	1:30:00
02/20/03	7:30:00	
02/20/03	15:30:00 through 02/20/03	17:00:00
02/20/03	18:00:00	
02/20/03	19:30:00	
02/20/03	20:30:00	
02/20/03	22:30:00 through 02/21/03	4:00:00
02/21/03	9:00:00	
02/21/03	10:00:00	
02/21/03	23:30:00	
02/22/03	22:00:00 through 02/23/03	1:30:00
02/23/03	2:30:00 through 02/23/03	3:00:00
02/23/03	4:00:00	
02/23/03	5:30:00	
02/23/03	6:30:00	
02/23/03	7:00:00	
02/23/03	21:00:00 through 02/24/03	1:30:00
02/24/03	2:30:00 through 02/24/03	3:00:00
02/24/03	4:00:00 through 02/24/03	4:30:00
02/25/03	0:30:00 through 02/25/03	4:00:00
02/25/03	5:00:00 through 02/25/03	7:00:00
02/25/03	8:00:00	
02/26/03	23:30:00	
02/27/03	1:30:00	

02/27/03	3:00:00 through 02/27/03	4:30:00
02/27/03	5:30:00 through 02/27/03	6:00:00
02/27/03	7:00:00	
02/28/03	8:30:00	
02/28/03	20:30:00	
02/28/03	23:00:00 through 02/28/03	23:30:00

Station 10

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

02/01/03	0:00:00	
02/01/03	1:30:00	
02/01/03	3:00:00	
02/01/03	4:30:00	
02/01/03	6:00:00 through 02/01/03	6:30:00
02/01/03	7:00:00 through 02/01/03	8:00:00
02/01/03	9:30:00	
02/01/03	11:00:00	
02/01/03	12:30:00	
02/01/03	14:00:00	
02/01/03	15:30:00	
02/11/03	10:00:00 through 02/12/03	5:00:00
02/12/03	6:00:00 through 02/12/03	7:30:00
02/12/03	9:00:00 through 02/13/03	0:30:00
02/13/03	1:30:00 through 02/13/03	7:30:00
02/13/03	8:30:00 through 02/15/03	2:00:00
02/15/03	3:00:00 through 02/16/03	16:30:00
02/16/03	17:30:00 through 02/18/03	17:00:00
02/18/03	18:00:00 through 02/19/03	6:00:00
02/19/03	7:00:00 through 02/19/03	13:30:00
02/19/03	14:30:00 through 02/20/03	17:00:00
02/20/03	19:00:00 through 02/21/03	2:30:00
02/21/03	3:30:00	
02/21/03	4:30:00 through 02/21/03	7:00:00
02/21/03	8:00:00 through 02/21/03	9:30:00
02/21/03	10:30:00 through 02/21/03	11:30:00
02/21/03	12:30:00	
02/21/03	13:00:00 through 02/21/03	16:30:00
02/21/03	17:30:00 through 02/21/03	20:00:00
02/21/03	21:00:00 through 02/22/03	18:30:00
02/22/03	19:30:00 through 02/23/03	13:30:00
02/23/03	15:30:00 through 02/24/03	2:00:00
02/24/03	3:00:00 through 02/24/03	3:30:00
02/24/03	5:00:00	
02/25/03	9:30:00 through 02/25/03	13:00:00
02/25/03	14:30:00 through 02/25/03	17:30:00
02/25/03	18:30:00 through 02/25/03	20:00:00
02/25/03	21:00:00 through 02/26/03	4:30:00
02/26/03	5:30:00 through 02/26/03	8:30:00
02/26/03	9:30:00 through 02/26/03	14:30:00
02/26/03	15:30:00 through 02/27/03	7:30:00
02/27/03	8:30:00 through 02/27/03	15:30:00
02/27/03	17:00:00 through 02/27/03	18:00:00
02/27/03	20:00:00 through 02/28/03	0:30:00
02/28/03	1:30:00 through 02/28/03	11:30:00

02/28/03 12:30:00 through 02/28/03 17:00:00
02/28/03 18:00:00
02/28/03 19:00:00
02/28/03 22:00:00 through 02/28/03 23:30:00

The sonde was out of water for maintenance.
02/11/03 09:30:00

High turbidity values deleted because of algal growth near the sensor

02/02/03 09:00:00 through 02/04/03 12:30:00
02/04/03 20:00:00
02/04/03 22:00:00
02/05/03 0:00:00
02/05/03 2:00:00
02/05/03 4:00:00
02/05/03 6:00:00
02/05/03 8:00:00
02/05/03 10:00:00
02/05/03 12:00:00
02/05/03 14:00:00
02/05/03 16:00:00
02/05/03 20:00:00
02/05/03 22:00:00
02/06/03 0:00:00
02/06/03 2:00:00
02/06/03 4:00:00
02/06/03 6:30:00
02/06/03 9:00:00
02/06/03 11:00:00
02/06/03 13:00:00
02/06/03 15:00:00
02/06/03 17:00:00
02/06/03 19:30:00
02/06/03 23:00:00
02/07/03 1:00:00
02/07/03 4:00:00
02/07/03 7:00:00
02/07/03 8:00:00
02/07/03 10:00:00
02/07/03 12:30:00
02/07/03 15:30:00
02/07/03 16:30:00
02/07/03 19:30:00
02/07/03 21:30:00
02/07/03 22:30:00
02/08/03 10:30:00
02/08/03 15:30:00
02/08/03 18:00:00
02/08/03 19:00:00
02/08/03 21:00:00
02/08/03 22:00:00
02/08/03 23:00:00
02/09/03 0:00:00
02/09/03 4:00:00

02/09/03	6:00:00
02/09/03	8:30:00
02/09/03	11:30:00
02/09/03	12:30:00
02/09/03	14:30:00
02/09/03	17:30:00
02/09/03	18:30:00
02/09/03	20:30:00
02/09/03	22:30:00
02/09/03	23:30:00
02/10/03	1:30:00
02/10/03	5:30:00
02/10/03	7:30:00
02/10/03	9:30:00
02/10/03	10:30:00
02/10/03	11:30:00
02/10/03	12:30:00
02/10/03	13:30:00
02/10/03	15:30:00
02/10/03	16:30:00
02/10/03	17:30:00
02/10/03	18:30:00
02/10/03	19:30:00
02/10/03	21:30:00
02/10/03	22:30:00
02/10/03	23:30:00
02/11/03	1:30:00
02/11/03	2:30:00
02/11/03	3:30:00
02/11/03	4:30:00
02/11/03	5:30:00
02/11/03	8:30:00

Station 19

Dissolved oxygen data suspect for the following dates and times. The reason for the low values is unknown.

02/03/03 12:00:00 - 19:00:00
 02/04/03 09:00:00 - 13:00:00

The sonde was out of water for maintenance.

2/18/03 08:30:00 - 12:00:00

No data due to sonde malfunction (the sonde it's auto disconnecting intermittent)

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

02/14/03	10:00:00		
02/14/03	11:30:00		
02/14/03	16:00:00		
02/15/03	12:00:00	-	15:00:00
02/15/03	16:00:00	-	19:00:00
02/15/03	20:30:00		
02/16/03	12:30:00		
02/16/03	13:30:00	-	16:30:00
02/16/03	19:30:00		
02/16/03	21:00:00		
02/17/03	11:00:00		
02/17/03	12:00:00	-	12:30:00
02/17/03	16:00:00	-	16:30:00
02/17/03	17:30:00	-	18:30:00
02/18/03	07:00:00	-	07:30:00

High turbidity values deleted because of algal growth near the sensor
02/27/03 22:30:00

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

02/01/03	0:00:00 through 02/18/03	6:30:00
02/19/03	0:30:00	
02/20/03	0:30:00	
02/24/03	0:00:00	
02/24/03	0:30:00 through 02/24/03	1:00:00
02/24/03	8:30:00	
02/24/03	10:00:00	
02/24/03	14:00:00 through 02/24/03	14:30:00
02/25/03	7:00:00	
02/25/03	22:00:00 through 02/26/03	2:30:00
02/26/03	3:30:00 through 02/26/03	4:00:00
02/26/03	5:00:00 through 02/26/03	6:00:00
02/26/03	7:00:00 through 02/26/03	16:30:00
02/26/03	17:30:00	
02/26/03	18:00:00 through 02/26/03	18:30:00
02/26/03	22:30:00 through 02/27/03	0:00:00
02/27/03	1:00:00	
02/27/03	2:00:00 through 02/27/03	3:00:00
02/27/03	4:00:00 through 02/27/03	13:00:00
02/27/03	14:00:00 through 02/27/03	22:00:00
02/27/03	23:00:00 through 02/28/03	10:30:00
02/28/03	12:30:00 through 02/28/03	15:00:00
02/28/03	16:00:00 through 02/28/03	19:00:00
02/28/03	20:00:00	
02/28/03	21:00:00 through 02/28/03	23:30:00

Negative DO %andDO mg/l values were erased.

02/03/03	18:00:00	-5.6
02/04/03	9:30:00	-11.7
02/04/03	10:00:00	-8.4

Station 20

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

02/01/03	00:00:00 through 02/09/03	06:00:00
02/09/03	09:00:00 through 02/10/03	05:00:00
02/10/03	06:30:00	
02/10/03	07:30:00	
02/10/03	08:00:00 through 02/11/03	03:00:00
02/11/03	09:00:00 through 02/12/03	06:00:00
02/12/03	08:30:00 through 02/15/03	06:00:00
02/15/03	14:00:00	
02/15/03	20:00:00	
02/15/03	22:30:00 through 02/16/03	00:00:00
02/16/03	02:30:00	
02/16/03	04:00:00	
02/16/03	05:00:00 through 02/16/03	06:30:00
02/17/03	02:00:00	

March 2003

Station 09

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

03/01/03	0:00:00 through 03/01/03	2:30:00
03/01/03	3:30:00	
03/01/03	4:30:00 through 03/01/03	6:00:00
03/01/03	7:30:00	
03/01/03	8:30:00	
03/01/03	9:00:00	
03/01/03	21:30:00	
03/01/03	23:00:00 through 03/01/03	23:30:00
03/02/03	2:30:00	
03/02/03	3:00:00	
03/02/03	4:00:00 through 03/02/03	5:00:00
03/02/03	8:00:00	
03/02/03	20:30:00 through 03/03/03	3:30:00
03/03/03	4:30:00	
03/03/03	6:30:00	
03/03/03	8:00:00	
03/03/03	9:30:00	
03/03/03	20:00:00	
03/03/03	21:00:00	
03/03/03	22:30:00 through 03/04/03	1:30:00
03/04/03	3:00:00	
03/04/03	4:00:00	
03/04/03	5:00:00 through 03/04/03	5:30:00
03/04/03	8:00:00	
03/05/03	5:30:00	
03/10/03	23:00:00 through 03/11/03	1:30:00
03/11/03	4:00:00 through 03/11/03	4:30:00
03/11/03	5:30:00	
03/11/03	21:30:00 through 03/12/03	6:00:00
03/12/03	7:00:00	
03/13/03	0:30:00 through 03/13/03	2:00:00
03/13/03	3:00:00 through 03/13/03	6:00:00
03/13/03	7:00:00 through 03/13/03	8:30:00

03/13/03	11:00:00	
03/14/03	0:00:00	
03/14/03	2:30:00 through 03/14/03	5:30:00
03/14/03	6:30:00 through 03/14/03	8:30:00
03/15/03	0:30:00 through 03/15/03	4:00:00
03/15/03	5:00:00 through 03/15/03	6:00:00
03/15/03	7:00:00 through 03/15/03	9:00:00
03/16/03	0:30:00	
03/16/03	22:30:00	
03/16/03	23:30:00	
03/17/03	0:00:00 through 03/17/03	0:30:00
03/17/03	2:00:00 through 03/17/03	3:00:00
03/17/03	4:00:00	
03/17/03	7:30:00 through 03/17/03	8:30:00
03/17/03	9:30:00 through 03/17/03	10:00:00
03/17/03	22:00:00	
03/18/03	12:00:00	
03/18/03	20:00:00	
03/18/03	22:00:00 through 03/19/03	0:00:00
03/19/03	1:30:00	
03/19/03	2:00:00 through 03/19/03	2:30:00
03/19/03	10:00:00	
03/19/03	11:00:00	
03/19/03	22:30:00	
03/20/03	1:00:00	
03/20/03	2:00:00	
03/21/03	4:00:00	
03/22/03	23:30:00	
03/23/03	0:30:00 through 03/23/03	1:00:00
03/23/03	2:00:00 through 03/23/03	2:30:00
03/23/03	4:00:00	
03/23/03	6:00:00	
03/23/03	18:30:00 through 03/23/03	19:30:00
03/23/03	22:00:00	
03/24/03	21:30:00	
03/24/03	22:00:00	
03/25/03	0:00:00	
03/26/03	21:30:00 through 03/27/03	1:30:00
03/27/03	2:30:00 through 03/27/03	5:00:00
03/27/03	10:00:00	
03/27/03	21:30:00 through 03/28/03	3:30:00
03/28/03	5:00:00 through 03/28/03	5:30:00
03/28/03	7:00:00	
03/28/03	20:00:00 through 03/29/03	1:00:00
03/29/03	2:00:00 through 03/29/03	3:00:00
03/29/03	4:30:00	
03/29/03	7:30:00	
03/29/03	19:30:00 through 03/30/03	3:00:00
03/30/03	4:30:00 through 03/30/03	5:00:00
03/30/03	8:00:00	
03/31/03	0:00:00 through 03/31/03	0:30:00
03/31/03	2:00:00	
03/31/03	8:30:00	
03/31/03	10:00:00 through 03/31/03	10:30:00

03/31/03 11:30:00
03/31/03 23:30:00

The sonde was out of water for maintenance.

03/11/03 10:00:00
03/26/03 09:00:00

High turbidity values deleted because of algal growth near the sensor

03/16/03 19:00:00
03/17/03 16:00:00
03/18/03 18:30:00
03/23/03 13:30:00

Station 10

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

03/01/03 0:00:00 through 03/01/03 5:30:00
03/01/03 6:30:00 through 03/01/03 8:00:00
03/01/03 9:00:00
03/01/03 10:00:00 through 03/03/03 18:00:00
03/03/03 19:30:00 through 03/03/03 22:30:00
03/03/03 23:30:00 through 03/05/03 0:00:00
03/05/03 2:30:00
03/05/03 4:30:00
03/05/03 5:30:00 through 03/06/03 0:30:00
03/06/03 1:30:00 through 03/06/03 2:00:00
03/06/03 3:00:00 through 03/06/03 5:30:00
03/06/03 7:30:00 through 03/06/03 8:30:00
03/06/03 9:30:00 through 03/06/03 13:00:00
03/06/03 14:00:00 through 03/06/03 14:30:00
03/06/03 16:00:00
03/06/03 20:30:00 through 03/07/03 5:30:00
03/07/03 6:30:00
03/07/03 8:30:00
03/07/03 9:30:00 through 03/07/03 11:00:00
03/07/03 12:30:00
03/07/03 15:30:00
03/07/03 18:30:00
03/07/03 19:30:00 through 03/07/03 20:00:00
03/07/03 21:00:00 through 03/07/03 21:30:00
03/07/03 23:00:00
03/08/03 0:00:00
03/08/03 3:00:00
03/11/03 9:30:00 through 03/22/03 3:30:00
03/22/03 4:30:00
03/22/03 5:30:00 through 03/22/03 7:00:00
03/22/03 11:30:00 through 03/22/03 12:30:00
03/26/03 10:00:00 through 03/31/03 20:30:00

High turbidity values deleted because of algal growth near the sensor

03/09/03 5:30:00
03/09/03 16:30:00

03/10/03	0:00:00
03/10/03	8:00:00
03/10/03	9:00:00
03/10/03	12:00:00
03/11/03	4:30:00
03/11/03	5:30:00
03/11/03	9:00:00

Station 19

The sonde was out of water for maintenance.

03/18/03	08:00:00
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Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

03/01/03	0:00:00 through 03/01/03	2:00:00
03/01/03	3:30:00 through 03/03/03	4:00:00
03/03/03	8:30:00	
03/03/03	21:00:00 through 03/04/03	1:30:00
03/04/03	21:30:00 through 03/05/03	0:00:00
03/05/03	22:00:00 through 03/05/03	23:00:00
03/08/03	8:00:00	
03/08/03	22:30:00 through 03/09/03	2:00:00
03/09/03	18:00:00 through 03/09/03	18:30:00
03/10/03	8:30:00 through 03/10/03	10:00:00
03/10/03	11:30:00 through 03/10/03	13:30:00
03/10/03	14:30:00 through 03/10/03	19:00:00
03/10/03	22:30:00 through 03/11/03	2:30:00
03/11/03	3:30:00	
03/11/03	4:30:00 through 03/11/03	6:00:00
03/11/03	23:00:00 through 03/12/03	0:00:00
03/12/03	1:00:00	
03/12/03	3:00:00	
03/12/03	4:00:00	
03/15/03	1:00:00 through 03/15/03	3:00:00
03/15/03	14:00:00	
03/16/03	14:00:00	
03/16/03	17:00:00	
03/17/03	5:30:00	
03/18/03	14:00:00	
03/18/03	15:00:00 through 03/18/03	15:30:00
03/18/03	16:30:00	
03/19/03	8:30:00 through 03/19/03	12:30:00
03/19/03	14:30:00	
03/19/03	15:30:00	
03/19/03	16:30:00 through 03/20/03	0:30:00
03/20/03	2:00:00 through 03/20/03	4:30:00
03/20/03	7:00:00	
03/20/03	8:30:00 through 03/20/03	9:00:00
03/20/03	10:00:00 through 03/20/03	18:30:00
03/20/03	19:30:00	
03/20/03	21:00:00 through 03/21/03	0:00:00
03/21/03	1:00:00 through 03/21/03	3:30:00
03/21/03	4:30:00 through 03/21/03	5:30:00
03/21/03	9:00:00	

03/21/03	10:00:00 through 03/21/03	22:00:00
03/21/03	23:30:00 through 03/23/03	9:30:00
03/24/03	0:00:00	
03/24/03	1:00:00	
03/24/03	2:00:00	
03/24/03	9:30:00	
03/24/03	11:00:00 through 03/24/03	11:30:00
03/24/03	12:00:00 through 03/24/03	13:00:00
03/24/03	15:30:00 through 03/25/03	20:00:00
03/25/03	21:00:00 through 03/25/03	23:00:00
03/26/03	0:00:00 through 03/28/03	3:30:00
03/28/03	4:00:00	
03/28/03	5:00:00	
03/28/03	7:30:00 through 03/28/03	19:30:00
03/28/03	21:30:00 through 03/28/03	23:00:00
03/29/03	0:00:00 through 03/29/03	9:30:00
03/29/03	21:30:00	
03/29/03	23:00:00 through 03/29/03	23:30:00
03/30/03	0:30:00	
03/30/03	1:00:00	
03/30/03	2:30:00	
03/31/03	9:00:00	
03/31/03	10:30:00	
03/31/03	21:30:00	
03/31/03	22:30:00 through 03/31/03	23:00:00

Station 20

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

03/08/03	11:30:00 through 03/08/03	15:00:00
03/09/03	11:00:00	
03/09/03	11:30:00	
03/09/03	12:30:00	
03/09/03	13:30:00	
03/09/03	14:00:00 through 03/09/03	15:30:00
03/09/03	16:00:00 through 03/09/03	16:30:00
03/09/03	17:00:00 through 03/09/03	17:30:00
03/09/03	19:30:00	
03/10/03	10:30:00 through 03/10/03	12:00:00
03/10/03	13:00:00	
03/10/03	14:00:00 through 03/10/03	15:30:00
03/10/03	18:00:00	
03/10/03	22:00:00	
03/11/03	11:30:00 through 03/11/03	13:00:00
03/11/03	14:00:00	
03/11/03	15:00:00	
03/11/03	18:00:00	
03/11/03	19:30:00	
03/11/03	21:30:00	
03/14/03	3:30:00 through 03/14/03	4:00:00
03/14/03	8:30:00 through 03/14/03	9:30:00
03/14/03	11:00:00 through 03/14/03	21:30:00
03/14/03	22:30:00 through 03/15/03	1:30:00
03/15/03	2:30:00 through 03/16/03	19:30:00
03/16/03	22:30:00	

03/17/03	0:30:00 through 03/17/03	1:00:00
03/17/03	5:00:00 through 03/17/03	6:00:00
03/17/03	9:00:00 through 03/17/03	9:30:00
03/17/03	10:30:00	
03/17/03	12:00:00 through 03/18/03	4:00:00
03/18/03	6:30:00 through 03/18/03	7:30:00
03/18/03	9:30:00 through 03/18/03	10:00:00

High turbidity values deleted because of algal growth near the sensor
 03/31/03 15:30:00

April 2003

Station 09

High turbidity values deleted because of algal growth near the sensor

04/07/03	17:00:00
04/20/03	12:30:00
04/28/03	12:30:00

Station 10

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

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

04/25/03 07:30:00 through 04/30/03 23:30:00

Station 19

No data due to sonde malfunction (the sonde it's auto disconnecting intermittent)

04/13/03 10:00:00 through 04/15/03 09:30:00

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

04/01/03	14:00:00 through 04/01/03	19:30:00
04/01/03	21:00:00 through 04/02/03	10:30:00
04/02/03	14:00:00 through 04/02/03	14:30:00
04/02/03	16:30:00 through 04/02/03	20:00:00
04/02/03	21:00:00 through 04/02/03	23:00:00
04/03/03	0:30:00	
04/03/03	2:00:00	
04/03/03	21:00:00 through 04/03/03	22:30:00
04/03/03	23:30:00 through 04/04/03	0:00:00
04/04/03	15:30:00 through 04/04/03	19:00:00
04/04/03	23:30:00 through 04/05/03	4:00:00
04/05/03	5:30:00 through 04/05/03	12:30:00
04/05/03	13:30:00 through 04/05/03	17:30:00
04/05/03	18:30:00 through 04/06/03	5:30:00
04/06/03	6:30:00 through 04/06/03	19:30:00
04/07/03	0:00:00 through 04/07/03	2:30:00
04/07/03	3:30:00 through 04/07/03	9:30:00
04/07/03	11:30:00 through 04/07/03	16:30:00
04/07/03	20:30:00 through 04/08/03	6:30:00
04/08/03	7:30:00 through 04/08/03	10:00:00
04/08/03	15:00:00	
04/08/03	17:00:00	
04/08/03	20:30:00	
04/08/03	21:30:00	
04/08/03	22:30:00	
04/08/03	23:30:00	
04/09/03	3:00:00 through 04/09/03	3:30:00
04/09/03	7:30:00 through 04/09/03	20:00:00
04/09/03	21:00:00 through 04/09/03	22:00:00
04/10/03	0:00:00 through 04/10/03	11:30:00
04/10/03	12:30:00 through 04/10/03	14:00:00
04/10/03	17:00:00 through 04/10/03	21:30:00
04/10/03	23:30:00 through 04/11/03	2:30:00
04/11/03	3:30:00 through 04/11/03	16:00:00
04/11/03	17:00:00 through 04/11/03	19:00:00
04/11/03	20:00:00 through 04/12/03	13:00:00
04/12/03	14:00:00 through 04/12/03	15:30:00
04/12/03	16:30:00 through 04/12/03	20:00:00
04/12/03	21:30:00 through 04/12/03	23:30:00
04/13/03	1:00:00 through 04/13/03	7:00:00
04/13/03	8:00:00	
04/15/03	10:00:00	
04/15/03	14:00:00 through 04/15/03	15:30:00
04/15/03	16:30:00 through 04/16/03	2:00:00

04/16/03	3:00:00 through 04/16/03	7:30:00
04/16/03	13:00:00 through 04/17/03	19:00:00
04/17/03	20:00:00 through 04/17/03	22:30:00
04/18/03	8:00:00 through 04/18/03	9:30:00
04/18/03	15:30:00	
04/18/03	17:30:00	
04/18/03	22:30:00 through 04/19/03	10:00:00
04/19/03	11:30:00	
04/19/03	14:00:00 through 04/19/03	15:00:00
04/19/03	18:30:00	
04/19/03	19:30:00 through 04/19/03	20:00:00
04/19/03	23:00:00	
04/20/03	0:00:00 through 04/20/03	21:30:00
04/20/03	23:00:00 through 04/21/03	0:00:00
04/21/03	1:00:00 through 04/21/03	3:30:00
04/21/03	4:30:00 through 04/25/03	12:00:00
04/25/03	18:30:00 through 04/26/03	9:30:00
04/26/03	11:00:00 through 04/28/03	7:00:00
04/28/03	8:00:00 through 04/28/03	11:30:00
04/30/03	9:00:00	
04/30/03	10:00:00 through 04/30/03	10:30:00
04/30/03	15:30:00 through 04/30/03	23:30:00

Station 20

The sonde was out of water for maintenance.

04/30/03 09:00:00

Turbidity values < -20 NTU were changed to 0 NTU. See section 14.

04/02/03	12:00:00	
04/02/03	13:30:00	
04/02/03	15:00:00	
04/04/03	11:00:00	
04/04/03	14:30:00	
04/15/03	9:30:00 through 04/16/03	17:30:00
04/16/03	20:00:00	
04/16/03	22:00:00 through 04/17/03	0:30:00
04/17/03	1:30:00 through 04/17/03	12:00:00
04/17/03	19:30:00 through 04/17/03	20:00:00
04/17/03	22:00:00	
04/18/03	7:30:00 through 04/18/03	10:30:00
04/18/03	11:30:00 through 04/18/03	12:00:00
04/18/03	13:00:00 through 04/18/03	13:30:00
04/18/03	20:00:00 through 04/18/03	22:30:00
04/19/03	9:00:00 through 04/19/03	11:30:00
04/19/03	13:00:00 through 04/19/03	16:00:00
04/19/03	18:00:00	
04/19/03	19:00:00 through 04/19/03	19:30:00
04/19/03	21:00:00 through 04/19/03	21:30:00
04/20/03	0:00:00	
04/20/03	1:30:00	
04/20/03	6:30:00	
04/20/03	7:30:00 through 04/20/03	16:30:00
04/20/03	17:30:00 through 04/21/03	15:00:00

04/21/03	16:00:00 through 04/21/03	16:30:00
04/21/03	17:30:00 through 04/25/03	17:30:00
04/25/03	18:30:00 through 04/25/03	22:00:00
04/25/03	23:00:00	
04/26/03	0:00:00	
04/26/03	1:00:00 through 04/26/03	5:00:00
04/26/03	9:30:00 through 04/26/03	10:30:00
04/26/03	11:30:00	
04/26/03	15:00:00	
04/26/03	16:00:00	
04/26/03	17:00:00	
04/26/03	21:00:00	
04/27/03	14:00:00 through 04/27/03	14:30:00
04/29/03	16:00:00	
04/30/03	4:00:00	
04/30/03	9:30:00 through 04/30/03	19:30:00
04/30/03	20:00:00	

High turbidity values deleted because of algal growth near the sensor
04/30/03 00:30:00

May 2003

Station 09

High turbidity values deleted because of algal growth near the sensor

05/03/03	17:30:00
05/03/03	18:00:00
05/31/03	19:00:00
05/31/03	23:00:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

05/06/03	19:30:00 through 05/06/03	20:00:00
05/06/03	21:00:00 through 05/06/03	21:30:00
05/06/03	22:30:00 through 05/07/03	0:30:00
05/07/03	2:30:00 through 05/07/03	3:30:00
05/07/03	4:30:00	
05/07/03	20:00:00 through 05/08/03	1:00:00
05/08/03	2:00:00 through 05/08/03	2:30:00
05/08/03	5:00:00	
05/08/03	20:00:00	
05/08/03	21:00:00 through 05/09/03	0:00:00
05/09/03	1:00:00 through 05/09/03	1:30:00
05/09/03	2:00:00	
05/09/03	3:30:00 through 05/09/03	4:00:00
05/09/03	5:00:00	
05/09/03	14:00:00	
05/09/03	18:00:00 through 05/10/03	3:30:00
05/10/03	10:30:00	
05/10/03	17:30:00 through 05/10/03	18:30:00
05/10/03	20:30:00 through 05/11/03	0:00:00
05/11/03	1:00:00	
05/11/03	2:30:00	
05/11/03	14:30:00	

05/11/03	16:00:00		
05/11/03	17:30:00	through 05/11/03	18:30:00
05/12/03	17:00:00		
05/12/03	18:30:00		
05/12/03	22:00:00		
05/22/03	22:00:00		
05/23/03	21:00:00	through 05/23/03	21:30:00

Station 10

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

05/01/03	0:00:00	through 05/05/03	15:30:00
05/05/03	16:30:00	through 05/09/03	0:30:00
05/09/03	4:00:00	through 05/10/03	17:00:00
05/10/03	18:00:00		
05/10/03	19:30:00	through 05/10/03	22:30:00
05/11/03	0:30:00	through 05/12/03	13:30:00
05/15/03	22:30:00		
05/15/03	23:30:00		
05/17/03	4:30:00	through 05/17/03	6:00:00
05/17/03	7:00:00	through 05/17/03	7:30:00
05/18/03	11:00:00		
05/18/03	12:00:00	through 05/18/03	14:00:00
05/18/03	15:00:00	through 05/18/03	15:30:00
05/18/03	17:30:00		
05/18/03	18:30:00		
05/18/03	20:00:00		
05/19/03	4:00:00	through 05/19/03	5:00:00
05/20/03	9:00:00	through 05/20/03	16:30:00
05/20/03	17:30:00		
05/20/03	20:30:00		
05/20/03	23:30:00	through 05/21/03	0:30:00
05/21/03	1:30:00	through 05/21/03	2:30:00
05/21/03	4:00:00	through 05/21/03	5:00:00
05/21/03	7:00:00	through 05/21/03	8:30:00
05/21/03	10:30:00		
05/21/03	11:30:00	through 05/21/03	14:30:00
05/21/03	15:00:00		
05/21/03	16:00:00	through 05/21/03	16:30:00
05/21/03	20:00:00	through 05/22/03	8:30:00
05/22/03	9:00:00		
05/22/03	10:00:00	through 05/22/03	12:30:00
05/22/03	13:30:00	through 05/22/03	15:00:00
05/22/03	16:00:00	through 05/22/03	17:00:00
05/22/03	18:00:00	through 05/23/03	1:30:00
05/23/03	2:00:00	through 05/23/03	3:30:00
05/23/03	4:00:00	through 05/23/03	10:30:00
05/23/03	11:00:00		
05/23/03	12:00:00	through 05/24/03	3:30:00
05/24/03	4:00:00		
05/24/03	5:00:00	through 05/24/03	11:30:00
05/24/03	12:30:00	through 05/24/03	15:00:00
05/24/03	16:30:00	through 05/24/03	17:30:00

05/24/03	18:30:00		
05/24/03	19:30:00 through 05/24/03	23:30:00	
05/25/03	0:30:00 through 05/25/03	21:00:00	
05/25/03	22:30:00		
05/26/03	1:00:00		
05/26/03	2:30:00		
05/26/03	3:00:00 through 05/26/03	3:30:00	
05/26/03	4:30:00		
05/26/03	7:00:00		
05/26/03	8:30:00		
05/26/03	10:30:00		
05/26/03	11:00:00 through 05/26/03	11:30:00	
05/26/03	12:30:00		
05/27/03	20:00:00		
05/28/03	3:30:00		
05/28/03	5:00:00 through 05/28/03	7:00:00	
05/28/03	9:00:00 through 05/28/03	11:30:00	
05/28/03	12:00:00		
05/28/03	13:00:00 through 05/28/03	17:00:00	
05/28/03	18:00:00 through 05/28/03	18:30:00	
05/28/03	19:30:00		

Dissolved oxygen for deployment 05/20/03 09:30:00 - 06/03/03 08:30:00 suspect.

Post deployment calibration reading was 1.6%. Data retained.

Station 19

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

05/01/03	0:00:00 through 05/01/03	8:00:00	
05/01/03	18:30:00 through 05/03/03	10:00:00	
05/03/03	11:00:00 through 05/03/03	15:30:00	
05/03/03	17:00:00 through 05/04/03	11:30:00	
05/04/03	13:30:00 through 05/05/03	9:30:00	
05/05/03	12:30:00		
05/05/03	18:00:00 through 05/06/03	9:30:00	
05/06/03	18:00:00 through 05/06/03	18:30:00	
05/06/03	19:30:00		
05/06/03	20:30:00		
05/06/03	21:00:00 through 05/07/03	8:30:00	
05/07/03	9:00:00		
05/07/03	10:00:00 through 05/07/03	12:00:00	
05/07/03	16:00:00 through 05/07/03	18:30:00	
05/07/03	19:00:00 through 05/08/03	13:00:00	
05/08/03	18:30:00 through 05/09/03	14:00:00	
05/09/03	15:30:00 through 05/10/03	9:00:00	
05/10/03	16:00:00 through 05/11/03	12:30:00	
05/11/03	18:00:00 through 05/12/03	6:30:00	
05/12/03	7:30:00 through 05/12/03	8:30:00	
05/12/03	9:30:00		
05/12/03	18:30:00 through 05/13/03	8:30:00	
05/13/03	12:30:00 through 05/13/03	13:00:00	
05/13/03	16:30:00 through 05/15/03	9:00:00	
05/15/03	16:00:00 through 05/15/03	16:30:00	
05/15/03	17:30:00 through 05/16/03	9:30:00	

05/16/03	18:30:00 through 05/17/03	13:30:00
05/17/03	14:00:00	
05/17/03	15:00:00	
05/17/03	17:30:00 through 05/18/03	0:00:00
05/18/03	1:00:00 through 05/18/03	8:00:00
05/18/03	10:00:00 through 05/18/03	11:30:00
05/18/03	12:30:00 through 05/20/03	1:30:00
05/20/03	2:30:00 through 05/22/03	11:30:00
05/22/03	17:00:00 through 05/23/03	9:30:00
05/23/03	17:30:00	
05/23/03	18:30:00 through 05/24/03	7:00:00
05/24/03	18:30:00 through 05/25/03	2:00:00
05/25/03	3:00:00 through 05/25/03	5:00:00
05/25/03	17:00:00 through 05/26/03	5:30:00
05/26/03	13:00:00 through 05/27/03	3:00:00
05/27/03	5:00:00 through 05/27/03	9:00:00
05/27/03	12:00:00 through 05/27/03	14:30:00
05/27/03	15:30:00 through 05/27/03	21:00:00
05/27/03	22:00:00 through 05/28/03	5:00:00
05/28/03	11:00:00 through 05/29/03	9:30:00
05/29/03	10:30:00 through 05/31/03	10:30:00
05/31/03	11:30:00 through 05/31/03	23:30:00

No data due to sonde malfunction (the sondes' auto disconnecting intermittent)

05/28/03 05:30:00 - 10:30:00

Specific Conductivity and Salinity data suspect beginning 05/16 17:30 through

06/02 05:30 due to conductivity being out of range. Variability in data may be

due to movement and wind. Data retained.

Station 20

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

05/01/03	5:30:00	
05/01/03	7:00:00	
05/01/03	8:30:00 through 05/01/03	16:00:00
05/02/03	10:00:00 through 05/02/03	15:30:00
05/03/03	10:00:00 through 05/03/03	10:30:00
05/03/03	12:00:00 through 05/03/03	16:30:00
05/03/03	19:30:00	
05/04/03	10:30:00 through 05/04/03	13:00:00
05/04/03	14:00:00 through 05/04/03	17:30:00
05/05/03	10:00:00 through 05/05/03	11:00:00
05/05/03	13:30:00	
05/05/03	14:30:00 through 05/05/03	15:30:00
05/05/03	17:00:00	
05/13/03	9:30:00 through 05/13/03	14:30:00
05/13/03	16:00:00 through 05/13/03	17:00:00
05/13/03	18:30:00	
05/13/03	20:00:00	
05/14/03	9:00:00 through 05/14/03	10:00:00
05/14/03	11:00:00 through 05/14/03	12:00:00

05/14/03	13:00:00 through 05/14/03	14:30:00
05/14/03	15:30:00 through 05/14/03	17:00:00
05/14/03	19:00:00	
05/15/03	9:30:00 through 05/15/03	12:00:00
05/15/03	13:00:00 through 05/15/03	16:30:00
05/16/03	10:30:00 through 05/16/03	16:30:00
05/16/03	17:30:00	
05/17/03	9:30:00 through 05/17/03	15:30:00
05/17/03	16:30:00 through 05/17/03	17:30:00
05/17/03	20:00:00	
05/18/03	9:30:00 through 05/18/03	10:00:00
05/18/03	11:00:00 through 05/18/03	17:30:00
05/18/03	18:30:00	
05/18/03	19:30:00 through 05/18/03	20:00:00
05/18/03	23:30:00 through 05/19/03	0:30:00
05/19/03	2:30:00	
05/19/03	11:00:00 through 05/19/03	11:30:00
05/19/03	13:30:00 through 05/19/03	15:30:00
05/19/03	17:30:00	
05/19/03	20:30:00	
05/20/03	0:00:00	
05/20/03	2:30:00 through 05/20/03	3:30:00
05/20/03	5:00:00	
05/20/03	8:00:00	
05/20/03	9:00:00	
05/20/03	10:00:00	
05/20/03	12:00:00	
05/20/03	14:00:00	
05/20/03	15:30:00	
05/20/03	16:00:00 through 05/20/03	18:00:00
05/20/03	19:00:00 through 05/20/03	19:30:00
05/20/03	20:30:00	
05/20/03	22:30:00	
05/21/03	4:00:00 through 05/21/03	7:00:00
05/21/03	9:00:00	
05/21/03	13:00:00 through 05/22/03	19:30:00
05/22/03	21:30:00	
05/22/03	22:30:00	
05/23/03	0:00:00	
05/23/03	0:30:00	
05/23/03	1:00:00	
05/23/03	4:30:00	
05/23/03	5:30:00 through 05/23/03	6:30:00
05/23/03	7:30:00 through 05/23/03	17:30:00
05/23/03	19:00:00 through 05/23/03	21:00:00
05/23/03	23:30:00 through 05/24/03	3:00:00
05/24/03	4:00:00 through 05/24/03	15:30:00
05/27/03	12:30:00	
05/27/03	13:30:00 through 05/27/03	15:00:00
05/28/03	5:00:00	
05/28/03	10:00:00 through 05/29/03	1:30:00
05/29/03	2:30:00 through 05/29/03	20:00:00
05/29/03	21:00:00 through 05/29/03	23:00:00
05/30/03	0:00:00 through 05/30/03	5:00:00

05/30/03	6:30:00 through 05/30/03	18:30:00
05/30/03	20:00:00 through 05/30/03	23:00:00
05/31/03	0:30:00 through 05/31/03	5:30:00
05/31/03	7:30:00 through 05/31/03	18:30:00
05/31/03	20:00:00 through 05/31/03	21:00:00

June 2003

Station 09

High turbidity values deleted because of algal growth near the sensor

06/01/03	0:30:00
06/01/03	12:00:00
06/01/03	19:00:00
06/01/03	21:00:00

Station 10

Dissolved oxygen for deployment 05/20/03 09:30:00 - 06/03/03 08:30:00 suspect.

Post deployment calibration reading was 1.6%. Data retained.

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

06/03/03	9:00:00 through 06/06/03	2:00:00
06/06/03	3:00:00 through 06/07/03	19:00:00
06/07/03	21:00:00 through 06/07/03	23:30:00
06/08/03	0:30:00 through 06/08/03	20:00:00
06/08/03	21:00:00 through 06/10/03	9:00:00
06/10/03	10:00:00 through 06/10/03	13:00:00
06/10/03	14:00:00 through 06/11/03	5:00:00
06/11/03	6:00:00 through 06/11/03	15:00:00
06/11/03	16:00:00 through 06/11/03	19:00:00
06/11/03	21:00:00 through 06/12/03	16:30:00
06/12/03	18:00:00 through 06/12/03	20:30:00
06/12/03	22:00:00 through 06/13/03	2:30:00
06/13/03	4:00:00	
06/13/03	5:00:00	
06/13/03	6:00:00	
06/13/03	10:00:00	
06/14/03	7:30:00	
06/17/03	9:00:00 through 06/19/03	9:00:00
06/19/03	10:00:00 through 06/19/03	19:30:00
06/20/03	7:30:00 through 06/20/03	8:00:00

DO (%) and DO (mg/l) data suspect and deleted from 6/16 2200-6/17 0830

Station 19

Specific Conductivity and Salinity data suspect beginning 05/16 17:30 through

06/02 05:30 due to conductivity being out of range. Variability in data may be due to movement and wind. Data retained.

No data due to sonde malfunction (the sondes' auto disconnecting intermittent)

06/30/03 16:30:00 - 23:30:00

The sonde was out of water for maintenance.

06/10/03 08:00:00

06/25/03 09:30:00 - 10:00:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

06/01/03	0:00:00 through 06/03/03	12:30:00
06/03/03	14:00:00 through 06/08/03	16:00:00
06/08/03	17:00:00 through 06/09/03	11:00:00
06/09/03	15:30:00 through 06/09/03	16:00:00
06/09/03	17:00:00 through 06/10/03	10:00:00
06/10/03	16:00:00 through 06/11/03	10:00:00
06/11/03	11:00:00 through 06/11/03	12:00:00
06/11/03	13:00:00 through 06/13/03	9:00:00
06/13/03	18:00:00 through 06/13/03	22:30:00
06/13/03	23:30:00 through 06/14/03	3:00:00
06/14/03	4:00:00 through 06/14/03	9:30:00
06/14/03	19:00:00 through 06/15/03	9:30:00
06/15/03	10:30:00	
06/15/03	13:30:00 through 06/16/03	4:00:00
06/16/03	5:30:00 through 06/16/03	12:00:00
06/16/03	15:00:00 through 06/17/03	8:00:00
06/17/03	18:30:00 through 06/17/03	20:30:00
06/17/03	21:30:00 through 06/18/03	8:30:00
06/18/03	16:00:00 through 06/18/03	16:30:00
06/18/03	20:00:00 through 06/19/03	12:00:00
06/19/03	13:00:00	
06/19/03	15:30:00 through 06/20/03	9:30:00
06/20/03	18:00:00 through 06/20/03	18:30:00
06/20/03	19:30:00 through 06/21/03	9:00:00
06/21/03	15:00:00 through 06/22/03	8:00:00
06/22/03	16:00:00 through 06/23/03	1:30:00
06/23/03	2:30:00 through 06/23/03	8:30:00
06/23/03	13:00:00	
06/23/03	18:00:00 through 06/23/03	19:30:00
06/23/03	20:30:00 through 06/24/03	7:00:00
06/24/03	12:00:00 through 06/24/03	13:30:00
06/24/03	17:30:00 through 06/24/03	20:30:00
06/24/03	21:30:00 through 06/25/03	7:30:00
06/25/03	13:00:00	
06/25/03	14:30:00 through 06/26/03	8:30:00
06/26/03	11:30:00	
06/26/03	13:00:00 through 06/26/03	20:00:00
06/26/03	21:00:00 through 06/26/03	21:30:00
06/26/03	22:30:00 through 06/27/03	8:30:00
06/27/03	15:00:00 through 06/28/03	5:00:00
06/28/03	14:30:00 through 06/29/03	5:00:00

06/29/03	14:30:00 through 06/30/03	6:00:00
06/30/03	11:00:00 through 06/30/03	12:00:00
06/30/03	13:00:00 through 06/30/03	16:00:00

Station 20

Negative values of DO% and DO mg/l were deleted for sensor malfunction.

06/26/03	17:30:00 through 06/30/03	23:30:00
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Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

06/01/03	0:30:00 through 06/01/03	2:30:00
06/01/03	3:30:00 through 06/01/03	4:30:00
06/01/03	6:00:00	
06/01/03	7:30:00 through 06/01/03	17:30:00
06/01/03	18:30:00 through 06/01/03	22:00:00
06/01/03	23:30:00 through 06/02/03	1:00:00
06/02/03	2:00:00	
06/02/03	7:00:00	
06/02/03	7:30:00 through 06/02/03	8:30:00
06/02/03	10:00:00 through 06/02/03	18:30:00
06/02/03	19:30:00 through 06/03/03	0:00:00
06/03/03	2:00:00	
06/03/03	8:00:00	
06/03/03	9:30:00 through 06/03/03	14:30:00
06/03/03	15:30:00	
06/03/03	17:00:00 through 06/03/03	20:00:00
06/03/03	21:00:00	
06/03/03	22:00:00	
06/03/03	23:00:00 through 06/04/03	0:00:00
06/04/03	10:00:00	
06/04/03	11:30:00	
06/04/03	12:00:00	
06/04/03	16:00:00	
06/04/03	19:30:00	
06/05/03	18:30:00	
06/05/03	19:30:00 through 06/05/03	22:30:00
06/05/03	23:30:00 through 06/06/03	0:00:00
06/06/03	10:00:00 through 06/06/03	15:30:00
06/06/03	17:30:00	
06/06/03	19:30:00 through 06/06/03	20:00:00
06/07/03	10:00:00 through 06/07/03	10:30:00
06/08/03	11:30:00	
06/10/03	10:30:00 through 06/10/03	11:00:00
06/10/03	12:00:00	
06/10/03	14:30:00	
06/11/03	10:30:00 through 06/11/03	11:00:00
06/11/03	12:00:00 through 06/11/03	13:00:00
06/11/03	14:00:00	

July 2003

Stations 09

High turbidity values deleted because of algal growth near the sensor

07/05/03 10:00:00

07/28/03 5:30:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

07/31/03 13:30:00

07/31/03 15:30:00

07/31/03 17:00:00 through 07/31/03 23:30:00

Station 10

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

07/01/03 10:30:00 through 07/01/03 11:00:00

07/01/03 13:00:00

07/01/03 22:30:00 through 07/01/03 23:30:00

07/02/03 0:30:00 through 07/02/03 1:30:00

07/02/03 3:00:00 through 07/02/03 3:30:00

07/02/03 9:30:00

07/03/03 1:00:00

07/03/03 6:30:00

07/03/03 7:30:00 through 07/03/03 8:30:00

07/03/03 17:00:00

07/03/03 21:00:00 07/03/03 21:30:00

07/03/03 23:30:00

07/04/03 0:30:00

07/04/03 1:30:00

07/04/03 3:30:00 through 07/04/03 4:30:00

07/04/03 7:30:00

07/05/03 5:00:00

07/05/03 6:00:00 through 07/05/03 6:30:00

07/05/03 7:30:00

07/05/03 9:30:00

07/05/03 13:30:00

07/05/03 16:30:00

07/05/03 17:30:00

07/05/03 18:30:00

07/05/03 23:00:00

07/06/03 3:00:00

07/06/03 3:30:00

07/06/03 4:00:00

07/06/03 4:30:00

07/06/03 5:00:00

07/06/03 6:30:00

07/06/03 7:00:00 through 07/06/03 8:00:00

07/06/03 13:30:00 through 07/06/03 14:00:00

07/06/03 15:00:00

07/06/03 16:00:00 through 07/06/03 17:00:00

07/06/03 18:30:00

07/07/03	1:00:00 through 07/07/03	2:00:00
07/07/03	3:00:00	
07/07/03	4:00:00	
07/07/03	5:00:00	
07/07/03	6:30:00 through 07/07/03	8:30:00
07/07/03	9:30:00	
07/07/03	11:30:00 through 07/07/03	12:00:00
07/08/03	2:00:00	
07/08/03	3:00:00 through 07/08/03	4:00:00
07/08/03	5:00:00	
07/08/03	6:30:00	
07/17/03	9:00:00 through 07/17/03	11:00:00
07/17/03	12:00:00 through 07/17/03	13:30:00
07/17/03	14:30:00 through 07/17/03	16:00:00
07/17/03	19:00:00	
07/18/03	9:00:00	
07/18/03	10:00:00	
07/18/03	14:00:00	
07/18/03	16:00:00 through 07/18/03	16:30:00
07/18/03	17:30:00 through 07/18/03	18:00:00
07/19/03	1:30:00 through 07/19/03	3:30:00
07/19/03	11:30:00	
07/19/03	14:30:00 through 07/19/03	16:00:00
07/19/03	17:30:00	
07/20/03	0:30:00 through 07/20/03	1:00:00
07/20/03	2:00:00	
07/20/03	12:30:00 through 07/20/03	13:30:00
07/21/03	1:00:00 through 07/21/03	3:00:00
07/21/03	11:00:00	
07/21/03	14:30:00	
07/21/03	16:00:00	
07/21/03	17:30:00 through 07/21/03	18:00:00
07/22/03	1:00:00	
07/30/03	9:00:00 through 07/31/03	23:30:00

DO drops from 117% to 26% then recovers to 103% from 7/28 130-300. Data suspect and retained.

Station 19

No data due to sonde malfunction (the sonde it's auto disconnecting intermittent)

07/08/03	15:30:00 through 07/09/03	08:00:00
07/22/03	09:00:00 through 07/23/03	08:00:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

07/01/03	0:00:00 through 07/01/03	11:00:00
07/01/03	12:00:00	
07/01/03	15:00:00 through 07/02/03	10:00:00
07/02/03	11:00:00 through 07/02/03	13:30:00
07/02/03	14:30:00 through 07/03/03	11:00:00
07/03/03	17:30:00	

07/04/03	7:30:00	
07/04/03	17:00:00	
07/04/03	18:00:00	
07/05/03	7:30:00	
07/05/03	8:30:00 through 07/06/03	4:00:00
07/06/03	9:00:00 through 07/06/03	10:30:00
07/06/03	11:30:00 through 07/06/03	13:00:00
07/06/03	14:00:00 through 07/06/03	22:00:00
07/07/03	5:30:00 through 07/07/03	6:30:00
07/07/03	7:30:00	
07/07/03	8:30:00 through 07/07/03	10:00:00
07/07/03	11:30:00 through 07/07/03	12:30:00
07/07/03	13:30:00 through 07/07/03	14:00:00
07/07/03	18:00:00	
07/09/03	8:30:00 through 07/09/03	10:00:00
07/09/03	14:30:00 through 07/12/03	9:30:00
07/12/03	10:30:00 through 07/18/03	7:00:00
07/18/03	8:30:00 through 07/20/03	1:00:00
07/20/03	3:00:00 through 07/21/03	17:30:00
07/21/03	19:00:00 through 07/22/03	8:30:00
07/23/03	18:30:00 through 07/23/03	19:00:00
07/23/03	21:30:00 through 07/24/03	0:00:00
07/24/03	1:00:00 through 07/24/03	9:00:00
07/24/03	10:00:00 through 07/24/03	11:00:00
07/24/03	19:00:00	
07/24/03	21:30:00 through 07/25/03	8:00:00
07/25/03	18:00:00	
07/25/03	19:00:00 through 07/26/03	8:30:00
07/26/03	22:00:00 through 07/27/03	5:30:00
07/27/03	6:30:00 through 07/27/03	9:00:00
07/27/03	16:00:00 through 07/27/03	17:30:00
07/27/03	21:00:00 through 07/28/03	5:30:00
07/28/03	6:30:00 through 07/28/03	8:30:00
07/28/03	10:00:00 through 07/28/03	10:30:00
07/28/03	15:30:00	
07/28/03	19:00:00 through 07/29/03	5:30:00
07/29/03	8:00:00	
07/31/03	1:30:00 through 07/31/03	7:00:00
07/31/03	8:00:00 through 07/31/03	12:00:00
07/31/03	16:30:00 through 07/31/03	17:30:00
07/31/03	19:00:00 through 07/31/03	19:30:00
07/31/03	22:00:00 through 07/31/03	23:00:00

Station 20

The sonde was out of water for maintenance.

07/23/03	10:00:00	-	10:30:00
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High turbidity values deleted because of algal growth near the sensor

07/24/03	11:30:00
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07/27/03	10:00:00
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Negative values of DO% and DO mg/l were deleted for sensor malfunction.

07/01/03 00:00:00 through 07/09/03 08:30:00

August 2003

Station 09

High turbidity values deleted because of algal growth near the sensor

08/17/03 1:30:00

08/22/03 1:30:00

08/24/03 20:00:00

08/25/03 0:30:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

08/01/03 0:00:00

08/01/03 0:30:00

08/01/03 1:00:00

08/01/03 2:00:00 through 08/01/03 7:30:00

08/01/03 8:30:00

08/01/03 14:00:00

08/01/03 16:00:00 through 08/01/03 16:30:00

08/01/03 22:30:00 through 08/02/03 8:00:00

08/02/03 9:30:00 through 08/02/03 11:30:00

08/02/03 15:00:00

08/02/03 16:00:00 through 08/02/03 18:00:00

08/02/03 20:00:00

08/02/03 21:30:00 through 08/03/03 4:30:00

08/03/03 5:30:00 through 08/03/03 18:30:00

08/03/03 20:30:00

08/03/03 22:30:00 through 08/04/03 11:30:00

08/04/03 12:30:00

08/04/03 14:30:00

08/04/03 15:30:00 through 08/04/03 20:00:00

08/04/03 21:00:00 through 08/04/03 23:00:00

08/05/03 0:00:00 through 08/05/03 11:30:00

08/05/03 13:00:00 through 08/05/03 16:30:00

08/05/03 17:00:00

08/05/03 18:00:00

08/05/03 20:00:00

08/05/03 23:00:00 through 08/06/03 0:30:00

08/06/03 1:30:00 through 08/06/03 8:30:00

08/06/03 10:00:00

08/06/03 11:00:00

08/06/03 22:00:00 through 08/07/03 0:30:00

08/07/03 19:00:00

08/07/03 23:30:00

08/11/03 1:00:00 through 08/11/03 1:30:00

08/12/03 2:30:00

08/12/03 3:30:00

08/12/03 7:00:00 through 08/12/03 8:00:00

08/12/03 9:00:00

Station 10

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

08/01/03	0:00:00 through 08/02/03	10:00:00
08/02/03	11:00:00 through 08/02/03	11:30:00
08/02/03	14:30:00	
08/02/03	15:30:00 through 08/02/03	16:30:00
08/03/03	19:30:00	
08/08/03	6:30:00 through 08/08/03	19:00:00
08/08/03	22:00:00 through 08/08/03	22:30:00
08/09/03	3:00:00	
08/09/03	6:00:00 through 08/10/03	9:00:00
08/10/03	11:00:00 through 08/10/03	14:00:00
08/10/03	21:30:00	
08/11/03	2:30:00	
08/11/03	4:00:00	
08/11/03	6:30:00 through 08/11/03	10:00:00
08/11/03	11:00:00	
08/11/03	12:30:00 through 08/11/03	13:30:00
08/11/03	15:30:00 through 08/11/03	21:30:00
08/11/03	23:00:00 through 08/12/03	1:30:00
08/12/03	3:00:00 through 08/12/03	7:30:00
08/12/03	8:30:00 through 08/13/03	2:00:00
08/13/03	3:30:00 through 08/16/03	20:00:00
08/17/03	9:00:00 through 08/17/03	19:00:00
08/17/03	23:00:00	
08/18/03	6:30:00	
08/18/03	8:00:00 through 08/18/03	8:30:00
08/18/03	9:30:00 through 08/18/03	10:30:00
08/18/03	13:00:00	
08/18/03	15:00:00 through 08/18/03	20:00:00
08/18/03	22:30:00 through 08/19/03	4:00:00
08/19/03	5:00:00 through 08/20/03	4:30:00
08/20/03	5:30:00 through 08/20/03	19:30:00
08/20/03	23:30:00 through 08/21/03	0:00:00
08/21/03	1:00:00	
08/21/03	2:30:00	
08/21/03	5:00:00	
08/21/03	6:00:00 through 08/21/03	7:00:00
08/21/03	8:00:00 through 08/21/03	21:00:00
08/21/03	23:30:00 through 08/22/03	1:00:00
08/22/03	2:00:00 through 08/22/03	4:30:00
08/22/03	5:30:00 through 08/24/03	1:00:00
08/24/03	2:00:00 through 08/24/03	7:30:00
08/24/03	9:00:00 through 08/24/03	20:30:00
08/24/03	21:30:00 through 08/25/03	6:00:00
08/25/03	7:30:00 through 08/25/03	8:30:00
08/25/03	9:30:00 through 08/25/03	22:00:00
08/25/03	23:00:00 through 08/26/03	0:00:00
08/26/03	1:00:00 through 08/26/03	3:00:00
08/26/03	6:00:00 through 08/26/03	7:00:00
08/26/03	10:00:00 through 08/26/03	19:30:00
08/26/03	21:00:00 through 08/26/03	21:30:00
08/26/03	23:00:00 through 08/26/03	23:30:00

08/27/03	0:30:00	
08/27/03	1:30:00 through 08/27/03	3:30:00
08/27/03	18:00:00	
08/28/03	2:00:00	
08/28/03	4:30:00	
08/28/03	6:00:00 through 08/28/03	7:30:00
08/28/03	9:00:00 through 08/28/03	18:00:00
08/28/03	19:30:00 through 08/28/03	20:00:00
08/28/03	21:30:00 through 08/29/03	3:30:00
08/29/03	4:30:00	
08/29/03	5:30:00 through 08/29/03	17:00:00
08/29/03	18:00:00 through 08/29/03	22:30:00
08/30/03	0:00:00 through 08/30/03	3:00:00
08/30/03	4:30:00 through 08/30/03	21:00:00
08/30/03	22:00:00 through 08/31/03	3:00:00
08/31/03	4:30:00 through 08/31/03	6:00:00
08/31/03	8:00:00 through 08/31/03	14:00:00
08/31/03	15:00:00 through 08/31/03	19:30:00
08/31/03	20:30:00 through 08/31/03	23:30:00

Station 19

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

08/01/03	0:00:00 through 08/01/03	3:30:00
08/01/03	5:00:00 through 08/01/03	7:30:00
08/01/03	9:00:00 through 08/01/03	9:30:00
08/01/03	11:00:00	
08/01/03	14:00:00 through 08/01/03	14:30:00
08/01/03	17:00:00 through 08/01/03	17:30:00
08/01/03	18:30:00 through 08/02/03	5:30:00
08/02/03	7:30:00	
08/02/03	9:30:00 through 08/02/03	10:30:00
08/02/03	21:00:00 through 08/02/03	21:30:00
08/03/03	7:30:00 through 08/03/03	8:00:00
08/03/03	21:00:00	
08/03/03	23:00:00 through 08/04/03	5:30:00
08/04/03	6:30:00 through 08/04/03	8:00:00
08/04/03	10:30:00	
08/04/03	19:30:00 through 08/04/03	21:00:00
08/04/03	22:00:00	
08/05/03	3:00:00	
08/05/03	4:00:00	
08/05/03	7:30:00 through 08/05/03	8:30:00
08/05/03	21:00:00	
08/06/03	7:00:00	
08/06/03	8:00:00 through 08/06/03	9:00:00
08/06/03	14:30:00 through 08/06/03	16:00:00
08/06/03	17:00:00 through 08/07/03	0:00:00
08/07/03	1:00:00 through 08/07/03	3:30:00
08/07/03	4:30:00	
08/07/03	5:30:00	
08/07/03	7:30:00 through 08/07/03	8:00:00

08/07/03	12:00:00	
08/07/03	13:30:00 through 08/07/03	16:30:00
08/07/03	17:30:00 through 08/07/03	21:00:00
08/07/03	22:00:00 through 08/08/03	5:30:00
08/08/03	6:30:00 through 08/08/03	10:30:00
08/08/03	19:00:00 through 08/09/03	4:30:00
08/09/03	6:00:00 through 08/09/03	8:00:00
08/09/03	9:00:00	
08/09/03	19:00:00 through 08/09/03	21:30:00
08/10/03	1:00:00	
08/10/03	2:00:00	
08/10/03	3:30:00 through 08/10/03	4:00:00
08/10/03	5:00:00 through 08/10/03	5:30:00
08/10/03	6:30:00 through 08/10/03	7:00:00
08/10/03	8:00:00 through 08/10/03	8:30:00
08/10/03	17:30:00 through 08/10/03	19:30:00
08/10/03	23:00:00	
08/11/03	0:00:00	
08/11/03	1:00:00	
08/11/03	2:30:00	
08/11/03	6:00:00	
08/11/03	7:00:00 through 08/11/03	10:30:00
08/11/03	16:30:00	
08/13/03	17:30:00 through 08/13/03	19:00:00
08/14/03	17:00:00 through 08/14/03	18:30:00
08/14/03	19:30:00 through 08/14/03	20:00:00
08/15/03	2:00:00 through 08/15/03	3:00:00
08/15/03	4:00:00 through 08/15/03	4:30:00
08/15/03	6:30:00 through 08/15/03	9:30:00
08/15/03	12:00:00	
08/15/03	13:00:00 through 08/16/03	5:30:00
08/16/03	6:30:00 through 08/16/03	9:00:00
08/16/03	17:00:00 through 08/16/03	22:00:00
08/16/03	23:00:00 through 08/17/03	3:30:00
08/17/03	5:00:00	
08/17/03	7:00:00	
08/17/03	22:30:00	
08/18/03	2:30:00	
08/18/03	6:00:00 through 08/18/03	6:30:00
08/18/03	15:30:00	
08/18/03	17:00:00	
08/19/03	18:30:00	
08/20/03	8:30:00 through 08/22/03	12:30:00
08/22/03	13:30:00 through 08/28/03	1:00:00
08/28/03	2:00:00 through 08/28/03	4:00:00
08/28/03	14:00:00 through 08/28/03	15:30:00
08/30/03	5:00:00 through 08/31/03	23:30:00

Station 20

Depth 1/2 meter lower than normal from 8/5 1030-1130; data considered suspect and deleted.

The sonde was out of water for maintenance.

08/06/03 09:00:00 - 9:30:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

08/06/03	14:00:00	
08/09/03	11:30:00	
08/20/03	9:00:00 through 08/21/03	16:30:00
08/21/03	17:30:00 through 08/21/03	19:00:00
08/21/03	20:00:00 through 08/22/03	5:30:00
08/22/03	7:00:00 through 08/22/03	8:30:00
08/22/03	10:00:00 through 08/22/03	16:30:00
08/22/03	18:00:00 through 08/22/03	19:00:00
08/22/03	22:30:00 through 08/22/03	23:00:00
08/23/03	1:00:00 through 08/23/03	3:00:00
08/23/03	4:00:00 through 08/23/03	6:00:00
08/23/03	9:00:00 through 08/23/03	9:30:00
08/23/03	11:00:00 through 08/23/03	17:00:00
08/23/03	19:00:00 through 08/23/03	21:00:00
08/23/03	22:00:00 through 08/23/03	23:00:00
08/24/03	0:30:00	
08/24/03	1:30:00 through 08/24/03	5:30:00
08/24/03	8:00:00	
08/24/03	9:30:00 through 08/24/03	18:30:00
08/24/03	19:30:00	
08/25/03	0:00:00 through 08/25/03	6:00:00
08/25/03	9:30:00 through 08/25/03	10:30:00
08/25/03	11:30:00 through 08/25/03	12:30:00
08/25/03	14:00:00 through 08/25/03	17:00:00
08/25/03	19:00:00	
08/26/03	0:00:00 through 08/26/03	1:00:00
08/26/03	3:00:00 through 08/26/03	11:00:00
08/26/03	12:00:00 through 08/26/03	13:30:00
08/26/03	20:00:00 through 08/27/03	0:00:00
08/27/03	1:30:00	
08/27/03	9:30:00 through 08/27/03	14:30:00
08/27/03	16:00:00 through 08/27/03	16:30:00
08/27/03	17:30:00	

Negative values of DO% and DO mg/l were deleted for sensor malfunction.

08/14/03 13:30:00 through 08/18/03 19:30:00

September 2003

Station 09

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

09/11/03	6:00:00 through 09/11/03	6:30:00
09/11/03	8:00:00	
09/11/03	17:30:00	
09/16/03	10:30:00	
09/17/03	12:30:00	

09/22/03 15:30:00
09/22/03 16:00:00
09/22/03 17:00:00 through 09/22/03 17:30:00

High turbidity values deleted because of algal growth near the sensor

09/06/03 19:00:00
09/07/03 1:30:00
09/07/03 3:30:00
09/08/03 2:00:00

Dissolved oxygen data deleted for the following dates and times due to punctured

membrane.

09/17/03 20:00:00 - 09/23/03 09:00:00

Station 10

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

09/01/03 0:00:00 through 09/01/03 5:30:00
09/01/03 6:30:00
09/01/03 7:30:00
09/01/03 8:30:00
09/01/03 9:30:00 through 09/01/03 12:30:00
09/01/03 13:30:00 through 09/01/03 20:30:00
09/02/03 18:30:00 through 09/02/03 19:00:00
09/02/03 22:00:00 through 09/02/03 22:30:00
09/03/03 0:30:00
09/03/03 9:00:00
09/03/03 15:00:00 through 09/03/03 15:30:00
09/03/03 18:00:00 through 09/03/03 19:30:00
09/04/03 14:30:00 through 09/04/03 16:00:00
09/04/03 18:30:00 through 09/04/03 20:00:00
09/05/03 2:00:00 through 09/05/03 3:00:00
09/05/03 4:00:00
09/05/03 12:00:00
09/05/03 13:00:00
09/05/03 15:00:00
09/05/03 16:00:00
09/05/03 17:00:00 through 09/05/03 17:30:00
09/05/03 18:30:00 through 09/05/03 19:00:00
09/06/03 2:00:00
09/06/03 13:00:00 through 09/06/03 14:00:00
09/06/03 15:00:00 through 09/06/03 16:30:00
09/06/03 18:00:00
09/07/03 14:00:00 through 09/07/03 14:30:00
09/07/03 16:30:00 through 09/07/03 18:30:00
09/07/03 20:00:00
09/08/03 9:30:00 through 09/08/03 11:00:00
09/08/03 12:30:00 through 09/08/03 13:00:00
09/08/03 14:30:00 through 09/08/03 15:00:00
09/08/03 16:00:00
09/08/03 18:30:00

09/09/03	3:30:00 through 09/09/03	4:00:00
09/09/03	7:30:00	
09/09/03	10:00:00 through 09/18/03	3:30:00
09/18/03	6:30:00	
09/18/03	8:00:00 through 09/18/03	12:00:00
09/18/03	13:00:00 through 09/18/03	14:00:00
09/18/03	15:00:00 through 09/19/03	1:30:00
09/19/03	10:00:00 through 09/19/03	18:00:00
09/19/03	19:00:00 through 09/21/03	6:30:00
09/21/03	8:30:00 through 09/22/03	4:00:00
09/22/03	6:00:00 through 09/22/03	7:30:00
09/22/03	8:30:00 through 09/23/03	14:30:00
09/23/03	15:30:00 through 09/23/03	16:00:00
09/23/03	17:00:00 through 09/24/03	9:00:00
09/24/03	10:00:00 through 09/30/03	23:30:00

Negative values of DO% and DO mg/l were deleted for sensor malfunction.

09/03/03	2:30:00 through 09/09/03	10:00:00
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Station 19

The sonde was out of water for maintenance.

09/30/03	08:00:00	-	08:30:00
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Dissolved oxygen data suspect for deployment 09/30/03 09:00:00 - 10/15/03 08:30:00. Readings for the entire deployment were lower than normal and first

reading for deployment spiked up to 172.5% then dropped to 70.5%.

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

09/01/03	0:00:00 through 09/01/03	5:30:00
09/01/03	6:30:00 through 09/01/03	23:00:00
09/02/03	0:30:00 through 09/02/03	3:30:00
09/03/03	9:30:00 through 09/03/03	15:30:00
09/03/03	16:30:00 through 09/06/03	10:30:00
09/06/03	18:00:00 through 09/07/03	11:30:00
09/07/03	17:00:00 through 09/08/03	11:30:00
09/08/03	13:00:00 through 09/09/03	10:30:00
09/09/03	14:00:00 through 09/10/03	11:30:00
09/10/03	12:30:00 through 09/11/03	12:30:00
09/11/03	13:30:00 through 09/13/03	2:00:00
09/13/03	4:00:00	
09/13/03	5:30:00	
09/13/03	6:30:00	
09/13/03	7:30:00	
09/13/03	9:30:00 through 09/13/03	13:00:00
09/16/03	8:30:00 through 09/16/03	15:30:00
09/16/03	16:30:00 through 09/17/03	18:30:00
09/17/03	19:30:00 through 09/17/03	21:00:00
09/17/03	22:30:00 through 09/18/03	9:00:00
09/18/03	10:30:00 through 09/18/03	12:00:00

09/18/03	18:00:00 through 09/19/03	2:00:00
09/19/03	3:00:00 through 09/19/03	10:00:00
09/19/03	11:00:00	
09/19/03	12:00:00	
09/19/03	18:00:00 through 09/19/03	20:00:00
09/19/03	21:30:00 through 09/20/03	6:30:00
09/20/03	8:00:00 through 09/20/03	9:00:00
09/20/03	11:00:00 through 09/20/03	15:30:00
09/20/03	16:30:00 through 09/21/03	9:00:00
09/21/03	11:00:00 through 09/21/03	12:30:00
09/21/03	13:30:00 through 09/21/03	14:00:00
09/21/03	15:30:00 through 09/21/03	20:30:00
09/21/03	21:30:00 through 09/24/03	10:30:00
09/24/03	12:00:00 through 09/24/03	12:30:00
09/24/03	18:00:00 through 09/25/03	11:30:00
09/25/03	17:30:00 through 09/26/03	7:00:00
09/26/03	8:00:00 through 09/26/03	9:00:00
09/26/03	16:30:00 through 09/26/03	18:30:00
09/26/03	22:00:00	
09/26/03	23:00:00	
09/27/03	0:00:00 through 09/27/03	2:00:00
09/27/03	3:00:00 through 09/27/03	4:00:00
09/27/03	5:00:00	
09/27/03	19:00:00	
09/27/03	22:00:00 through 09/28/03	3:00:00
09/28/03	4:30:00	
09/28/03	5:30:00 through 09/28/03	6:00:00
09/28/03	7:00:00 through 09/28/03	9:00:00
09/28/03	18:00:00 through 09/28/03	18:30:00
09/28/03	20:00:00 through 09/28/03	23:00:00
09/29/03	1:00:00 through 09/29/03	5:30:00
09/29/03	6:30:00 through 09/29/03	7:30:00
09/29/03	8:30:00	
09/29/03	11:00:00	
09/30/03	0:00:00 through 09/30/03	5:00:00
09/30/03	6:00:00 through 09/30/03	14:30:00
09/30/03	15:00:00 through 09/30/03	23:30:00

The sonde was out of water for sham of Aguirre power plant.

09/25/03	11:00:00	-	13:30:00
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Station 20

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

09/03/03	04:00:00	
09/16/03	09:00:00	
09/16/03	10:00:00 through 09/16/03	11:00:00
09/16/03	12:00:00	
09/30/03	09:30:00 through 09/30/03	17:30:00
09/30/03	18:30:00 through 09/30/03	21:00:00
09/30/03	22:00:00 through 09/30/03	23:30:00

October 2003

Station 09

The negative DO% and DO mg/l values are changed to zero (0) because this station

presents oxygen deficiency periods on the water column caused by organic material decomposition and oxygen consumed by algae.

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

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

10/21/03	14:30:00
10/23/03	06:30:00
10/23/03	07:30:00

High turbidity values deleted because of algal growth near the sensor

10/03/03	17:00:00
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Station 10

The sonde was out of water for maintenance.

10/07/03	09:00:00
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Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

10/01/03	0:00:00	
10/01/03	0:30:00 through 10/01/03	1:00:00
10/01/03	2:00:00 through 10/01/03	4:00:00
10/01/03	5:00:00 through 10/01/03	6:30:00
10/01/03	9:30:00 through 10/01/03	18:30:00
10/01/03	19:30:00 through 10/01/03	20:00:00
10/01/03	21:00:00 through 10/02/03	3:00:00
10/02/03	9:30:00 through 10/02/03	20:00:00
10/02/03	21:00:00	
10/02/03	22:30:00	
10/02/03	23:30:00 through 10/03/03	21:30:00
10/03/03	22:30:00	
10/03/03	23:30:00 through 10/04/03	0:30:00
10/04/03	1:30:00 through 10/04/03	3:00:00
10/04/03	9:30:00 through 10/04/03	20:30:00
10/04/03	21:30:00 through 10/04/03	22:00:00
10/05/03	0:30:00 through 10/05/03	2:30:00
10/05/03	4:00:00	
10/05/03	6:00:00 through 10/05/03	6:30:00
10/05/03	8:30:00 through 10/05/03	23:30:00
10/06/03	1:30:00 through 10/06/03	22:30:00
10/06/03	23:30:00	
10/07/03	0:30:00 through 10/08/03	6:00:00
10/08/03	7:00:00	
10/08/03	8:00:00 through 10/09/03	2:30:00
10/09/03	14:30:00 through 10/09/03	15:00:00
10/09/03	16:00:00	
10/09/03	21:30:00 through 10/10/03	0:30:00
10/10/03	1:30:00 through 10/10/03	4:30:00
10/10/03	9:30:00 through 10/10/03	10:00:00
10/11/03	8:00:00 through 10/11/03	9:30:00
10/11/03	10:30:00 through 10/12/03	0:30:00
10/12/03	2:00:00	
10/12/03	4:00:00	
10/12/03	5:30:00	
10/12/03	8:30:00	
10/12/03	9:30:00 through 10/12/03	21:30:00
10/12/03	23:00:00	
10/13/03	0:00:00 through 10/13/03	4:00:00
10/13/03	8:00:00 through 10/13/03	13:00:00
10/13/03	14:00:00 through 10/13/03	17:00:00
10/13/03	18:30:00 through 10/13/03	22:00:00
10/14/03	0:00:00	
10/21/03	9:30:00 through 10/21/03	22:30:00
10/21/03	23:30:00	
10/22/03	0:30:00 through 10/23/03	12:30:00
10/23/03	14:30:00	
10/23/03	15:30:00	
10/23/03	19:30:00 through 10/23/03	20:00:00
10/23/03	22:00:00 through 10/26/03	18:00:00
10/26/03	19:00:00 through 10/26/03	21:00:00
10/27/03	0:00:00 through 10/27/03	1:00:00

10/27/03	8:00:00 through 10/27/03	23:00:00
10/28/03	1:30:00 through 10/28/03	4:00:00
10/28/03	5:00:00 through 10/28/03	9:30:00
10/28/03	11:30:00	
10/28/03	18:30:00 through 10/28/03	19:00:00
10/28/03	21:30:00 through 10/29/03	1:00:00
10/29/03	2:00:00	
10/29/03	13:00:00 through 10/29/03	14:00:00
10/29/03	15:00:00 through 10/29/03	18:00:00
10/29/03	19:00:00	
10/30/03	0:00:00 through 10/30/03	0:30:00

Station 19

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

10/01/03	0:00:00 through 10/09/03	18:00:00
10/10/03	1:30:00 through 10/10/03	2:00:00
10/10/03	5:30:00 through 10/10/03	7:00:00
10/10/03	11:30:00 through 10/10/03	12:00:00
10/10/03	15:30:00 through 10/10/03	16:00:00
10/10/03	17:00:00	
10/10/03	18:30:00 through 10/10/03	23:00:00
10/12/03	14:30:00	
10/12/03	15:30:00 through 10/17/03	11:00:00
10/17/03	12:00:00 through 10/17/03	15:00:00
10/17/03	16:00:00 through 10/19/03	12:30:00
10/19/03	13:30:00 through 10/19/03	16:00:00
10/19/03	17:30:00 through 10/20/03	10:30:00
10/20/03	11:30:00	
10/20/03	12:30:00	
10/20/03	16:00:00 through 10/22/03	18:30:00
10/22/03	19:30:00 through 10/25/03	15:00:00
10/25/03	16:30:00 through 10/26/03	4:00:00
10/26/03	6:00:00 through 10/30/03	21:00:00
10/30/03	22:00:00 through 10/30/03	23:00:00
10/31/03	1:30:00 through 10/31/03	23:30:00

No data due to sonde malfunction (the sondes' auto disconnecting intermittent)

10/15/03	02:00:00	-	08:30:00
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Station 20

The sonde was out of water for maintenance.

10/15/03	10:30:00
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Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

10/01/03	00:00:00 through 10/02/03	21:00:00
10/03/03	04:30:00 through 10/03/03	06:30:00

10/03/03	08:00:00		
10/03/03	13:00:00	through 10/03/03	16:00:00
10/03/03	17:00:00	through 10/03/03	17:30:00
10/03/03	18:30:00	through 10/04/03	00:30:00
10/04/03	01:30:00	through 10/04/03	07:30:00
10/04/03	12:30:00	through 10/04/03	17:30:00
10/04/03	19:30:00	through 10/04/03	20:00:00
10/05/03	07:30:00	through 10/05/03	08:00:00
10/05/03	10:00:00	through 10/05/03	19:30:00
10/05/03	20:30:00		
10/06/03	04:00:00		
10/06/03	06:00:00		
10/06/03	07:00:00	through 10/06/03	07:30:00
10/06/03	08:00:00		
10/06/03	10:00:00	through 10/06/03	16:30:00
10/06/03	17:30:00	through 10/06/03	19:30:00
10/07/03	09:00:00	through 10/07/03	12:00:00
10/07/03	14:00:00		
10/07/03	16:30:00		
10/08/03	08:30:00		
10/08/03	09:30:00	through 10/08/03	10:00:00
10/08/03	11:00:00	through 10/08/03	12:00:00
10/08/03	13:00:00	through 10/08/03	16:00:00
10/08/03	17:00:00		
10/08/03	19:30:00		
10/09/03	00:00:00		
10/09/03	05:30:00	through 10/09/03	17:00:00
10/09/03	18:30:00		
10/11/03	11:30:00		
10/11/03	13:00:00	through 10/11/03	14:00:00
10/11/03	19:00:00		
10/12/03	07:30:00		
10/12/03	09:00:00	through 10/12/03	10:30:00
10/12/03	11:30:00	through 10/12/03	12:00:00
10/12/03	13:00:00	through 10/12/03	19:30:00
10/12/03	20:30:00	through 10/12/03	21:00:00
10/13/03	07:30:00	through 10/13/03	16:30:00
10/13/03	18:30:00	through 10/13/03	20:00:00
10/13/03	21:00:00	through 10/13/03	21:30:00
10/14/03	11:00:00	through 10/14/03	19:00:00
10/14/03	20:00:00	through 10/14/03	23:00:00
10/15/03	09:00:00		
10/15/03	10:00:00		
10/15/03	14:30:00		
10/15/03	21:30:00		
10/16/03	13:30:00	through 10/16/03	15:00:00
10/16/03	16:30:00		
10/16/03	19:00:00	through 10/16/03	21:30:00
10/17/03	14:00:00		
10/17/03	21:00:00	through 10/17/03	22:30:00
10/17/03	23:30:00		
10/18/03	14:30:00		
10/28/03	11:00:00		
10/28/03	20:30:00	through 10/28/03	21:30:00

10/29/03	21:00:00		
10/30/03	10:00:00		
10/30/03	11:00:00	through 10/30/03	15:30:00
10/30/03	16:30:00	through 10/30/03	17:00:00
10/31/03	12:00:00	through 10/31/03	14:00:00
10/31/03	15:00:00	through 10/31/03	23:30:00

November 2003

Station 09

High turbidity values deleted because of algal growth near the sensor

11/03/03	3:00:00		
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Station 10

The negative DO% and DO mg/l values are changed to zero (0) because this station

presents oxygen deficiency periods on the water column caused by organic material decomposition and oxygen consumed by algae.

11/16/03	7:30:00		
11/16/03	8:30:00	through 11/16/03	10:30:00
11/17/03	6:30:00	through 11/17/03	7:30:00
11/17/03	9:30:00		
11/22/03	8:00:00		
11/23/03	5:30:00	through 11/23/03	6:00:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

11/04/03	11:00:00	through 11/10/03	23:30:00
11/11/03	6:30:00		
11/11/03	7:30:00		
11/11/03	9:00:00		
11/11/03	16:00:00		

The sonde was out of water for maintenance.

11/04/03	10:30:00		
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Station 19

No data due to sonde malfunction (the sonde it's auto disconnecting intermittent)

11/17/03	23:00:00		
11/18/03	00:00:00	-	09:00:00
11/30/03	18:30:00	-	23:30:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

11/01/03	0:00:00	through 11/01/03	4:00:00
11/01/03	6:30:00		
11/01/03	8:00:00	through 11/01/03	17:00:00
11/01/03	18:00:00	through 11/02/03	16:00:00
11/02/03	18:00:00	through 11/03/03	6:30:00

11/03/03	7:30:00	
11/03/03	9:00:00	
11/04/03	7:00:00 through 11/04/03	10:30:00
11/04/03	16:00:00	
11/04/03	17:00:00 through 11/04/03	19:30:00
11/04/03	21:30:00	
11/04/03	22:30:00	
11/04/03	23:30:00 through 11/05/03	2:30:00
11/05/03	3:30:00 through 11/05/03	4:30:00
11/05/03	16:00:00 through 11/05/03	18:00:00
11/06/03	3:00:00 through 11/06/03	3:30:00
11/06/03	5:00:00 through 11/06/03	7:00:00
11/06/03	11:00:00	
11/06/03	12:00:00 through 11/06/03	16:30:00
11/07/03	5:30:00	
11/07/03	6:00:00	
11/09/03	15:00:00	
11/10/03	1:00:00	
11/10/03	2:00:00 through 11/10/03	3:00:00
11/10/03	11:30:00	
11/10/03	19:00:00 through 11/10/03	20:30:00
11/10/03	21:30:00	
11/11/03	4:30:00 through 11/11/03	5:00:00
11/11/03	6:00:00 through 11/11/03	8:00:00
11/18/03	9:30:00	
11/18/03	15:30:00 through 11/18/03	17:30:00
11/18/03	19:00:00 through 11/18/03	20:30:00
11/18/03	21:30:00 through 11/19/03	0:00:00
11/19/03	3:00:00 through 11/19/03	12:00:00
11/19/03	17:00:00 through 11/19/03	21:00:00
11/19/03	22:30:00	
11/20/03	1:00:00 through 11/20/03	9:30:00
11/20/03	10:30:00 through 11/22/03	15:30:00
11/22/03	17:00:00 through 11/22/03	18:30:00
11/22/03	19:30:00 through 11/22/03	21:00:00
11/23/03	0:00:00 through 11/25/03	12:00:00
11/25/03	16:00:00 through 11/26/03	5:30:00
11/26/03	6:30:00 through 11/26/03	10:00:00
11/26/03	12:00:00 through 11/26/03	14:30:00
11/26/03	15:30:00 through 11/29/03	9:00:00
11/29/03	12:30:00 through 11/30/03	18:00:00

The negative DO% and DO mg/l values are changed to zero (0) because this station

presents oxygen deficiency periods on the water column caused by organic material decomposition and oxygen consumed by algae.

11/14/03	14:00:00 through 11/14/03	14:30:00
11/14/03	15:30:00 through 11/14/03	18:30:00
11/14/03	20:00:00 through 11/14/03	21:30:00

Station 20

The sonde was out of water for maintenance.

11/18/03 10:00:00

Negative values of DO% and DO mg/l were deleted for sensor malfunction.

11/24/03 8:00:00 through 11/30/03 23:30:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

11/01/03 14:00:00 through 11/01/03 16:00:00
11/01/03 19:00:00 through 11/01/03 21:30:00
11/01/03 22:30:00 through 11/01/03 23:30:00
11/02/03 11:30:00
11/02/03 13:30:00 through 11/02/03 14:00:00
11/02/03 16:00:00 through 11/02/03 16:30:00
11/02/03 18:30:00 through 11/02/03 20:00:00
11/02/03 23:30:00 through 11/03/03 0:30:00
11/03/03 1:30:00
11/03/03 9:30:00
11/03/03 10:30:00 through 11/03/03 15:30:00
11/03/03 16:30:00
11/03/03 18:30:00
11/04/03 1:30:00
11/04/03 3:00:00
11/04/03 14:00:00
11/04/03 14:30:00
11/04/03 18:30:00
11/05/03 3:00:00
11/05/03 4:00:00 through 11/05/03 4:30:00
11/05/03 8:30:00 through 11/05/03 9:00:00
11/05/03 10:00:00 through 11/05/03 14:00:00
11/05/03 15:00:00
11/05/03 16:00:00 through 11/05/03 16:30:00
11/06/03 11:00:00
11/06/03 15:00:00
11/07/03 11:00:00 through 11/07/03 11:30:00
11/07/03 12:30:00 through 11/07/03 14:00:00
11/08/03 11:00:00
11/15/03 8:00:00
11/15/03 21:00:00 through 11/16/03 7:00:00
11/16/03 8:00:00 through 11/17/03 3:00:00
11/17/03 4:00:00 through 11/17/03 4:30:00
11/17/03 6:00:00
11/17/03 8:00:00
11/17/03 12:00:00 through 11/17/03 12:30:00
11/17/03 20:30:00
11/18/03 1:00:00
11/18/03 3:00:00
11/18/03 10:30:00 through 11/27/03 11:00:00
11/27/03 13:30:00 through 11/30/03 23:30:00

December 2003

Station 09

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

12/26/03 12:30:00 through 12/26/03 13:00:00

DO (%) and DO (mg/l) data deleted, suspected wrong
12/23/03 11:00:00

Station 10

High turbidity values 12/01/03 00:00 through 12/09/03 08:30 due to fouling. Data retained.

DO variability during the month is a result of biofouling of sonde. Data retained.

Station 19

The sonde was out of water for maintenance 12/02/03 08:30 - 09:30.

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

12/01/03	0:00:00	
12/01/03	7:00:00	
12/01/03	9:00:00 through 12/01/03	10:00:00
12/01/03	13:30:00	
12/01/03	18:30:00	
12/02/03	7:30:00	
12/02/03	10:00:00	
12/02/03	11:00:00 through 12/02/03	12:00:00
12/02/03	18:00:00 through 12/03/03	14:00:00
12/03/03	15:30:00 through 12/03/03	23:00:00
12/04/03	0:00:00 through 12/04/03	0:30:00
12/04/03	2:30:00 through 12/04/03	10:30:00
12/04/03	13:30:00	
12/04/03	15:30:00 through 12/04/03	20:00:00
12/04/03	21:00:00 through 12/04/03	22:30:00
12/04/03	23:30:00 through 12/05/03	0:00:00
12/05/03	3:00:00 through 12/05/03	4:30:00
12/05/03	6:00:00 through 12/05/03	10:30:00
12/05/03	11:30:00 through 12/05/03	12:30:00
12/05/03	15:30:00 through 12/05/03	20:00:00
12/06/03	0:30:00 through 12/06/03	3:00:00
12/07/03	14:30:00	
12/07/03	16:00:00	
12/07/03	22:00:00 through 12/07/03	23:30:00
12/08/03	2:00:00	
12/09/03	1:30:00	
12/09/03	8:00:00	
12/09/03	10:00:00	
12/09/03	17:00:00 through 12/09/03	17:30:00
12/10/03	0:00:00 through 12/10/03	0:30:00
12/10/03	6:00:00 through 12/10/03	7:30:00
12/10/03	8:30:00 through 12/10/03	13:00:00
12/10/03	17:00:00 through 12/10/03	23:30:00
12/11/03	0:30:00 through 12/11/03	6:30:00

12/11/03	7:30:00 through 12/11/03	11:00:00
12/11/03	12:00:00 through 12/13/03	9:30:00
12/13/03	11:00:00 through 12/13/03	12:00:00
12/13/03	16:30:00	
12/13/03	18:00:00 through 12/13/03	23:30:00
12/14/03	0:30:00 through 12/14/03	10:00:00
12/14/03	17:00:00 through 12/15/03	10:00:00
12/15/03	12:00:00 through 12/16/03	5:30:00
12/16/03	6:30:00 through 12/16/03	11:00:00
12/16/03	13:30:00	
12/16/03	17:30:00 through 12/17/03	5:00:00
12/17/03	6:00:00 through 12/17/03	8:30:00
12/17/03	9:30:00 through 12/17/03	10:30:00
12/17/03	15:00:00 through 12/17/03	19:30:00
12/17/03	20:30:00 through 12/18/03	10:30:00
12/18/03	11:30:00 through 12/18/03	23:00:00
12/19/03	0:00:00 through 12/19/03	2:00:00
12/19/03	3:00:00	
12/19/03	4:00:00 through 12/19/03	6:00:00
12/19/03	7:00:00 through 12/19/03	12:00:00
12/19/03	14:00:00	
12/19/03	16:00:00 through 12/20/03	3:30:00
12/20/03	5:00:00 through 12/20/03	9:30:00
12/20/03	12:30:00 through 12/20/03	21:30:00
12/20/03	22:30:00 through 12/21/03	1:00:00
12/21/03	3:30:00	
12/21/03	5:30:00 through 12/21/03	7:30:00
12/21/03	8:30:00 through 12/21/03	9:00:00
12/21/03	10:00:00	
12/21/03	11:00:00 through 12/21/03	23:30:00
12/22/03	1:30:00 through 12/22/03	2:30:00
12/22/03	3:30:00	
12/22/03	5:30:00	
12/22/03	7:30:00 through 12/22/03	9:00:00
12/22/03	10:00:00	
12/22/03	11:00:00 through 12/22/03	12:00:00
12/22/03	18:30:00 through 12/23/03	5:00:00
12/23/03	7:00:00 through 12/23/03	12:00:00
12/23/03	13:00:00 through 12/23/03	14:30:00
12/23/03	17:30:00 through 12/23/03	21:00:00
12/23/03	22:00:00 through 12/23/03	22:30:00
12/24/03	2:30:00 through 12/24/03	13:30:00
12/24/03	16:30:00 through 12/24/03	21:00:00
12/24/03	22:00:00 through 12/25/03	7:30:00
12/25/03	8:30:00 through 12/25/03	9:00:00
12/25/03	10:30:00	
12/25/03	14:30:00	
12/25/03	15:00:00 through 12/25/03	17:00:00
12/25/03	18:00:00 through 12/26/03	1:00:00
12/26/03	2:30:00 through 12/26/03	3:00:00
12/26/03	4:00:00	
12/26/03	11:00:00 through 12/26/03	12:30:00
12/26/03	17:00:00 through 12/27/03	2:00:00
12/27/03	3:00:00 through 12/27/03	7:30:00

12/27/03	8:30:00	
12/27/03	9:30:00 through 12/27/03	11:30:00
12/27/03	14:30:00 through 12/27/03	16:00:00
12/27/03	18:00:00 through 12/27/03	18:30:00

Station 20

No data due to sonde malfunction (the sonde it's auto disconnecting intermittent)

12/31/03 17:00:00 - 23:30:00

Turbidity Values < -20 NTU were changed to 0 NTU. See section 14.

12/1/03	0:00:00 through 12/2/03	8:30:00
12/2/03	10:00:00 through 12/2/03	16:30:00
12/2/03	18:00:00	
12/2/03	22:00:00	
12/3/03	0:00:00	
12/3/03	9:30:00 through 12/3/03	16:00:00
12/3/03	18:30:00 through 12/3/03	19:30:00
12/3/03	21:00:00	
12/3/03	22:00:00 through 12/3/03	23:30:00
12/4/03	0:30:00 through 12/4/03	4:00:00
12/4/03	5:00:00	
12/4/03	6:30:00	
12/4/03	9:00:00 through 12/4/03	16:00:00
12/4/03	18:00:00 through 12/4/03	19:30:00
12/4/03	23:30:00 through 12/5/03	1:00:00
12/5/03	3:00:00 through 12/5/03	3:30:00
12/9/03	2:30:00	
12/9/03	3:30:00	

The sonde was out of water for maintenance.

12/02/03 09:00:00

Negative values of DO% and DO mg/l were deleted for sensor malfunction.

12/1/03 17:30:00 - 12/2/03 8:30:00

12. Missing data:

Missing data are denoted by any period in the data set. Periods were later

removed for data dissemination purposes and left blank. Data are missing due to

equipment failure where no probes deployed, maintenance/calibration of equipment, elimination of obvious outliers, or elimination of data due to calibration (both pre and post) problems. For more details on deleted data, see

Anomalous Data Section (11.) To find out more details about missing data, contact the Research Coordinator at the site submitting the data.

13. Post deployment information:

End of deployment Post-calibration Readings in Standard Solution:

Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 123)
09	01/08/03	109.7	7.07	98.31	X
09	01/21/03	94	7.17	99.37	-39.4
09	02/11/03	99	7.03	98.07	141.0
09	02/25/03	89	6.96	99.93	162
09	03/11/03	97.3	6.77	96.7	124.1
09	03/26/03	87.8	6.97	107.4	149.4
09	04/08/03	101.2	6.72	96.8	203.9
09	04/23/03	84.6	7.10	97.91	117.5
09	05/06/03	101.5	6.93	95.73	122.1
09	05/20/03	104.3	7.16	96.25	158.6
09	06/03/03	92.3	7.13	95	126.4
09	06/17/03	114.6	6.86	96.1	119.4
09	07/01/03	76.1	6.98	96.52	169.3
09	07/30/03	97.8	7.02	89.77	122.6
09	07/15/03	88.6	7.07	96.82	123.9
09	08/12/03	105	6.78	103.6	121.8
09	08/28/03	98	6.098	98.25	122.3
09	09/09/03	68.9	7.18	94.42	124.3
09	09/23/03	132	6.53	96.94	123.9
09	10/07/03	98	7.09	92.59	136.2
09	10/21/03	104.0	7.00	97.7	182.6
09	11/04/03	107	7.02	97.2	140.6
09	11/20/03	100.9	6.86	74.5	125.9
09	12/09/03	129.4	6.83	95.75	120
09	12/23/03	95.9	7.06	93.81	80

Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 100)
10	01/08/03	92.4	7.08	98.34	X
10	01/21/03	98.4	6.70	100	X
10	02/12/03	87.8	6.88	97.73	153.9
10	02/25/03	92	6.99	100.1	129.9
10	03/11/03	102.8	6.84	92.3	591.7
10	03/26/03	107.	6.94	109.2	228.8
10	04/08/03	85.9	6.97	97.1	137.3
10	04/23/03	96.4	6.93	99.57	134.5
10	05/06/03	106	6.91	95.25	121.4
10	05/20/03	93.7	6.88	94.05	131.2
10	06/03/03	1.6	6.98	95.45	150.6
10	06/17/03	110.4	6.96	94.90	119.3
10	07/01/03	99	7.07	96.6	226.8
10	07/15/03	114.0	6.82	96.95	124.5
10	07/30/03	123.9	7.11	87.33	125.0
10	08/12/03	92.6	6.94	104.9	121.6

10	08/28/03	90.3	7.09	96.9	123
10	09/09/03	102.6	6.79	99	129.1
10	09/23/03	102.6	7.06	95.12	122.9
10	10/07/03	106.1	6.91	92.13	122.4
10	10/21/03	109.7	6.99	96	100.2
10	11/04/03	101.1	6.83	96.5	129.1
10	11/20/03	100	7.04	98.8	123.9
10	12/09/03	60.8	7.11	95.05	244.2
10	12/23/03	75.3	7.01	95.73	121.0

Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 100)
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19	01/08/03	40.0	7.19	97.43	X
19	01/21/03	42.0	7.13	101.2	X
19	02/06/03	44.1	7.11	100.5	130.2
19	02/18/03	30.8	6.78	102.4	119.9
19	03/05/03	99.3	7.11	98.14	123.6
19	03/18/03	106.9	6.96	100.8	124.0
19	04/02/03	98.7	7.08	103.0	126.9
19	04/15/03	94.0	7.14	96.25	131.2
19	04/30/03	104.4	7.25	95.3	X
19	05/13/03	98.5	7.08	96.69	124.6
19	05/28/03	98.9	7.07	95.79	123.4
19	06/10/03	100	7.01	94.38	103.6
19	06/25/03	100.4	7.22	95.8	131.5
19	07/23/03	112.6	6.9	94.52	111.2
19	07/09/03	94.7	6.85	95.97	124.1
19	08/06/03	100.7	6.86	95.26	125.2
19	08/20/03	94.3	6.68	95.27	121.3
19	09/03/03	87.4	7.10	94.35	147.3
19	09/16/03	110	7.14	96.61	142
19	09/30/03	104.7	6.95	100.9	126.5
19	10/15/03	52.2	7.06	93.53	123.2
19	10/28/03	103.9	7.10	95.92	123.8
19	11/18/03	103	6.62	103.2	125.7
19	12/02/03	32.3	7.0	95.6	121.5
19	12/16/03	90.2	7.07	95.3	124.7

Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 100)
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20	01/08/03	43.1	7.18	93.87	X
20	01/21/03	33.9	7.06	99.8	X
20	02/06/03	41	7.17	92.3	91.8
20	02/18/03	41	6.81	102.9	120.7
20	03/05/03	102.2	6.94	97.02	122.5
20	03/18/03	101.0	7.13	99.69	98.3

20	04/02/03	99.0	6.95	102.3	128.4
20	04/15/03	94.7	7.00	97.5	134.1
20	04/30/03	92.2	6.93	96.73	138.3
20	05/13/03	124.1	7.03	97.79	125.5
20	05/28/03	87.5	7.00	72.59	133.6
20	06/10/03	108.3	7.11	95.45	126.4
20	06/25/03	104.6	7.13	94.1	125.4
20	07/23/03	110.8	7.54	95.57	125.2
20	07/09/03	66.6	7.24	96.34	124.5
20	08/06/03	98.5	6.96	97.2	124.9
20	08/20/03	89	6.92	94.55	124
20	09/03/03	96.7	7.02	94.63	124.1
20	09/16/03	111	7.10	97.5	128.4
20	09/30/03	103.9	6.98	100.1	122.6
20	10/15/03	96.3	7.03	92.41	122.6
20	10/28/03	104.1	6.98	97.3	128.3
20	11/18/03	117.2	6.93	97.8	122.6
20	12/02/03	-99.99	7.5	96.30	46.1
20	12/16/03	96.7	7.09	96.2	119.4

14. Other remarks:

On 08/12/2020 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.

All turbidity values less than -20 NTU (<-20 NTU) were changed to zero NTU (0

NTU) because the sondes were located at six inches (6") from the bottom, this

could be causing negative lectures. We use a SESSH1 disc to measure transparency in all the stations. We could see the SESSH1 disc in the bottom,

approximately between one meter (1m) to two meter (2m) of depth.

During year 2003 five (5) important rainfall events occur that had effects in

the measurements of the different parameters of the sondes. These events occur:

- 1) april 8 to 20 with 172.47mm of rainfall
- 2) august 16 to 29 with 89.66mm of rainfall
- 3) october 5 to 11 with 145.03mm of rainfall
- 4) the most important november 6 to 19 with 564.64mm of rainfall, equal to the mean anual rainfall.
- 5) december 5 to 7 with 100.58mm of rainfall

Stations 19 and 20 were found at areas that receive strong waves.

Stations 9

and 10 were more protected, receive less wave impact. The movement caused by the strong waves is causing the sonde to stop taking data during short time periods and sporadically.

The following are meteorological related metadata:

JOB19WQ

- 1) High dissolved oxygen values April 15 - 24 due to rain and wind activity. Data retained.
- 2) Drop in specific conductivity and salinity 06/01/03 15:00:00 and 06/02/03 06:00:00 due to rain event.
- 3) Drop in specific conductivity and salinity 08/03/03 05:30:00 - 08/06/03 10:00:00 due to rain event.

JOB20WQ

- 1) High DO values on November 14 due to rain and wind event.
- 2) Variability in pH data from 11/24/03 08:00:00 to 12/02/03 08:30:00 due to rain event.